Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards

Part of Nature-Positive Farming and Food Systems (N+FFS) Standards

Nature-Positive Farming & Wholesome Foods Foundation (N+3F)

Bengaluru, India

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a. **To support farming communities, farmers' organisations (FOs), NGOs, and other agencies** to evolve, establish, and scale up context-based N+FFS, leading to the elimination of the use of synthetic chemical pesticides.

b. **To facilitate the development of regional/territorial and national value/supply chains** for safe, pesticide-free, wholesome foods.

c. **To build a knowledge base, serve as a resource organization, and create an enabling environment** for nature-positive farming and wholesome food systems.

d. **To promote equality and social inclusion in N+FFS** by engaging with vulnerable sections like small farmers, Dalits, tribals, women, youth, and consumers with low purchasing power.

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Preface

The Nature-Positive Farming and Food Systems (N+FFS) approach is one of the agriculture and food system approaches alternative to energy- and input-intensive conventional systems of food production and consumption. Adapting from ***UN Food System Summit Action Track 3***, N+FFS are defined as those context-specific food, feed, and fibre production systems that support biodiversity, rebuild fertile soils, protect freshwater supplies, store carbon, create employment, supply safe pesticide-free nutritious foods to nourish the globe, provide rural and indigenous peoples with rights and decent livelihoods, and enhance climate resilience and social stability. The N+FFS approach strives to promote pesticide-free, safe, ecologically robust, and resilient local and regional production systems and food chains.

It believes, on the one hand, in *total system interventions* at the production level that build on the intrinsic interconnections of different components of farming, like habitat management, maintaining and increasing soil fertility, crop and varietal diversity, using resistant varieties, seed treatment, crop nutrition, irrigation management, etc. It mainly relies on preventive and planned strategies of the cropping program. Reactive management is reserved for problems not solved by the preventive or planned strategies. On the other hand, it believes that necessary attention should be given to supply chain management beyond production, once the produce moves out of the farm gate.

The N+FFS Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards are a broad set of protocols to be followed by different actors involved in pesticide-free production and value chain development so that the resulting output is assured of its 'pesticide-free quality' and that the public at large and the consumers in particular are assured of the same. Its main purpose is to guide different actors involved in N+FFS. It will aid the N+FFS Facilitating Organisations (NFO), such as NGOs, farmers' organisations, and SHG Federations, to organise their N+FFS operations in a structured and credible way in close collaboration with farmers with respect to i) Streamlining N+FFS interventions, ii) Educating farmers on N+FFS practices, iii) Ensuring compliance with ZPUAF Standards by each farmer, iv) Ensuring the traceability of pesticide-free produce and v) Taking necessary action to enhance voluntary compliance.

The N+FFS ZPUAF Standards will be an integral part of the agreement between the Nature-Positive Farming and Wholesome Foods Foundation (N+3F), the national-level support organisation with the mandate to promote N+FFS, and the NFO. With the consent of the N+3F, these standards will be revised by the NFO to reflect local contexts. The ZPUAF Standards will also help an accredited external agency to assess/audit whether due processes and steps have been followed by the NFOs as part of Internal Control Systems to assure the quality of pesticide-free produce.

N+FFS ZPUAF Standards were developed based on the experience of practitioners and by referring to similar standards for crop production in India. These standards will be reviewed and updated every year by the N+3F. The revisions will consider the learnings from N+FFS practice and from the emerging legal frameworks on ecological agriculture, food safety, and nutrition.

Definitions

For the purpose of implementation of N+FFS ZPUAF Standards, the following definitions shall apply:

1. ACCREDITATION
Accreditation means a procedure adopted by the N+3F to ascertain the competence of a Certification Body to certify Internal Control Systems followed by NFOs for ensuring adherence to N+FFS ZPUAF Standards with reference to pesticide-free farms, products, and processes.

2. ACCREDITED CERTIFICATION BODY
An organisation with a legal entity complying with accreditation criteria set by N+3F and recognised by the N+3F for certifying NFOs and for granting the right to use the pesticide-free Certification Trademark to the NFOs on behalf of the N+3F, the Accreditation Body.

3. APPLICANT BODY
Applicant body shall mean the organisation seeking accreditation.

4. APPROVED FARMERS LIST (AFL)
List of farmers who have practised pesticide-free agriculture by adhering to ZPUAF Standards properly in a particular crop season and vouched for by the Internal N+ Guarantee System (INGS) and approved under certification by N+3F.

5. BUFFER ZONE
A clearly defined and identifiable boundary area bordering a pesticide-free production site that is established to limit application of or contact with prohibited substances from an adjacent area.

6. CERTIFICATION
Certification shall refer to the procedure by which the accredited Certification Body, by way of a Scope Certificate, assures that the production or processing system of the operator has been methodically assessed and conforms to the specified requirements as envisaged in the ZPUAF Standards.

7. CERTIFICATION BODY
The Certification Body is the body responsible for inspection and certification of the operators as per the ZPUAF Standards.

8. CERTIFICATION TRADEMARK
“Certification Trademark” shall mean the “Zero Pesticides Logo”, which is owned by the Nature-Positive Farming & Wholesome Foods Foundation (N+3F).

9. CHAIN OF CUSTODY
Chain of custody refers to a situation in which a particular entity is in possession and control of the product when it passes through different steps in a supply chain, including growing, harvesting, processing, handling, and other related activities.

10. COMPLIANCE
Compliance shall mean adherence to the norms laid down under the N+FFS ZPUAF Standards.

11. CONTAMINATION
Includes pollution of farmland and contact of the farm product with any material that would render the product unsuitable for certification under ZPUAF Standards.

12. CONVENTIONAL FARMING
Farming systems dependent on the use of pesticides, fungicides, and herbicides or on substances that are not in conformity with the ZPUAF Standards.

13. CONVERSION
The process of changing from conventional to pesticide-free methods of production on an agricultural farm. This is also called transition.

14. CONVERSION PERIOD
The time between the start of pesticide-free production methods and the certification of crops as pesticide-free.

15. EQUIVALENT
When two different methods of production are capable of meeting the same objectives, then they are said to be equivalent.

16. FARM UNIT
An agricultural farm, area, or production unit managed by a farmer or a group of farmers adopting pesticide-free production methods.

17. FOOD ADDITIVE
A food additive is an external permissible ingredient added to improve the keeping quality, consistency, colour, and other physicochemical and sensory properties, wholesomeness, and safety of food.

18. GMO AND GMO DERIVATIVES
A plant, animal, microbe, or their derivatives that are transformed through genetic engineering.

19. GREEN MANURE

Manure consists of fresh green plant matter, which is ploughed into or turned into the soil to improve its health.

20. GROUP CERTIFICATION
Certification of an organised group of producers, processors, and exporters with similar farming and production systems and who are in geographical proximity.

21. HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP)
The Hazard Analysis and Critical Control Point (HACCP) is a system that identifies, evaluates, and controls hazards that are significant for food safety. Food safety management systems

based on HACCP are internationally recognised as the most effective way to ensure food safety and to minimize the risk of food poisoning.

22. INGREDIENT
Shall mean any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product, although possibly in a modified form.

23. INPUTS BANNED
Those items, the use of which is prohibited in pesticide-free farming.

24. INPUTS PERMITTED
Those items that can be used in pesticide-free farming.

25. INPUTS RESTRICTED
Inputs that are allowed in pesticide-free farming in a restricted manner, after a careful assessment of contamination risk, natural imbalance, and other factors arising out of their use fall in this category. Farmers should consult the local N+FFS Facilitating Organisation for their usage.

26. INSPECTION
Shall include the site visit to verify that the performance of an operation is in accordance with the production or processing standards.

27. INSPECTOR
Shall be the person appointed by the Inspection and Certification Agency to undertake the inspection of an operator.

28. INTERNAL CONTROL SYSTEM (ICS)
A documented quality assurance system that allows the external certification body to delegate the inspection of individual group members to a body identified from within the operators of the group.

29. INTERNAL N+ GUARANTEE SYSTEM (INGS)
The Internal N+ Guarantee System is a participatory ICS-based quality assurance system for N+FFS ZPUAF Standards that delegates the inspection of the activities of individual member pesticide-free farmers to autonomous FOs or CSOs/NGOs termed as NFOs, which in turn are inspected by an external agency on a seasonal basis.

30. IRRADIATION
Irradiation is high energy emissions used to control microbial pathogens, parasites, and pests in food, to preserve the food, or to inhibit physiological processes such as sprouting or ripening.

31. LABELLING
Means any written, printed, or graphic matter that is present on the label, accompanies the food, or is displayed near the food, including that for the purpose of promoting its sale or disposal.

32. MARKETING
Means holding or displaying the produce/product for sale, offering for sale, selling, delivering, or placing on the market in any other form

33. MULTIPLICATION
The growing of seed/stock/plant material to supply for future production.

34. NATURE-POSITIVE FARMING AND FOOD SYSTEMS (N+FFS)
N+FFS are defined as those context-specific food, feed, and fibre production systems that support biodiversity, rebuild fertile soils, protect freshwater supplies, store carbon, create employment, supply safe pesticide-free nutritious foods to nourish the globe, provide rural and indigenous peoples with rights and decent livelihoods, and enhance climate resilience and social stability. N+FFS refers to context-specific methods of farm production, processing, and handling without the use of synthetic pesticides, fungicides, herbicides, or any harmful chemicals.

35. NON-CONFORMITY
Non-conformity is a condition when a product, process, procedure, system, or structure deviates from the requirements of the ZPUAF Standards.

36. N+FFS FACILITATING ORGANISATION (NFO)
A registered Farmers' Organisation (FO) formed by federating N+ Farmers Group (NFGs) or a development agency like an NGO, which facilitates adoption of N+FFS by a group of farmers in a location. It is responsible for implementing the N+FFS Program in its working area.

37. N+ FARMERS GROUP (NFG)
It is the group constituted by the farmers participating in the N+FFS Program who are mobilized based on solidarity, mutual familiarity, proximity of their land holdings, and ease of face-to-face meetings. If all the members in an existing functional group (like a producer or SHG) adopt N+FFS, then it can be designated as an N+ Farmers Group.

38. Nature-Positive Farming and Wholesome Foods Foundation (N+3F)
It is a support organisation with the mandate to promote N+FFS. Its mandate includes offering need-based guidance to NFOs to implement N+FFS interventions, developing N+FFS ZPUAF Standards, certifying NFOs or accrediting agencies for external assessment and certification, and serving as a resource agency. Nature-Positive Farming and Wholesome Foods Foundation (N+3F) will serve as an NPO.

39. NPOP STANDARDS
The standards promoted through the National Programme for Organic Production by the Ministry of Commerce, Government of India.

40. OPERATOR
Shall mean an individual or a business enterprise practicing pesticide-free farming or processing.

41. ORGANIC
Refers to a particular farming system as described in organic agriculture and not to the term

used in chemistry.

42. ORGANIC AGRICULTURE

It is a system of farm design and management to create an ecosystem, which can achieve sustainable productivity without the use of artificial external inputs such as chemical fertilisers and pesticides.

43. PACKAGE OF PRACTICES

Guidelines for pesticide-free production and processing established by the N+FFS Facilitating Organisation for their focus crops, which take into account the agricultural ecosystems and socio-cultural systems in a specific location/region.

44. PARALLEL PRODUCTION

Shall mean any production where the same unit is growing, breeding, handling, or processing a particular crop/product under both a pesticide-free production system and a conventional production system. Also see 'Split Production'.

45. PESTICIDE-FREE

Shall mean any products (food, feed, or fibre) produced, processed, and handled without the use of synthetic pesticides, which includes insecticides, herbicides, rodenticides, fungicides, algicides, fumigants, miticides, molluscicides, nematicides, ovicides, bactericides, and repellents.

46. PLANT PROTECTION PRODUCT

Shall mean any substance intended to prevent, destroy, attract, repel, or control any pest or disease, including unwanted species of plants or animals, during production, storage, transport, distribution, and processing of food, agricultural commodities, or animal feed.

47. PROCESSING AIDS

A substance or material not consumed as a food ingredient by itself but is used to process raw materials, food, or its ingredients to fulfil a certain technological purpose during treatment or processing and which may result in the unintentional but unavoidable presence of residues or derivatives in the final product.

48. PROCESSED PRODUCTS

Processed product shall mean food products resulting from the processing of raw/unprocessed products.

49. PROVISIONAL APPROVED FARMERS LIST

List of farmers who have practised pesticide-free agriculture by adhering to ZPUAF Standards properly in a particular crop season and vouched for by the Internal N+ Guarantee System (INGS).

50. QUALITY SYSTEM

Documented procedures, which are established, implemented, and periodically audited to ensure that production, processing, handling, management, certification, accreditation, and other systems meet the specified requirements and outcomes by following standardised protocols.

51. RAW MATERIALS
All ingredients other than food additives.

52. RISK ASSESSMENT
Risk assessment is done to identify and control potential risks in the production, processing, and handling of pesticide-free products that may infringe upon the pesticide-free nature of the produce/product.

53. SANITIZE
To adequately treat the produce or food-contact surfaces by a process that effectively destroys or substantially reduces the number of vegetative cells of undesirable microorganisms without adversely affecting the safety and quality of the product.

54. SPLIT PRODUCTION
It is a practice followed in a farm in which only a part of the farm or processing unit has adopted pesticide-free production methods and the rest of it is following conventional methods. Also see 'Parallel Production'.

55. STANDARDS
Shall mean the ZPUAF Standards developed by the N+3F.

56. SURVEILLANCE
The measures undertaken to monitor an operator's/certification body's compliance with the standards/criteria to meet the certification/accreditation requirements.

N+FFS
Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards

The following section offers the guiding principles, explanations, associated action(s), and other additional information related to each ZPUAF standard on the below-listed components.

1. Farm Production Standards
2. Standards for Large Default/Converted Pesticide-Free Areas
3. Wild Harvesting Standards
4. Pesticide-free Produce Aggregation Standards
5. Pesticide-free Produce Processing and Handling Standards
6. Livestock and Poultry Rearing Standards
7. Beekeeping/Apiculture Standards
8. Standards for Testing of Produce
9. Standards for Approving Inputs
10. Reciprocity with NPOP and PGS Standards
11. N+FFS Guarantee System (NGS)
12. Rules for the use of Zero Pesticide Use Logo
13. Overriding Rule

Under each component, ZPUAF Standards are divided into two categories, viz., 1) the minimum standards to be complied with and 2) the suggested standards for ease of application. The standards given in 'green' are considered the ***"MINIMUM STANDARDS"*** that the N+FFS actors are to comply with.

Sections & Standards	Explanation, associated action, and other additional information
I. Farm Production Standards	
1. Conversion to Pesticide-free Approach—Requirements and Prerequisites	
Guiding principles a. *It takes many cropping seasons for a farm converted from conventional production systems to pesticide-free production systems to reach a state of natural balance in terms of micro and macro-flora and fauna, including insects, weeds and microorganisms, and soil health, which endows resilience against pests and other disturbances. Also, it takes a few cropping seasons for a farmer to comfortably adopt the N+FFS approach in her/his farm by learning through an iterative practice. Therefore, N+FFS needs to be practised by a farmer in her/his farm or part of the farm for many cropping seasons to reach this state. The N+FFS ZPUAF Standards will guide the farmers in this journey.*	

b. *While 'split production' is allowed in the initial years to encourage farmers to try out the pesticide-free production methods approach in their farms, it is envisaged that farmers will appreciate and imbibe the importance of the N+FFS approach and adopt it on their entire farms over the years.*	
1.1 If a farmer wants to join the N+FFS program, she/he needs to apply to the NFG and the NFO at least 15 days before the beginning of the cropping season. This application to join the N+FFS Programme needs to be submitted by the interested farmer for each cropping season.	
1.2 The farmer needs to declare to the N+ Farmers Group (NFG) and NFO all her/his plots allocated to pesticide-free production methods and the date of last application of synthetic chemical pesticides. Farmers who already participate in the N+FFS program but are now expanding the N+FFS approach to new plots also need to declare the last use of unallowed chemical pesticides in the new plots.	This information will be shared with the NFG as part of the application form given by the interested farmer.
1.3 Farm land shall be free from pollutants such as industrial waste, etc	
1.4 Each new farmer must attend a training session on pesticide-free production and N+FFS ZPUAF Standards in the first year of registration.	Key persons engaged at the farm shall be conversant with the crop management standards to be followed.
1.5 There is no conversion period required for shifting from the conventional system of production to the pesticide-free system of production.	
1.6 Split production*: In the case of annuals,* split production—i.e., adopting pesticide-free production methods in part of the landholding—is allowed only in the first two years in a 'parcel of land' located in one spot. By the third year, the whole parcel of land managed by the enrolled farmer in one spot has to be converted to pesticide-free production.	
1.7 If 'split production' is followed by a farmer, she/he needs to take all necessary efforts to avoid contamination of the pesticide-free plot and produce.	1. Crops produced on conventional plots must be declared by the farmer and have to be indicated on the farm maps

	with the word "conventional" and preferably in another colour. 2. Conventional fields need to be at a sufficient distance from the pesticide-free fields or must be separated by buffer zones to exclude the risk of drift. 3. Synthetic chemical pesticides and other prohibited inputs stored by the farmers for use in the conventional unit need to be fully declared by the farmers. 4. Synthetic chemical pesticides should be stored safely, away from food/feed and water, and away from human beings/children and livestock.
1.8 If a farmer opts for split production, she/he should allocate the same plot of land for pesticide-free production in the subsequent seasons.	See the 'Guiding principle'.
1.9 If more than one crop is grown on a parcel of land, pesticide-free production methods to be followed for all the crops for any one of them to be considered pesticide-free.	
1.10 Parallel production, i.e., the same farmer growing, breeding, handling, or processing a particular crop/product under both a pesticide-free production system and a conventional production system, is not allowed.	Parallel production is to be avoided since there are high chances for commingling of pesticide-free and conventional produce, which will lead to rejection by the buyer. If the local farming situation necessitates allowing parallel production as part of pesticide-free production methods in the first few years, then the NFO should get the permission of the N+3F. If a farm is engaged in parallel production, the certification program or Internal Control System (ICS) or Internal N+FFS Guarantee System (INGS) shall ensure the following: ● Buffer zones are demarcated and maintained ● Pesticide-free and conventional crops are visually distinguishable

	• Inspections are carried out at critical stages in the cropping period, in a timely manner • Accurate production estimates are made • The pesticide-free and conventional crops are harvested in such a way that there are reliable methods to verify the actual harvest of the respective crops • Pesticide-free and conventional crops are harvested, processed, and stored separately • Appropriate storage capacity exists to ensure separate handling • The documentation regarding the production is well managed and makes a clear distinction between pesticide-free and conventional production
1.11 <u>In the case of perennials, there should be no use of any chemical pesticides from the last harvest of the crop till the harvest of the current NPM crop.</u>	
1.12 In the case of cereals, pulses and oil seeds, the minimum area to be allocated by the forthcoming farmer to adopt pesticide-free production methods is 0.5 to one acre, and in the case of vegetables and spices, it will be 0.3 to 0.5 acres.	This criterion is meant for functionality. It is related to the development of a robust, biodiverse ecosystem that is resilient to pests and diseases, and is also economically viable. The minimum area specified for adoption of pesticide-free production methods can be modified by NFO based on the context, in consultation with NPO.
2. Seeds and Planting Materials	
Guiding principles a. *Crop species and varieties cultivated should be adapted to the soil and climatic conditions and be resistant to pests and diseases.* b. *Local farmers' varieties are to be preferred.* c. *The choice of crops and varieties should reflect increasing crop and varietal diversity at the farm level.*	

d. *Good quality seeds/planting materials to be used.* e. *Seeds and planting materials sourced from own farm or from credible sources are to be preferred.*	
2.1 The seeds/planting material shall be largely free from diseases, insect pests, weed seeds and foreign and inert matter.	
2.2 Seeds and planting materials not treated with chemicals should be used as far as possible.	
2.3 If chemically treated seed and planting materials are used, the necessary treatment should be followed to remove the pesticides as much as possible.	One option is washing the seeds pre-treated with pesticides in running water and shade-drying them before sowing.
2.4 Genetically modified seeds and planting material (GMOs) are not allowed.	The pesticide-free farmer shall keep all the empty packets of seeds bought from outside for inspection.
2.5 Proven and appropriate pesticide-free seed/planting material treatment methods to be adopted to avoid seed-borne disease infestation, based on need.	The seed treatment methods to be adopted for the specific seed and planting materials need to be decided by NFO and are to be communicated to the NPO. The NFO should educate the farmers on these methods. No seed treatment with unallowed inputs shall be done.
2.6 Tissue-cultured planting material is allowed.	
3. Diversity in Crop Production	
3.1 Where appropriate, the adoption of N+FFS shall require that sufficient diversity is obtained in time or place in a manner that takes into account pressure from insects, weeds, diseases, and other pests, while maintaining or increasing soil organic matter, fertility, microbial activity, and general soil health. For non-perennial crops, this is normally, but not exclusively, achieved by means of crop rotation.	In the case of annual crops, it is to be ensured that at the very least 1/6th of the agricultural area should be leguminous in the crop rotation pattern. If there is any difficulty in practicing this in the pesticide-free farming system, the NFO has to inform the N+3F.

4. Soil Fertility Management	
Guiding principles a. *Recycling of nutrients by returning sufficient quantities of biodegradable material of microbial, plant, or animal origin (carbon-based materials) to the soil to increase or at least maintain its fertility and the biological activity within it.* b. *Increasing soil organic matter is essential for good soil health, and it will contribute to sustainable fertility management.* c. *Crop residue shall not be burnt and shall be incorporated into the soil or composted.* d. *Mineral fertilisers to be used in a supplementary role to carbon-based materials like farmyard manure, compost, etc., and their application should not be seen as a replacement for nutrient recycling.* e. *Preference should be given to time-tested and safe traditional/indigenous soil fertility enhancement practices of the region, like silt application.* f. *Desired pH levels shall be maintained in the soil by the producer.* g. *Accumulation of heavy metals and other pollutants should be prevented.*	
4.1 The pesticide-free farmer is obliged to ensure soil fertility (by appropriate cultivation measures like inclusion of legumes and deep-rooted plants as part of the crop combination, use of sufficient quantities of compost, farmyard manure and other organic manure, green manuring, green leaf manuring, mulching, cover crops, etc.) and minimise erosion.	Appropriate methods to enhance soil fertility will be identified for each location by NFO in consultation with pesticide-free farmers. These methods will then be promoted by the NFO.
4.2 Contaminant-free manure/compost shall be used from a reliable source. City compost/sewage sludge shall not be used.	
4.3 Collection of tank silt is restricted from areas where chemical/dye factories are located	
4.4 Chemical fertilisers can be used, **but only judiciously** to meet the plant nutritional needs following appropriate application methods, to avoid nutrient losses and susceptibility to pest attacks. ***A list of products allowed for fertilisation and soil conditioning is given in Annex 1.***	Preference to be given to mineral fertilisers that are in their natural composition and not rendered more soluble by chemical treatment to avoid nutrient loss (e.g., rock phosphate). Appropriate fertiliser application methods like mixing with neem cake, placement, and split application need to be adopted.

5. Pest and Disease Management

Guiding principles

a. *Strengthening the resilience of the crops and crop ecosystems to damage caused by pests and diseases is the key to ecological crop protection.*

b. *A robust system of pest and disease management takes into consideration the close relationship between the health of soil, crops and agricultural ecosystems. It involves carefully designing and managing the whole farm system to achieve the health, diversity, and vitality of the soils and crops.*

c. *It relies on preventive and planned strategies rather than reactive strategies.*

d. *Pest management shall be guided by understanding the ecological needs of the pests and disrupting them. The natural enemies of pests and diseases shall be protected and encouraged through proper habitat management of hedges, nesting sites, etc. An ecological equilibrium shall be created to bring about a balance in the pest-predator cycle.*

e. *Observing the crop health in a periodical manner and pest surveillance at the individual farm and community levels are essential to decide on the need-based, appropriate pest and disease management measures.*

f. *Control measures need to be taken at the appropriate life stage of the pest and disease for them to be effective and cost-efficient.*

g. *Preference should be given to time-tested and safe traditional/indigenous pest- and disease management practices in the region.*

5.1 Follow practices that encourage natural predators in and around crops, such as: a. companion planting, intercropping and mixed cropping and b. leaving field margins, hedges, windbreaks, and wildlife corridors uncultivated 5.2 Choose pest and disease-resistant crops, varieties, and resistant rootstock that are suited to the local agroecosystem. 5.3 Ensure timely sowing by adhering to time-tested, location-specific 'sowing windows' that are less susceptible to pest attacks. 5.4 Follow judicious application of water for irrigation to avoid creating a positive environment for the building up of pest population. 5.5 Adopt contextually relevant good land husbandry and hygiene practices to limit the spread of any pest or disease during and after the crop season.	The NFO, in consultation with pesticide-free farmers, will identify contextually relevant ways to prevent pest infestation for each cropping pattern and farming system and will promote the same through the pesticide-free package of practices. Few proven practices **Deep summer ploughing:** Summer ploughing by May-June immediately after the first showers exposes the pupae surviving inside the soil. The depth of ploughing should be more than six inches. Exposed pupae will die due to excess heat or be eaten away by birds. **Community bonfires:** Immediately after the first shower (one-inch rainfall), mass bonfires in the fields have to be organised in the evening between 6 and

	7 PM to attract adult insect pests (e.g., red hairy caterpillar). Attracted adult insects will fall into the fire and die. All farmers in the area should go for bonfires in their fields on the same day.
5.6 Use physical methods and traps to reduce the build-up of pest populations.	
5.7 Use bio and other non-synthetic pesticides prepared using plants, animals, micro-organisms, and other materials, ***preferably at the farm or in the location,*** in a timely manner to control pest infestation. ***Permitted products for plant pest, disease, and weed management are listed in Annex 2.*** ***For preparations sourced from outside, only use those approved by the NFO.***	If the spraying equipment was previously used in a conventional farm, it should only be used after it has been cleaned thoroughly to avoid contamination. Otherwise, exclusive spraying equipment is to be used in the pesticide-free farm.
5.8 The use of synthetic fungicides, insecticides and other pesticides is prohibited.	
5.9 The use of genetically engineered organisms or products is prohibited.	
5.10 Appropriate measures (buffer zones, non-harvest zones, hedges/trees, non-spraying agreement with neighbours, etc.) must be taken to prevent drift/movement of unwanted chemicals to the pesticide-free plot from conventional neighbouring fields.	Risk of drift is identified at the beginning of the crop season for each pesticide-free plot, and timely efforts to prevent the same are taken proactively by the pesticide-free farmer. Buffer zones are areas around the pesticide-free plots that are cultivated by buffer crops or are utilised for non-agricultural purposes like roads. Buffer crops are crops that are different from the pesticide-free crops. Buffer crops could be annual or perennial and have the height and the bushiness to prevent spray drift contamination. If the same crop is cultivated in the neighbouring farm following a conventional system of production, then a three-foot band of pesticide-free crop in the border is considered as a buffer

	zone, which should be harvested and threshed separately. Buffer zones are not necessary when there is no possibility of spray drift contamination.
6. Weed Management	
Guiding principles 1) *The best way to control weeds is by carefully designing and managing the whole farm system with a focus on preventing damage by weeds, including good crop rotation design, manure management, well-timed soil cultivation and good farm hygiene.* 2) *Reactive measures like the use of bio-weedicides and other allowed products have to be followed only when needed.* 3) *Preference should be given to time-tested indigenous weed management practices.* 4) *Weed control measures need to be taken at the appropriate life stage of the weed, like during emergence and/or before flowering, for them to be effective and cost-effective.*	
6.1 Adopt some of the following methods, **whichever is contextually relevant**, to control weeds: a. Balanced rotations which include weed-suppressing and weed-susceptible crops b. Sowing cover crops and/or green manures c. Composting animal and plant waste, and aerating slurry to kill weed seeds d. Pre-sowing cultivation, like summer ploughing e. Selecting crop varieties that have more vigour and can suppress weeds, and f. Using cleaned seed	<u>The NFO, in consultation with the pesticide-free farmers, will identify contextually relevant ways of weed management for each cropping pattern and farming system in their location, which involve low cost and less drudgery. These will be promoted through the pesticide-free package of practices.</u> Appropriate planting methods have to be adopted such that they aid in the ease of weeding with tools and small equipment.
6.2 Physical methods for weed management should be given preference, including pre-emergence and post-emergence mechanical operations, such as hoeing, harrowing, topping, hand weeding, etc.	
6.3 Mulching, both live mulching and residue-based mulching, needs to be given preference.	Paddy straw and sugarcane leaves must be used for mulching instead of burning after the harvest of the crops.
6.4 Use of plastic mulches is acceptable provided that thick, easy-to-remove sheets made of polyethylene,	

polypropylene, or other polycarbonates are used. These shall be removed from the soil after use and shall not be burnt on the farmland. The use of polychloride-based products is prohibited.	
6.5 Use bio and other non-synthetic weedicides, ***preferably prepared at the farm or in the location.***	
6.6 The use of synthetic weedicides/herbicides is prohibited.	
7. Soil and Water Conservation Standards	
7.1 Clearing of land by burning organic matter (e.g., straw burning) shall be restricted to a minimum.	
7.2 The clearing of primary forest is prohibited.	
7.3 Relevant measures shall be taken to prevent soil erosion.	The NFO, in consultation with pesticide-free farmers, will identify contextually relevant ways to prevent soil erosion in its location and promote the same.
7.4 Excessive exploitation and depletion of water resources shall not be allowed.	
8. Harvesting and Threshing	
8.1 Pesticide-free crops should be harvested and threshed separately and not along with conventional crops.	Identify and prepare the threshing, winnowing, and drying yard well in advance. Minimise the movement of domesticated animals inside the drying yard. The machines and equipment used for harvesting and threshing pesticide-free crops should be cleaned before use if they were used previously in a conventional farm. If it is difficult to clean them, the output of the first few batches is to be considered 'conventional' and to be kept

	separately from that of pesticide-free output.
8.2 The washing and cleaning methods shall be followed as per the recommended quality standards, wherever applicable.	Preferably potable water should be used.
8.3 Produce shall be brought to the desired moisture level following the recommended practices.	Farmers are to be guided about the ideal moisture content for different crops based on practical experience.
9. Storage of Pesticide-free Crop Produce by Producer	
9.1 Pesticide-free produce should be stored separately from conventional crops by the farmer to avoid commingling.	Dedicated storage facility with clear labelling to be used wherever possible. Pallets or raised platforms are to be used wherever possible.
9.2 The produce shall be stored as per the recommendation to maintain the quality of the produce.	
9.3 Bags and other packing materials used for storing pesticide-free produce should be pesticide-free.	Bags to be used for storage have to be made ready in advance by washing and drying.
9.4 Non-chemical pest management measures (like the use of leaves of neem and *Vitex negundo*) can be used to manage insect pests and rodents during storage.	
9.5 No synthetic pesticides or synthetic fumigants should be used to control storage pests.	
9.6 Prohibited products shall not be stored in the proximity of the pesticide-free produce.	Besides synthetic pesticides and synthetic fumigants, petroleum products, mosquito repellents, and chemicals used for domesticated animals like Notix must not be kept inside the farm produce storage areas.
10. Record keeping by Producer or Producer Group	

10.1 Mapping of plots allocated for pesticide-free cultivation will be done, indicating the cultivation methods followed in the surrounding fields, the risk involved, and the buffer areas allocated.	To be done using individual farm diary or group-level farm diary. Records of preventive measures suggested and action taken must be kept at the farm level.
10.2 Records of sowing/planting/transplanting to be maintained.	
10.3 Records of inputs applied at various stages of the crop to be maintained.	
10.4 The yield of produce from the verified plot shall be recorded.	Care should be taken to do yield estimation at an appropriate cropping stage.
10.5 All records should be made accessible during audit inspection.	
10.6 Corrective actions for non-conformances shall be undertaken and recorded.	Corrective Action Plan (CAP) and corrective action implementation record must be kept at farm level.

II. Standards for Large Default/Converted Pesticide-Free Areas	
Guiding Principles: *India has a longstanding tradition of eco-friendly agriculture practices, and there are many villages where all the farmers in a patch of land, a sub-village, or the whole village follow pesticide-free agriculture. There are also villages that have converted large patches of land to pesticide-free cultivation due to the consistent efforts for many years by the farmers' organizations, NGOs, and other development agencies. However, most of these areas are not covered under any certification and are not officially recognized as pesticide-free. This makes it difficult for farmers to access the growing markets for pesticide-free foods. The N+3F initiative presents an opportunity to certify these areas as pesticide-free under the Zero Pesticide Use Agriculture and Food (ZPUAF) Standards.*	
A. Additional Protocols	
1. Only large conterminous areas (minimum 200 acres and above) complying with Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards for more than 3 years are considered.	
2. One patch or sub-village, or village comprising all the farmers will be treated as one group.	To qualify for large area certification, all the farming members of the patch, sub-village, or village should be following pesticide-free production protocols that comply with ZPUAF Standards, regardless of the crops.
3. Those areas are preferably geographically isolated from conventional agricultural areas and have to be separated by effective natural barriers such as hills, non-agricultural land, the sea, rivers, forests, or any other effective barrier.	Village councils or Gram Panchayats need to corroborate the practice of pesticide-free agriculture by the farmers in the designated patch, sub-village, or village.
4. Documentation of the entire area, including geo-tagged maps with defined boundaries with villages and landmarks, is to be developed and provided. Documentation is to be done village-wise or patch-wise, with details of farming practices if all the farmers cultivating in the village or patch follow similar farming practices. If a few farmers are adopting different practices, then they need to be documented separately.	
5. N+FFS Facilitating Organization (NFO) will ensure that all the growers undertake the pesticide-free pledge and	If there is a functional farmers' organization anchoring the pesticide-free agriculture initiative, then the office

sign the pledge and patch-wise or sub-village-wise application form. 6. Once all the farmers sign the pledge and application, it needs to be endorsed by the patch or village lead farmer. This leader has to be selected by the member farmers in the group with the facilitation of NFO.	bearers of the organization selected by the member farmers will endorse the application.
7. Create peer appraisal committees from among the farmers in the patch or sub-village. The number of members should be a minimum of 5, including a leader farmer. The committee has to be authenticated by the NFO.	At least one peer appraisal committee will be constituted in each patch or village for annual peer appraisals. Complete the first peer appraisal and submit the peer appraisal summary sheet to the NFO.
8. A verification committee from the NFO has to visit the village and verify the documentation and details to ensure that the defined area has been pesticide-free for the last 3 years. This visit and the details are to be documented. 9. The verification committee has to submit their visit report and recommendation to declare the area "pesticide-free" to the N+3F.	
10. N+3F, on verification of the documents, peer appraisal reports, and reports of the NFO verification committee, and after external inspection, can declare the area as a "Pesticide-free niche" or "Pesticide-free village". N+3F shall issue a patch-wise or village-wise scope certificate giving a full list of farmers, areas, and crops.	For the continuation of "pesticide-free" status, every village in the region needs to undertake at least one peer appraisal and verification by NFO annually.
11. Under this certification program, all the farmers and their farming operations (including livestock) within the designated area for which certification is sought must comply with ZPUAF Standards. Even a single deviation by one farmer can result in the cancellation of the "pesticide-free" status of the entire village.	As the risk of contamination with synthetic chemical pesticides and other unwanted chemicals and commingling is generally less in a default pesticide-free area, appropriate simple assessment procedures will be followed. Necessary additional measures will be followed to avoid pesticide drift, contamination, and commingling if the default pesticide-free patches are adjacent to conventional agriculture patches and/or farmers cultivating the default pesticide-free designated area are also practicing conventional agriculture in some other area.

12. Individual farmers shall not be eligible for certification under this category, even though they may be located within the same geographical area. Similarly, processing and handling units that are not part of the pesticide-free agriculture initiative shall not be eligible for certification under this category, even though they may be located within or near the same geographical area.	
B. Certification Process	
B.1 By the NFO	
1. Define the area to be brought under certification and prepare maps. 2. Ensure that there is no synthetic chemical insecticide or herbicide use history in the area for at least the last 3 years. 3. Prepare farmer-wise documentation, i.e., name and family details of the farmer, land details, area under different crops with estimated yield, livestock details, and individual farmer land location on the map. All farmers will be taken into account, and the entire defined area will be covered.	
4. Create a farmers group for each designated area, keeping the 'one group/one patch' concept. 5. Facilitate the selection of a group leader or a set of office-bearers for each group from among the farmers by the member farmers.	
6. Obtain the INGS application form and group pledge for each patch or sub-village that needs to be signed by all the individual farmers and by the office-bearers or group leader. 7. Request the necessary authorities to issue relevant documents to prove that the area has been free of synthetic pesticide and herbicide use for the last 3 years.	
8. Make an application to the N+3F with copies of all the above documents for registration and external inspection. The applications must be patch/sub-village/village-wise or Gram Panchayat-wise.	(i) Submit applications from all the villages and Gram Panchayats in the region, if certification is planned for more than one patch or village.

9. Facilitate the formation of a peer appraisal committee in each village and build their capacity to do peer appraisals and ensure that all the farmers in the patch/sub-village/village follow pesticide-free agriculture. 10. Plan for peer appraisal in all the patches/sub-villages in coordination with the peer and ensure their implementation.	(ii) Facilitate the first peer appraisal by the local farmers' peer committee in each village and fill out the consolidated peer appraisal form.
B.1.1 Peer Appraisal Audits: - ✓ Peer appraisal will be conducted by a minimum of three of the Peer Appraisal Committee members. ✓ The square root of the total number of farmers in the patch/sub-village is to be audited by the peer appraisal committee. The committee will use the necessary simple formats in the local language for such appraisals. **Every year, the selected farmers should be different from those selected in the previous year.** ✓ The filled-in formats are to be submitted to the NFO along with the peer appraisal summary report to facilitate the verification by the NFO.	
B.1.2 NFO Verification Audits: - ✓ The NFO has to verify at least 25% of the total number of farmers in the patch/sub-village. The NFO will use the necessary simple formats in the local language for such appraisals. ✓ Every year, the selected farmers should be different from those selected in the previous year. ✓ Facilitate Focus Group Discussions (FGDs) with groups of farmers of all the patches/sub-villages. Additionally, the verification committee from the NFO has to visit the village and verify the documentation and details regarding the peer appraisal and also ensure that the defined area has been pesticide-free for the last 3 years. This visit and the details are to be documented. ✓ The NFO has to prepare their necessary reports and a summary report to submit to N+3F.	

11. Submit all the documents to the N+3F. 12. Facilitate the N+3F-appointed inspectors for individual farm inspections (10% of the total number of farmers appraised by the NFO), two or more Focus Group Discussions (FGDs) with groups of farmers, and verification of the traditional pesticide-free status of the areas covered under the applications. 13. Ensure receipt of documents related to the identified non-conformities and areas for improvement by N+3F in time.	
B.2 By the N+3F	
1. The N+3F receives the application for all the Gram Panchayats or villages, sub-villages or patches to be certified through the NFO. 2. Verifies the authenticity and completeness of the documents. 3. Conduct field inspection audits (10% of the total number of farmers appraised by the NFO). 4. Carry out the N+3F inspection and FGDs and take further decisions on the certification of the village/Gram Panchayat/large area.	
On receipt of pesticide-free certification, the village or area can undertake the aggregation, processing, and marketing of certified produce exclusively (not along with conventional produce), preferably under one brand name. For renewal of the certification, at least one peer appraisal and one NFO verification committee visit is to be done every year, and consolidated peer appraisal sheets and NFO verification committee reports are prepared patch- or village-wise and submitted to the N+3F by the NFO.	

III. Wild Harvesting Standards	
1. Harvesting any species defined as 'critically endangered' in the IUCN Red List (The World Conservation Union) (www.iucn.org) is not allowed. 2. Products can only be approved as '**Pesticide-free**' if derived from a designated area for collection, clearly depicted in the map of the authorised area of collection by the forest department or state department, which is subject to inspection. ***3. Wild-harvested products shall only be certified 'Pesticide-free' if derived from a stable and sustainable growing environment. Harvesting or gathering the product shall not exceed the sustainable yield of the ecosystem or threaten the existence of plant or animal species.*** ***4. The areas under wild harvesting must:*** • ***Not be sprayed with any synthetic chemical pesticides*** • ***Be at least 10 meters distant from conventional farms or areas sprayed with unallowed products*** • ***Be at least 50 metres from highways and railroads and*** • ***Be at a suitable distance from any other source of pollution or contamination***	Wild-harvested products are those products that are harvested from wild areas. Wild areas principally fall into the following categories: 1 From forests - primary and secondary forests 2 From social forestry systems on community lands 3 From abandoned orchards, which have not been cultivated for the past 10 years 4 From community lands, which have not been farmed for the past 10 years The need to annually inspect wild-harvested products is to verify the traceability of these products back to the areas they were sourced from and also to see if all post-harvesting methods and processes are in accordance with the ZPUAF Standards.
IV. Pesticide-free Produce Aggregation Standards	
1. Transportation of Pesticide-free Produce	
1.1 ***Packing materials used for procuring pesticide-free produce should be pesticide-free.***	***It is recommended that*** fresh bags be used for procurement to avoid contamination. Once the list of approved pesticide-free farmers comes from the Internal Control System (ICS)/Internal N+FFS Guarantee System (INGS), bags can be given to these farmers to store their produce immediately after harvest.

1.2 ***Where produce needs to be transported in bulk, pesticide-free produce and conventional produce should not be transported together, i.e., 'part loading' should be avoided. If 'part loading' cannot be avoided, then the pesticide-free products are to be transported in closed packaging or in containers.***	The transport vehicle will be inspected for cleanliness before loading pesticide-free produce.
2. Storage of Aggregated Pesticide-free Produce	
2.1 ***All pesticide-free produce should be stored separately from conventional crops to avoid commingling.***	Plastic or untreated wooden pallets are to be used.
2.2 Pesticide-free produce should be labelled properly. The label should inform the following: a) Crop and variety, b) Year of harvest, c) Weight, d) Farmer's name and address, and e) Code number of farmers, if any.	Clear identification of pesticide-free products in storage is essential to avoid commingling. To ensure traceability, identification should be made possible by using easily identifiable labelling systems with proper codification (like colour coding).
2.3 Non-chemical pest management measures, like the use of leaves of neem and *Vitex negundo,* can be used to manage insect pests and rodents during storage.	Use of hermetic storage technologies like cocoons with regulated gas composition is recommended for produce that is susceptible to pest attack, like pulses.
2.4 The rodent control traps should be kept at a suitable distance from the crop produce. It should be ensured that the dead rodents and rodent baits are disposed of carefully without contact with the crop produce.	
2.5 Clean the stores regularly to avoid pest infestation and to maintain a hygienic environment. Records on planned cleaning schedules and their adherence are to be maintained.	
2.6 ***No synthetic pesticides and synthetic fumigants should be used to control storage pests.***	Chemical fumigants like aluminium phosphide, methyl bromide, ethylene oxide or UV/gamma radiation, etc., should not be used.

2.7 Proper inventory records should be maintained to document the inward and outward flow of goods from storage areas.	Inventory records are essential for the traceability of pesticide-free produce.

V. Pesticide-free Produce Processing and Handling Standards

Guiding Principles:

N+FFS strives to make available foods that are wholesome, authentic, unadulterated, and of high quality.

Note:-

-'wholesome' means preferably whole, minimally processed, contributing to positive health.

-'authentic' means honest/genuine food from a known source, not giving a false impression regarding its nature.

- 'unadulterated' means food made using recipes and methods that minimize the use of additives and processing aids.

- 'high quality' means as good and as nutritious as possible (of its kind).

Any handling and processing of pesticide-free products should be optimized to maintain the quality and integrity of the product and directed towards minimizing the development of pests and diseases. Processing and handling of pesticide-free products should be done separately in time or place from handling and processing of conventional products. All products shall be adequately identified throughout the whole process.

1. Standards related to planning operations

(i) The operator must develop a pesticide-free produce procurement, production, and handling plan. A pesticide-free produce procurement, production, and handling plan must include: a) Description of practices and procedures to be performed, including SOP and process flow chart. b) Risk assessment and identification of pollution sources. c) Description of practices and procedures to be followed during procurement and storing raw materials. d) Description for decontamination, cleaning, or disinfection of all facilities where pesticide-free products are kept, handled, processed, or stored. e) Description of pest prevention and pest control at different parts of the unit.	A list of each substance/input used during production, storage, and handling, indicating its composition, source, locations where it will be used and documentation of commercial availability as applicable, needs to be included in the plan. The approved ingredients and additives used in the food processing of pesticide-free products can be found in Annex 3 and 4. The certification program shall regulate the means and measures to be allowed. Orienting and training the staff on SOPs and plan aspects is essential for effective engagement of them in unit operations.

f) Description of the management practices and separation measures established to prevent the commingling of pesticide-free and conventional products during processing and handling after processing. g) Description of sampling procedures followed for testing of produce. h) Description of packaging and labelling procedures followed for the processed produce. i) Description of procedures followed for storage and transport of processed produce. j) Description of personal hygiene procedures followed. k) Description of the monitoring practices and procedures followed and maintained to verify that the plan is effectively implemented. l) Description of the record-keeping system implemented to comply with the requirements of ZPUAF Standards. **(ii) The operator needs to train all the staff on SOPs/protocols and other plan aspects.**	
2. Pesticide-free Raw Materials Procurement, Storage, and Handling Standards	
A. Procurement/Aggregation/Collection Standards	
(i) The pesticide-free products are to be procured from certified pesticide-free farms/operators. ***(ii) Clean packing materials (bags) to be used for procuring the raw materials.*** ***(iii) Part-loading during procurement is to be avoided.*** (iv) Procurement register is to be maintained by the processor with the minimum required details, such as the name of the seller, the name of the product, the quantity procured, the condition of the product (moisture content, grade, packed/labelled, form (dried, fresh, semi-dried, etc.), the rate at which it was procured, etc.).	(i) Procured raw materials should be tested for unallowed chemical substances by the processor or the producer/seller. (ii) The pesticide-free product is to be procured in labelled condition to track the product batch to the producer group or the farmer. (iii) If part-loading cannot be avoided, pesticide-free products and conventional products are to be packed separately to avoid any commingling. Pesticide-free raw material to be labelled properly to distinguish it from other materials.

B. Standards for storage and handling of pesticide-free raw materials

B.1. Storage Standards for Raw Materials

(i) ***If the operator is handling both pesticide-free and conventional raw materials, storage areas should have designated areas to segregate pesticide-free materials so that they can be easily cleaned and maintained to prevent contamination and deterioration.***	(i) Pesticide-free materials should be stored off the floor on pallets or in racks and away from walls and ceilings.
(ii) Storage areas should be kept clean, well-ventilated, lighted, and dry.	(ii) Rows of stored materials should be spaced to allow cleaning and inspection.
(iii) Pest control should be compliant with the standards prescribed under III - Pesticide-free Produce Procurement, Processing, and Handling Standards; 2-Pest Control.	(iii) Pesticide-free materials and packaging materials should be protected from pests, condensates, drains, sewage, dust, dirt, chemicals, or other contaminants. - Slip curtains or air curtains can be used.
(iv) The stock register is to be maintained with the minimum required details, such as product name, available quantity, quantity used for processing, balance quantity, etc.	

B.2. Handling Standards for pesticide-free raw materials

(i) The pesticide-free raw materials should be handled without cross-contamination from conventional products and other unallowed substances.	(i) Based on the purchase order or sales estimate, the quantity of raw materials required to be shifted to the processing unit from the external warehouse is to be decided so that storage of raw materials for a long duration in the unit can be avoided.
(ii) The pesticide-free raw materials should be used by date to avoid the expiration of the stock (first-come-first-go basis).	(ii) Single-point entry and single-point exit to be followed.
(iii) Ingredients, packaging supplies, and other materials should be used on a first-come-first-go basis.	(iii) Partially used pesticide-free materials should be adequately sealed or protected before being returned to storage.

3. General Cleaning and Hygiene Standards

Guiding Principles

Cleaning should be done in a manner to arrest harmful microbial activity and eliminate the chances of chemical contamination and physical contamination.

A. Cleaning Schedule Standards	
(i) The cleaning schedule should be a written procedure and should be strictly adhered to, and should include: ***a) What will be cleaned*** ***b) How and how often and*** ***c) What chemicals and equipment will be used*** ***(ii) The cleaning records should be maintained regularly and should be signed by a responsible person, which shows that:*** ***a) All the inside units are cleaned periodically as per SOPs.*** **b) The in and around surroundings of the facility are cleaned daily and/or periodically.**	(i) Suitable pictorial charts in a local language can be used.
B. Cleaning Methods Standards	
(i) Allowed substances/techniques and practices for cleaning and hygiene are: a) All detergents, disinfectants, sterilants, and terminal sanitizers allowed for use in the food industry, according to manufacturers' instructions. b) Dry cleaning methods, where they will not risk pesticide-free product integrity. Ultraviolet radiation to prevent mould growth on the surface of the dough and baked goods.	
C. Standards for Storing Cleaning Materials	
(i) Store stocks of detergents and sanitizers safely in a marked store, preferably in a closed container, to reduce the risk of contamination. (ii) Label all detergents and sanitisers correctly with the name of the product and safety information.	Labelling of storage chemicals is essential since it will enable the workers to understand which chemicals they are using; further, it will help in conformance of the substances to the standards during verification by the external agencies.

D. Standards for Cleaning the Premises/ Facility	
(i) Always rinse off remaining disinfectants and sanitisers with water (which is close to drinking water standards) to prevent residues left on the surface from contaminating the pesticide-free products. ***(ii) No use of unallowed substances on contact surfaces that could taint or contaminate pesticide-free products.***	(i) Only use alcohol wipes that do not leave any residue after the alcohol has evaporated.

4. Pest Control Standards	
Guiding Principles: *For pest management and control, the following measures shall be used in order of priority:* *(i) Avoiding pests by good manufacturing practices. This includes general cleanliness and hygiene.* *(ii) Following preventive methods such as disruption, elimination of habitat, and access to facilities.* *(iii) Following mechanical, physical, and biological methods, including physical barriers, sound, ultrasound, light and UV-light traps, pheromone traps, static bait traps, herbs, bio-repellents, temperature control, controlled atmosphere, and diatomaceous earth.* *(iv) Management or control using allowed pesticidal substances mentioned in Annex 2 as a last resort.*	
(i) Application of synthetic chemical pesticides and fumigation using them are not allowed. ***(ii) Irradiation is prohibited.*** (iii) There shall never be direct or indirect contact between pesticide-free products and prohibited substances. (e.g., chemical pesticides).	(i) Regular inspection of pesticide-free products or bags shall be done to find out the pest attack. (ii) Examples of techniques to ward off pests in processing units are: - ● Dry runs before use. ● Regular cleaning of the processing machines after use, especially parts where there is dead storage of food material, like corners of the shorts, elevator buckets, etc. - Preference to be given for processing machines that are designed in such a way that no food material accumulates inside the machine, where it is difficult to clean.

	(iii) Use of hermetic cocoons for storage. (iv) Materials infested with pests are separated from not infested materials immediately after noticing and, if possible, shifted to cocoons. - Pest and egg removal machine can be used for minimizing the infestation. (v) Other traditional methods like the use of neem leaf, *Vitex negundo* leaf, etc., can be followed. (vi) Rodent traps should be used in such a way that the food products do not deteriorate due to the death of rodents or other unwanted organisms. (vii) Dehumidifiers can be used to reduce moisture in certain commodities like jaggery.
5. Pesticide-free Produce Processing Standards	
A. Standards for Cleaning the processing machines and equipment	
(i) Perform a bleed run at the beginning of the processing to prevent the inadvertent commingling of pesticide-free and conventional produce during processing. - Keep full records of all the bleed runs, including the quantities of purge material that have been used.	**(i)** Bleed run is the quantity of the pesticide-free product that is run through equipment to flush out any remaining conventional product. The bleed run is then discarded as conventional. (ii) Work out how much pesticide-free product is needed to put through to remove all residue of a conventional product. (iii) The procedure should be put in place for how the purging will be done, including how much pesticide-free product will be used and showing how this will remove all conventional material. Show this at the inspection so that the procedure can be approved.

(ii) Dry run to be done. ***(iii) Clean all surfaces that may be in contact with pesticide-free products before the start of production.*** **(iv) Clean after the production process to prevent the build-up of residues or micro-organisms that could contaminate the product.**	(i) Dry runs are performed to ensure that the food product isn't stuck to the machine where it cannot be cleaned. If stuck, these places could become potential breeding grounds for pests. (ii) The following parts need to be cleaned thoroughly: 1. Boxes in the machine 2. Corners in the shoots 3. Elevator buckets 4. Silos (iii) An air blower can be used for effective cleaning inside the machine.
B. Ingredients	
Guiding Principles: *100% of the ingredients used in processing shall be pesticide-free. Where a pesticide-free ingredient is not available in sufficient quality or quantity, conventional ingredients may be used to a minimum extent only in case of essential technological need or for particular nutritional purposes. Such conventional raw materials shall not be genetically engineered. The accredited Certification Body may authorize the use of conventional raw materials subject to periodic re-evaluation.*	
Standards for ingredients ***(i) The same ingredient within one product shall not be sourced from a pesticide-free and a conventional origin.*** (ii) Preparations of microorganisms and enzymes commonly used in food processing may be used, with the exception of genetically engineered microorganisms and their products. (iii) Water and salt may be used in pesticide-free products. (iv) Minerals (including trace elements), vitamins, and similar isolated ingredients shall not be used. The certification program may grant exceptions where the use of minerals (including trace elements) and vitamins, fatty acids, amino acids, and other nitrogenous compounds is legally required or where	(i) For the production of enzymes and other micro-biological products, the medium shall be composed of pesticide-free ingredients.

severe dietary or nutritional deficiency can be demonstrated. (v) Ethylene gas is permitted for ripening.	
C. Processing	
Guiding Principle: *Processing methods should be based on mechanical, physical, and biological processes. The vital quality of a pesticide-free ingredient shall be maintained throughout each step of its processing methods and shall be chosen to limit the number and quantity of additives and processing aids.*	
C.1. Processing Methods Standards ***(i) The following kinds of processes are approved:*** • ***Mechanical and physical*** • ***Biological*** • ***Smoking*** • ***Extraction*** • ***Precipitation*** • ***Filtration*** (ii) Extraction shall be either with water, ethanol, plant and animal oils, vinegar, carbon dioxide, nitrogen, or carboxylic acids. These shall be of food-grade quality, appropriate for the purpose ***(iii) Filtration substances shall not be made of asbestos, nor may they be permeated with substances that may negatively affect the product.*** **(iv) Irradiation is not allowed.**	• Suitable processing methods that do not result in a loss of nutritional value are to be adopted. • In grain processing, maintain an optimal level of bran percentage to retain nutritional benefits. • Equipment made of food-grade stainless steel is to be used wherever possible. Or the parts that will come into contact with food materials should be made of food-grade stainless steel. • Methods to avoid/reduce the presence of Aflatoxins should be followed. • Boric acid, usually used in paddy processing, is not allowed in processing pesticide-free paddy.
C.2. Processing Procedures Standards **(i) Wherever possible, dedicated machines shall be used for processing pesticide-free produce. Otherwise, they should be processed as an exclusive batch; during that period, conventional produce should not be processed in the same machine.**	

(ii) Proper records for processing operations need to be maintained by the food business operator	
6. Packaging Standards	
Guiding Principles *The material used for packaging shall not contaminate food. Biodegradable, recyclable, reusable and eco-friendly packaging materials shall be used wherever possible.*	
Standards for packaging ***(i) The details of the products that can be used for packaging pesticide-free foodstuffs are given in Annex 5. Most of the products are categorized as 'restricted use', as the use of those materials should not directly or indirectly cause any contamination of the pesticide-free product being carried in the package.*** (ii) The accredited Certification Body shall approve the packaging material for use.	(i) "Restricted" means that the conditions and procedures for use shall be set by the accredited certification program. (ii) The packages shall be closed in such a manner that substitution of the content cannot be achieved without manipulation or damage to the seal.
7. Labelling Standards	
Guiding Principles *Labelling shall convey clear and accurate information on the pesticide-free status of the product.*	
G.1. General Labelling Requirements	
Standards for labelling ***(i) FSSAI Standards for labelling food products will be followed.*** ***(a) The name and address of the person or company legally responsible for the production or processing of the product shall be mentioned on the label.*** ***(b) Product labels should list processing procedures that influence the product properties in a way not immediately obvious.***	(i) Name and address of the last handler to be indicated. (ii) Additional product information shall be made available on request.

(c) All components of additives and processing aids shall be declared. **(ii) Ingredients or products derived from wild production shall be declared as such.**	
G.2. Processed Products Labelling Requirements	
Standards for labelling processed products ***(i) Single-ingredient products may be labelled as "pesticide-free" when all standard requirements have been met.*** ***(ii) Multi-ingredient products where not all ingredients, including additives, are of pesticide-free origin may be labelled in the following way based on their share in the raw material weight:*** ***a) Where a minimum of 95% of the ingredients are of certified pesticide-free origin, products may be labelled "certified pesticide-free" or similar and should carry the logo of the certification program.*** ***b) Where less than 95% but not less than 70% of the ingredients are of certified pesticide-free origin, products may be labelled as "made with pesticide-free ingredients" provided there is a clear statement of the proportion of the pesticide-free ingredients.*** - An indication that the product is covered by the certification program should be used, close to the indication of the proportion of pesticide-free ingredients. *c) **Where less than 70% of the ingredients are of certified pesticide-free origin, the indication that an ingredient is pesticide-free may appear in the ingredients list. Such a product may not be termed as "pesticide-free".***	(i) Added water and salt shall not be included in the percentage calculations of pesticide-free ingredients. For aquaculture products, the use of iodized salt shall be referred to on the labels. (ii) All raw materials of a multi-ingredient product shall be listed on the product label in order of their weight percentage. It shall be apparent which raw materials are of pesticide-free-certified origin and which are not. All additives shall be listed with their full name.

(iii) If herbs and/or spices constitute less than 2% of the total weight of the product, they may be listed as "spices" or "herbs" without stating the percentage. (iv) Pesticide-free products shall not be labelled as GE (genetic engineering) or GM (genetic modification) free in order to avoid potentially misleading claims about the end product. Any reference to genetic engineering on product labels shall be limited to the production method. (v) The label of a certified pesticide-free product must depict the name and logo of the accredited Certification Body, the accreditation number, and its logo. (vi) The accredited Certification Body shall verify the labelling requirement and approve the labels of their certified operators before the labels are used.	
8. Standards for Storage and Transport of Pesticide-free Processed and/or Packed Products	
Guiding Principles *Product integrity should be maintained during the storage and transportation of the processed pesticide-free products. Processed pesticide-free products must be protected at all times from co-mingling with conventional products and from contact with materials and substances not permitted for use in pesticide-free farming and handling.*	
Standards for storage and transport of processed products ***(i) Processed pesticide-free products shall be stored at ambient temperature. The following special conditions of storage are permitted:*** ***a) Controlled atmosphere*** ***b) Cooling*** ***c) Freezing*** ***d) Drying*** ***e) Humidity regulation*** ***(ii) Where only part of the unit is certified, and conventional products are also handled by the unit, the pesticide-free products should be***	(i) Transport pesticide-free products in vehicles that are suitable for them. - Transport chilled or frozen pesticide-free products only in vehicles that have systems to ensure the temperature stays correct throughout the journey, and - record the results of all the checks you make. (ii) Processed and packed pesticide-free materials should be protected from pests, condensates, drains, sewage, dust, dirt, chemicals, or other contaminants. - Slip curtains or air curtains can be used.

stored and handled separately with necessary labelling to maintain their identity. ***(iii) Storage areas, loading equipment, vehicles, and transport containers for pesticide-free products should be cleaned using methods and materials specified in Cleaning and Hygiene Standards.*** ***(iv) Measures should be taken to prevent possible contamination from any pesticide or other unallowed substances not listed in Annex 2.*** ***(v) Transport pesticide-free products in closed packaging or containers.*** (vi) Outgoing register is to be maintained. (vii) The processed pesticide-free products should be transported by date to avoid the expiration of the stock (first-come-first-go basis).	(iii) Based on the purchase order or sales estimate, processing quantity is to be decided so that storage of processed products for a long duration can be avoided.
9. Standards for Personal Hygiene of Staff	
Guiding Principles *The employees/staff coming in direct/indirect contact with the pesticide-free product in the processing unit need to follow a set of personal hygiene protocols/standards to ensure product quality.*	
Standards for personal hygiene ***(i) All employees must wash their hands and keep them clean.*** ***(ii) All employees must come to work wearing clothing appropriate to pesticide-free processing work.*** (iii) Any cuts, burns, boils, skin infections, or infected wounds on a pesticide-free product handler should be covered with a bandage. Cover bandages on hands with single-use gloves. Pesticide-free product handlers with bandages may be assigned to jobs that do not involve pesticide-free product contact. iv) Eating, drinking, and smoking in the processing area is prohibited.	(i) All employees must wash their hands and keep them clean during the following (at least) times: - a) At the beginning of the shift. b) After using the restroom. c) After coughing, sneezing, using a tissue or handkerchief, eating, or drinking. d) Between glove changes. e) After handling cleaning procedures. f) After touching hair or any body part except clean hands and arms. g) After doing other activities that contaminate the hands, such as handling trash or chemicals. (ii) A general description of clothing requirements includes: -

v) Refrain from working until at least 24 hours, if contracted any illnesses. vi) Inform the authorities and refrain from work if any injury happens while working. vii) Sensitive zones in the unit are to be restricted for entry by visitors.	a) Clothing that is clean and free of unwanted chemicals or substances. b) Shoes or footwear that are waterproof and with non-slip coating. c) Suitable and effective hair caps/covers while in processing areas. (iii) Keep fingernails trimmed, filed, and maintained.

VI. Livestock and Poultry Rearing Standards

Scope

The livestock standards outlined in these regulations apply to all domestic and domesticated animals, including bovine (such as buffalo, Mithun, and yak), ovine (sheep), porcine (pig/swine), caprine (goat), rabbits, poultry, and any other animals that may be notified by the FSSAI from time to time. These animals are raised for food, fibre, or for use in the production of food and fibre, as well as their derivatives and by-products. However, products derived from hunting, fishing, or wild animals are excluded from the scope of these livestock standards.

Guiding Principles

- *Pesticide-free livestock production is, in general, a land-based activity and shall be an integral component of the pesticide-free farm unit.*
- *The management of livestock shall be consistent with the principles of pesticide-free farming and shall be based on:*
    - *Natural breeding.*
    - *Protection of animal health and welfare.*
    - *Fed with zero pesticide feed and fodder.*
    - *Access to grazing in natural and pesticide-free fields.*
    - *Freedom to express natural behaviour.*
    - *Reduction of stress and*
    - *Prohibition of the use of chemically synthesized allopathic veterinary drugs, antibiotics, hormones, growth boosters, feed additives, etc.*
- *Landless livestock production, where the operator does not have access to pesticide-free managed land or has not established a written cooperation agreement with another certified pesticide-free operator, is prohibited.*
- *If the farm's traditional rearing system or adverse climatic conditions make it difficult to access pastures, livestock can be reared through providing pesticide-free feed, provided the indoor and outdoor space requirements (see Annex 11) are met.*

6.1 Pesticide-free Management Plan

During applying for certification, the producer has to present a pesticide-free management plan, which must be verified during the inspection. This plan shall be updated annually.	

6.2 Choice of Breeds and Source/Origin

6.2.1 Choice of breeds: Choice of livestock/poultry breeds/strains shall take into account the following:

- Their adaptation to the local climatic conditions and
- Their vitality and resistance to diseases.

6.2.2 Source/origin:

a) Animals born or hatched and raised in pesticide-free production units that comply with ZPUAF standards, or the offspring of parents raised under the conditions set down in these standards is to be sourced.

b) Transfer of livestock and poultry between pesticide-free and conventional units shall not be permitted.

c) Exceptions to the above standards: When a producer demonstrates to the satisfaction of the Certification Body that the pesticide-free sources of livestock/poultry are not available, the Certification Body may allow sourcing conventional livestock and poultry under the following circumstances:

i. When the producer is establishing a pesticide-free livestock and poultry operation for the first time;

ii. When the producer wants to change the livestock and poultry breed/strain or when a new livestock and poultry specialization is developed;

iii. For the renewal of a herd, e.g., due to high mortality of animals caused by catastrophic circumstances, and

iv. When the producer wishes to introduce breeding males into the farm.

d) When a herd/flock is constituted for the first time, conventional young animals may be introduced for breeding purposes. However, they shall be reared as per ZPUAF Standards immediately after they are weaned. Additionally, the following restrictions shall apply on the date on which those animals enter the herd or flock:

i. Bovine animals shall be less than six months old; ii. Ovine animals and caprine animals shall be less than 60 days old; iii. Porcine shall weigh less than 35 kg; iv. Rabbits shall be less than three months old. e) When initially forming, renewing, or reconstituting a flock, and if the qualitative and quantitative needs of farmers cannot be fulfilled, conventionally raised poultry may be introduced into a pesticide-free poultry production unit with the certification body's approval. However, such poultry must be less than three days old.	
6.3 Livestock Identification and Animal Record Keeping	
6.3.2 Identification: A unique identification number must be provided to each animal/herd/batch. Large animals, including bovine, ovine, caprine, porcine, etc., shall bear individual numbers in the form of tags, while poultry birds and small mammals shall be identified with herd/ flock/ batch. ***6.3.3 Record keeping: Following data for each animal/herd or batch shall be maintained and made available to the accredited certification body for verification during inspection:*** ***i. Parent details;*** ***ii. Source and purchase details;*** ***iii. Animal details;*** ***iv. Breeding details;*** ***v. Feeding details;*** ***vi. Healthcare details, including details of vaccination, medication, veterinarian prescription, withdrawal period, etc.;*** ***vii. Production details;*** ***viii. Sale details and*** ***ix. Any other relevant details***	Identification devices on the animals can be printed ear tags, RFID tags, Barcodes or any other suitable tag that is clearly visible.

6.4. Housing and Management	
a) The housing and day-to-day management of the animal, maintenance of sanitation, hygiene, biosecurity, and environment shall be planned to suit the specific behavioural needs of the livestock and poultry and shall provide for sufficient space to ensure free movement and opportunity to express normal patterns of behaviour. b) As far as possible, two different kinds of animals shall not be kept together, unless for specific purposes, such as free-range poultry birds in a cow/buffalo shed for scavenging on ticks and other insects. c) The housing system shall ensure prevention of abnormal behaviour, injury, and disease. d) Appropriate facilities to cover emergencies such as fire, the breakdown of essential mechanical services, and the disruption of supplies shall be available. e) Housing conditions shall meet the biological and behavioural needs of the livestock and poultry by providing easy access to feeding and watering, and shall ensure: i. Insulation, heating, cooling and ventilation of the building to ensure that air circulation, dust level, temperature, relative air humidity and gas concentrations are kept within limits which are not harmful to the livestock and poultry; ii. Plentiful natural ventilation and light to enter; iii. Appropriate fencing not harmful to the animals	Where the livestock and poultry's normal behaviour demands group living, animals shall not be kept in isolation, but shall have the company of like kind Minimum requirement of surface area for indoor housing and for outdoor runs and pens is given in Annex 11. If pasture-based livestock rearing is followed, the outdoor stocking density of livestock kept on pasture, grassland, or other natural or semi-natural habitats must be low enough to prevent degradation of the soil and overgrazing of vegetation.
6.4.1 Special Conditions for Mammals	
a) All mammals shall have access to an open-air exercise or resting area, paddock, pen or run which may be partially covered and/or shall have space for protection from rain and hot sun. b) The livestock shed shall have a properly laid and smooth floor, although not slippery. The floor shall not be entirely of slatted or grid construction; wherever possible, straw bedding shall be provided.	Other animals may also be restricted from accessing the open-air exercise area or run during periods of heavy rain, harsh winter or summer conditions, or the final fattening phase. At least half of the minimum surface area of indoor and outdoor spaces shall be a hard surface

c) The housing conditions shall aim at providing a comfortable, clean, and dry laying/ rest area of sufficient size, consisting of a solid construction. d) Sows must be kept in groups, except in the last stages of pregnancy and during the suckling period. Piglets may not be kept on flat decks or in piglet cages. Exercise areas must permit dunging and rooting by the animal. Breeding boars may be kept separately. e) The final fattening phase of adult cattle for meat production shall not be exclusively indoors. f) Exceptions to the maximum stocking density in buildings and the minimum areas of indoor and outdoor spaces may be permitted in the event of disaster situations, such as earthquakes or floods that result in the destruction of pastures or buildings.	The calves may be housed separately wherever possible
6.4.2 Special Conditions for Poultry	
a) Housing of poultry in cages shall not be permitted. b) Waterfowl/ducks shall have access to a stream, pond or lake whenever the weather conditions permit. c) Poultry house floor shall be of solid construction covered with litter material such as straw, wood shavings, sand, or turf. In the case of layers, the floor area must be large enough to permit dropping collection. Perches/higher sleeping areas of a size and number commensurate with the species and size of the group and of the birds shall be provided. For outdoor access, appropriate exit/entry holes of adequate size must be provided. d) Poultry shall have access to an open area as specified in Annex 11. and shall have freedom to move freely between the indoor and outdoor areas. e) Open air areas for poultry shall be mainly covered with vegetation and be provided with protective facilities, and permit birds to have easy access to adequate numbers of drinking and feeding troughs. f) Where poultry are kept indoors due to restrictions or obligations imposed on the basis of provincial legislation, they shall permanently have access to sufficient quantities of roughage and suitable material in order to meet their ethological needs.	The open-air space should not exceed 150 meters from the nearest entry/exit pop-hole. However, an extension of up to 350 meters may be acceptable if adequate shelters from weather and predators are provided at regular intervals (a minimum of 4 shelters per hectare). Outdoor areas must facilitate a balanced utilization of all available space for birds, ensuring a diverse range of plants, trees, and shrubs scattered throughout the area. For pasture birds, the presence of grass is essential to fulfil their grazing needs. Waterfowl must have access to water for cleaning their plumage, even when temporarily confined indoors. The surface area of the veranda is excluded from the calculation of stocking densities and minimum indoor areas, unless the space meets specific criteria for indoor rearing. This includes continuous 24-hour accessibility, compliance with animal welfare standards, and coverage and

g) Multi-level aviary systems for layers shall have no more than three levels or tiers above ground level. Total floor space shall meet minimum indoor and outdoor surface area requirements specified in Annex 11. In all such cases, access to the open-air run needs to be ensured under an all-in and all-out system to avoid the mixing of birds among flocks h) Buildings shall be emptied, cleaned, and disinfected between flocks, and runs shall be left empty to allow the vegetation to grow back. i) In the case of laying hens, manipulation of day length may be permitted through the use of artificial lights; j) The accumulation of daylight and artificial lighting is limited to 14 hours per day.	insulation to provide conditions distinct from the outdoor climate. Additionally, for fattening poultry, the veranda's surface area should not be included in the total usable surface of the poultry houses, capped at a maximum of 1600 m².
6.4.3 Special Condition for Silkworms	
a) Silkworm rearing is done under both open and domesticated conditions. Under open situations, worms are reared on host plants either in the wild or under cultivated conditions. In both cases, the host plants shall be certified under wild harvest collection or under pesticide-free crop production. b) Under domestic rearing situations, housing shall be clean and ventilated with adequate space for movement between rearing trays. Multilayer rearing system can also be adopted, provided adequate space is kept between trays and arrangements are made to ensure that trays do not get contaminated with falling excreta of worms from the above layers.	Certification agencies shall define appropriate housing and rearing conditions, taking into account local practices and the specific requirements of the species being raised.
6.4.4 Special Condition for Rabbits	
The keeping of rabbits in cages shall not be allowed. If necessary for comfort and safety, rabbits may be temporarily confined, such as overnight, in cages or hutches. However, continuous confinement is prohibited.	Rabbits must have enough space to run, hop, dig, and sit upright on their hind legs with their ears erect. The minimum indoor and outdoor space requirements are shown in Annex 10.

6.5 Feed and Fodder

6.5.1 General Criteria for feedstuff

a) ***Livestock and poultry farms shall provide maximum diet from feedstuffs produced under pesticide-free conditions. The products shall maintain their pesticide-free status provided that livestock and poultry are fed with pesticide-free feed/fodder to the extent of at least 85% for ruminants and 80% for non-ruminants, calculated on a dry matter basis.*** b) ***The agricultural land dedicated to the cultivation of feed and fodder crops intended to be used as feed for livestock and poultry shall be managed without the use of pesticides.***	Agricultural processed residues of pesticide-free origin, such as from grain fermentation, fruit processing, vegetable processing, etc., shall be permitted for the purpose of feeding, provided that the overall feeding practices satisfy the daily energy and nutrient requirements of the concerned animals. Certification Body can grant permission to allow use of feed/fodder produced through conventional methods for a limited time under exceptional situations, provided that it does not contain genetically engineered/ modified organisms or products thereof.

6.5.2 Specific livestock and poultry rations shall take into account

a) The young animals should be fed natural feed, such as maternal milk, milk from other mammals or milk replacer of pesticide-free origin that has maximum similarity with maternal milk, provided that it does not contain any genetically modified ingredient, antibiotics, hormones, etc. **b)** That in herbivores, a substantial proportion of the dry matter and energy in the daily rations should consist of roughage, fresh or dried fodder, or silage; the need for the inclusion of cereals in the fattening phase of poultry and livestock, and poultry must have **ample, free access to water appropriate to maintain full health and productivity.** c) For reasons of animal welfare, health, and productivity, the addition of supplements shall be allowed only upon the advice of a qualified veterinarian.	The pesticide-free milk replacer must consist solely of 100% milk. This means it must not contain any synthetic chemical components authorized as additives or components of plant origin, including organic components, prior to weaning. The permitted list of supplements, feed materials (probiotics, biologicals, immunological and procuring aids, etc.) and processing aids is given at Annex 8 and 9.

6.5.3 General Criteria for Feedstuffs and Nutritional Elements	
a) Allowed feedstuffs and substances should significantly satisfy the feeding requirements of the livestock and poultry, fulfilling the physiological, behavioural and welfare needs of the concerned species. b) Such substances should not contain genetically engineered/ modified organisms and products thereof; and are non-synthetic and are primarily of plant, mineral or animal origin.	Certification Body may allow the use of feedstuff not included in Annex 8 and 9 and have been recommended by the veterinarian, provided that all such substances are non-synthetic and are primarily of plant, mineral or animal origin.
6.5.4 Specific Criteria for Feedstuffs and Nutritional Elements	
a) The feedstuffs should not be prepared by using chemical solvents and chemical treatment. b) All the ingredients of the feed, including supplements, should be from pesticide-free sources. In case of shortage of these substances, or in exceptional circumstances, well-defined analogic substances listed under Annex 8 may also be used. c) Feedstuffs of animal origin, with the exception of milk and milk products, fish, other marine animals and products derived from them, shall not be used. The feeding of mammalian material to ruminants is not permitted, with the exception of milk and milk products. d) Synthetic nitrogen or non-protein nitrogen compounds shall not be used.	
6.5.5 Specific Criteria for Feedstuffs and Nutritional Elements	
a) The supplements should be derived from natural sources. b) Feed processing aid supplements like binders, anti-caking agents, emulsifiers, stabilizers, thickeners, surfactants, and coagulants, if used, should be from natural sources. c) Antioxidants: only those from natural sources shall be permitted. d) Preservatives: only natural acids are allowed.	Conventional protein feeds, up to a maximum of 5% per 12-month period, can be utilized when pesticide-free protein feeds are unavailable and when the conventional feeds are prepared without chemical solvents. In exceptional circumstances, like recognized disasters such as adverse climatic events, animal diseases, environmental incidents, natural

e) Colouring agents (including pigments), flavours, odour masking agents, and appetite stimulants: only natural sources are allowed. f) Probiotics, enzymes, and microorganisms are allowed but should not be from genetically modified sources. g) Any synthetic chemicals, such as antibiotics, coccidiostat, medicine, growth promoters, or any other substance supplemented for the purpose of stimulating growth or production, shall not be fed to the organic livestock & poultry. **h)** Silage additives, additives for enriching crop residues, and processing aids must not be derived from genetically engineered or modified organisms, or products thereof.	disasters, or any other catastrophic event, relaxation may be granted for the use of conventional feed. Silage additives, additives for enriching crop residues, and processing aids may only consist of the following: • Sea salt • Coarse rock salt • Yeasts • Enzymes • Whey • Sugar or sugar products such as molasses, jaggery, and grain bran. • Honey • Lactic, acetic, formic, and propionic bacteria, or their natural acid products, may be used when weather conditions prevent adequate fermentation.
6.6 Health care	
The pesticide-free livestock & poultry, in general, should follow the basic principles of preventive health and productivity management, wherein the focus would be on preventing diseases, detecting underlying fertility and production problems, and their management primarily through correcting rearing practices, nutrition, and sanitation. The health care shall be based on the following broad principles: • The choice of appropriate breeds or strains of animals that can acclimatize, adapt to the environment; • The setting up of the animal husbandry practices should be appropriate to the requirements of each species and should focus on encouraging strong resistance to disease and prevention of infections; • The use of good-quality pesticide-free feed, together with regular exercise and access to fodder/roughages, and/or open-air runs, so as to	Withdrawal period to be followed when antibiotics and other medication are used for treatment are given in Annex 11.

have positive effects on the natural immunological defence of the animal;

- Appropriate stocking density of livestock & poultry so as to avoid overcrowding and spread of infections or competition for feeding.

a) The producer, in consultation with a veterinarian should draw a program of health management of animals and carry out testing of the herd as per the common diseases of herd/flock (Annex 6).

b) The farm should have a system to identify sick, injured, or subclinical animals, and they must be treated quickly. If isolation is needed, it should be done in appropriate housing.

c) The main focus should be on animal welfare, especially relieving pain and suffering. Therefore, the producer should not withhold medication, even if it causes the animal to lose its certified status.

d) The use of veterinary medicinal products in pesticide-free farming shall comply with the following principles:

   i All vaccinations required by law shall be permitted.

   ii In situations where specific diseases or health issues occur or are anticipated, and no alternative treatments or management practices exist, the use of parasiticides or therapeutic veterinary drugs is allowed under the prescription and supervision of a registered veterinarian. This is contingent on adherence to the mandatory withdrawal periods specified in this standard. For drugs without a prescribed withdrawal period, a minimum of 48 hours must be observed.

   iii For the treatment and prevention of diseases and underperformances, suitable herbal/phyto-therapeutic (excluding antibiotics), homoeopathic, or ayurvedic products shall be preferred over allopathic veterinary drugs or antibiotics.

   iv If alternative therapeutic or preventive measures are unlikely to be effective, allopathic veterinary drugs or antibiotics may be used under the responsibility and supervision of a veterinarian.

e) The use of allopathic veterinary drugs or antibiotics or drugs derived from genetically modified sources for

preventative treatments and for enhancing productivity or fertility is prohibited f) Hormonal treatment may only be used for therapeutic reasons and under veterinary supervision g) Growth stimulants, agents or substances used for the purpose of stimulating growth or production shall not be permitted.	
6.7 Periodic cleaning	
a) Livestock and poultry shelters should be cleaned regularly, once or twice a week. ***b) They need to be disinfected once or twice a month.*** c) Documentation related to cleaning should be maintained for the livestock/poultry unit and to be presented during periodic inspection.	Products authorized for cleaning and disinfection of livestock/poultry buildings and installations are given in Annex 7.
6.8 Breeding and Management	
The main focus of livestock and poultry management shall be to provide care, comfort, and respect for the animals, ensuring their welfare within the farming system. a) Livestock and poultry breeding methods shall take into account: i The breeds and strains best suited to local conditions. ii The preference for natural reproduction methods, although artificial insemination may be used. iii Embryo transfer techniques and any other breeding methods that involve genetic engineering shall not be used. iv The use of hormonal reproductive treatments shall not be allowed unless prescribed for therapeutic purposes, specifically to correct a physiological problem. b) Mutilations such as tail docking, teeth cutting, and dehorning are not permitted. In exceptional cases, these procedures may be authorized by the Certification Body for safety reasons (e.g., dehorning of young animals,	Physical castration is allowed only when necessary to maintain product quality or for traditional production practices (e.g., meat-type pigs, bullocks).

hoof trimming, cutting of pin teeth in pigs) or if they are necessary to improve the health and welfare of the livestock. Such procedures must be carried out by a registered veterinarian at the appropriate age, with efforts made to minimize pain and suffering. Wherever possible, anaesthetics and analgesics shall be used.	
6.9 Manure and Urine Excreta Management	
a) The collection, handling, and disposal of dung and urine from sheds, paddocks, open runs, or grazing areas shall be managed in a way that: i Minimizes soil and water degradation. ii Does not significantly contribute to water contamination by nitrates, phosphates, or pathogenic bacteria. iii Optimizes the recycling of nutrients. iv Does not involve burning or any practices that are inconsistent with ZPUAF standards. **b)** All manure storage and handling facilities, including composting facilities, must be designed, constructed, and operated to prevent the contamination of ground and surface water.	
6.10 Transport	
a) The producer must ensure that animals are protected from stress, injury, hunger, thirst, malnutrition, fear, discomfort, pain, and disease during transport. b) All transport activities must comply with legal requirements and guidelines, including: i Make all arrangements in advance to shorten the journey and meet the animals' needs during transport. ii Animals must be fit for the intended journey. iii The transport vehicles, as well as the loading and unloading facilities, must be designed, built, maintained, and operated to prevent injury and suffering, ensuring the safety of the animals.	The use of electric stimulation or allopathic tranquillizers shall not be allowed during the loading and unloading of animals.

iv Personnel handling animals must be properly trained and competent for the task. They should perform their duties without using violence or any methods that could cause unnecessary fear, injury, or suffering. v Transport should be carried out without delay to the destination, and the animals' welfare must be regularly checked and properly maintained throughout the journey. vi Sufficient floor space, height, and other spacing requirements must be provided for the animals, suitable for their size and the duration of the journey. vii Water, feed, and rest must be provided to the animals at appropriate intervals, in quantities and of a quality suitable for their species, size, and age. c) Efforts should be made to avoid or reduce the following stress factors: i Stress caused by gathering and handling. ii Stress caused by the deprivation of, or changes in the quantity or quality of, food and water. iii Stress caused by extreme temperatures or sudden changes in climatic conditions. iv Stress caused by grouping animals that are unfamiliar with each other, both within the same species and between different species. v Stress caused by separation from other animals of the same kind. vi Stress caused by unfamiliar surroundings, noises, and sensations. vii Stress caused by overcrowding and isolation. viii Stress due to fatigue. ix Stress caused by exposure to disease.	
6.11 Slaughter of Animals	
a) The slaughter of livestock must be carried out in a manner that minimizes stress and suffering, and in accordance with the relevant regulations and guidelines.	Separate rooms should be provided for: a) Livestock receiving and holding; b) Washing and disinfection of coops; c) Slaughter and bleeding;

b) The slaughter, evisceration and packing of livestock should be conducted in such a manner as will result in hygienic processing, proper inspection, and preservation for the production of clean and wholesome meat and meat products. c) Water Supply: The quality of water should meet the standards for potable water. d) Ventilation: Special attention should be given to proper ventilation. Illumination should be adequate, well-placed, and free from glare. e) Personnel Hygiene: Staff should wear clean, washable work clothing. They must receive proper training on hygiene practices, including frequent hand washing and disinfection. f) Activities such as stunning, bleeding, scalding, plucking, feet removal, evisceration, chilling, draining, grading, etc., must be carried out in accordance with the applicable regulations and guidelines.	d) Feather removal; e) Evisceration, chilling and packing; f) Inedible products room.

VII. Beekeeping/Apiculture Standards

Scope:

- *These standards apply to honey production from reared bees; The standards related to honey sourced from wild collection are covered under Wild Harvesting Standards.*
- *Both individual beekeepers/food enterprises and honey producer organisation can be certified using these standards.*

Guiding Principles:

- *N+FFS strives to make available foods that are wholesome, authentic, unadulterated and of high quality, which are free from pesticides.*
- *The products from beekeeping have to be pesticide-free in quality.*
- *All steps involved in the beekeeping, handling and processing of honey should be maintained with quality and integrity.*

7.1 Choice of breed/strains and Sources/origin

7.1.1 Choice of breed: a) For Bee rearing, preference shall be given to indigenous species that are adapted to the local ecosystems. b) Breeds must be chosen for their ability to adapt to the environmental conditions, their vitality and their resistance to diseases. **7.1.2 Sources/origin:** c) Bee colonies or queens to be sourced from bee farms that are managed under pesticide-free standards and conditions. **d)** Bee colonies or queens should not be sourced from a bee colony infested with any of the notifiable diseases (Annex 13).	Indigenous breeds like *Apis cerena indica, Apis mellifera, Apis lorae, Apis dorsata, Mellipona spp* and *Trigona spp*- Dammer (Indian stingless bees) to be given preference.

7.2 Conversion Period

a) The conversion period shall not apply when bees are grown in the wild and in natural conditions.	Conversion period is required for a bee hive or an apiary to convert the wax in the frames to pesticide-free.

b) Twelve months conversion period is applicable to those bee colonies/apiaries that are reared. c) During the conversion, the bee hives or apiaries under conversion shall be kept in isolation, and the foundation comb shall be made with pesticide-free wax.	
7.3 Hiving the honey bees	
a) Hives are to be constructed of natural materials such as wood, straw or clay to avoid contamination of the environment as well as for the apiary products. b) The beeswax for the new foundations shall be sourced from pesticide-free production units. c) Only natural products such as propolis, wax and plant oils shall be used in the hives. d) Persistent materials like synthetic paints are not to be used where permeation of these materials in honey is possible. e) All brood or full-depth frames shall be wired to withstand the breakage of combs during inspection, migration and extraction.	Connecting sections, roofing substances, and feeding equipment can be of non-natural substances, but need to be harmless and pesticide-free. Painting can be done only on the outer surface of the hives, which are not in contact with honey/ wax/ propolis. They need to be natural, not synthetic and pesticide-free. Internal treatment can be done with propolis, bee wax and vegetable oils.
7.4 Location and Apiary Management	
a) The apiaries shall be placed within a radius of 3 kms around pesticide-free farms/ wild or forest areas where appropriate sources for nectar are present. b) An apiary site shall be as close to a source of clean, hygienic water and bee flora as possible. c) The hives shall be protected from direct sunlight, wind, severe heat, severe cold, rain, wild animals, ants and termites. d) The location should be free from pollutants/ contaminants and not exposed to insecticides or toxic fumes or poisonous chemicals that	All efforts should be taken to avoid a situation in which nectar and pollens are collected by the bees from pesticide- applied flowers. In the event of drastic climatic conditions, fires, earthquakes, beekeepers can move their colonies to another location which may not be under a pesticide-free cultivated area; for the sake of survival of bee colonies, this can be considered as an exceptional case.

affect the health of bees as well as the apiary products. e) An apiary shall not be located in unclean areas and shall be minimum 5m away from a public pathway or highway. f) The number of colonies kept in an apiary should be proportionate to the availability of forage resources within the same flight range so as to avoid overstocking.	
7.5 Feeding	
a) During dearth periods in case of a lack of sufficient honey and pollen in the colony, the keeper shall provide the colony with pesticide-free sugar syrup or pesticide-free pollen supplements or both. b) At the end of the production season, hives shall be left with ample reserves of honey and pollen to ensure that bees in the brood combs survive the winter.	The feeding of the colonies shall only be permitted where the survival of the hives is endangered due to climatic conditions and only between the last honey harvest and 15 days before the start of the next nectar or honey dew flow period. To avoid adulteration of honey by remains of feed from the previous season, the remaining honey is to be removed before the start of the next foraging. This will help in avoiding mixing of honey from two different seasons.
7.6 Health Care	
a) A bee colony should be reared in such a way that it is capable of correcting any imbalances by itself. Preventive practices to be adopted through i. Selection of resistant bee breeds. ii. Selection of locations with sufficient pollen and nectar, as well as with a good hygienic environment. iii. Regular cleaning and disinfection of hives to prevent infestation. iv. Regular monitoring of the colony. b) Use of veterinary medicines is not permitted.	Substances allowed for managing pest and disease infestations and for hive disinfection are mentioned in Annex 12. Rodenticides are only permitted in the traps. Substances allowed for protecting frames, hives and combs, in particular from pests, are mentioned in Annex 12.

c) Physical treatments for disinfection of apiaries, such as steam or direct flames, are permitted. d) The practice of destroying male broods is permitted only if the colony is infested with Varroa mites. e) Physical methods of rodent management permitted near the colonies. f) Colonies applied with medicines for treating diseases and pests should be isolated from the remaining hives and wax to be replaced slowly during the isolation period.	
7.7 Periodic cleaning	
d) Beehives shall be cleaned regularly once or twice a month in a manner causing minimum disturbance and provocation to honey bees. e) Documentation related to cleaning should be maintained for each colony during periodic inspection.	Debris accumulated on the bottom board should be collected and incinerated; Pieces of wax combs shall be pooled and melted for recovery; Old combs should be melted to encourage comb renewal Where colonies are over- wintered and packed, periodic cleaning shall be dispensed with.
7.8 Breeding and Colony Management	
a) Clipping of the wings of queen bees is prohibited. b) Killing bees in the comb for the extraction of apiary products is prohibited. c) Colonies shall be developed to their full strength by the beginning of the flow season by uniting weak colonies. d) Augmenting medium colonies to be done through e) Adding sealed brood combs and honey bees or both; Giving simulative organic feeding; and f) Giving comb foundation strips for drawing combs and expanding the brood nest. g) Dummy or division boards shall be used for colonies which still fall short of full strength by	It may be desirable to have three supers for each colony in the apiary as the normal life of super combs is three years. A producer shall equip himself with at least two supers of such drawn out combs for each colony in his apiary to derive maximum harvest from each honey flow.

a couple of combs so as to induce them to the supers. The colonies that are still weak shall be transferred to nuclei to obtain some surplus honey yield. h) The moment nectar starts coming in, supers shall be added to the colonies. When the first supers are more or less filled with honey but not sealed, a fresh super shall be given in order to provide additional storage space. i) At the end of the flow, and after the honey has been extracted, the empty combs shall be cleared of honey bees and preserved carefully in supers in a cool, dry, rat-proof enclosure with suitable preservatives against wax moth and other insect pests. Such drawn-out combs shall be reused during the next honey flow.	
7.9 Honey Extraction	
a) Honey shall be extracted only from sealed combs. b) The use of brood combs is prohibited for honey extraction. c) At the time of harvest, repellent consisting of prohibited substances (chemical synthetic repellents) shall not be used, except for smoke. d) Excessive smoke shall not be used as it may taint the flavour of honey or otherwise spoil it. ***e) Extraction shall be done only in a clean fly-proof area.*** ***f) All the equipment used for extraction shall be thoroughly cleaned in boiling water before use*** g) During extraction, the honey shall run through a strainer of 1.40mm. h) The container shall have covers, and each shall carry a label specifying the name of the producer, date and place of extraction. i) The individuals engaged in the honey extraction process should maintain good	Extracting unripe honey from the unsealed combs will lead to fermentation and spoilage. Towards the end of the flow the brood rearing is reduced, and honey is often instinctively stored in the brood combs to provide for the ensuring local dearth. The containers used for collecting the extracted honey shall be of stainless steel, aluminium or if of other metal, shall be thickly tinned or galvanized.

personnel hygiene and should wear clean clothes, head caps and shall clean their hands thoroughly with disinfectant soaps to avoid any kind of contamination. j) Persons engaged in extraction shall be free from contagious diseases. ***k) <u>Honey extracted from the colonies with infectious bee diseases shall be kept separate and not mixed with the general lot. This honey shall be pasteurized before marketing. It shall never be fed either in processed or unprocessed form to the bees.</u>*** l) The extracted honey in air-tight containers shall be taken to the pooling and processing centres as early as possible. Even during the short interval, the honey remains with the producer, it shall be stored in a cool, dry and hygienic place and shall be protected from smoke, heat and insects.	
7.10 Bee Wax Extraction	
a) The wax from old combs, bits of bur and brace-honey cells to be collected. b) Wax collected from different species should be kept separately and not mixed together c) Beeswax from capping is the purest form of wax, and it should be stored separately. d) The old and discarded combs shall be stored in containers with tight lids. e) Wax collected shall be melted at the earliest to avoid further deterioration and infestation with wax moth.	The melted bee wax can be cast in slabs of desired size, shape & mass.
7.11 Transportation and Migration of Colonies	
a) If the local dearth period or periods are prolonged beyond 6 to 8 weeks continuously, the producer shall, if possible, migrate the colonies to the nearest sources of organic forage from farm(s) or forest(s) through	The migration shall be done preferably at night or in cool weather, avoiding adverse temperatures.

individual or collective migration. The producers may also migrate in other pesticide-free localities having different flora and different flowering periods. b) Prior to migration, all the colonies shall be thoroughly examined for any deficiencies like absence of queen bee, food shortage, etc, and such deficiency shall be rectified. c) Colonies shall be packed so as to: i. Secure in position various hive components, frames in particular; ii. avoid shaking during transit; iii. provide adequate ventilation to the bees; iv. prevent congestion inside; v. provide feeding or water in transit, if necessary; and vi. Prevent honey bees from escaping through gaps in entrance gates and other components. d) Proper arrangement like cleaning the apiary site, arranging hive stands, and providing clean water, shall be done prior to the arrival of the colonies at the migratory site(s). ***e) If a colony is infested with any of the diseases notified as epidemic in the region, then inter-state or inter-regional migration shall be prohibited.*** f) The possibility of moving pesticide-free hives to non-conforming areas will only be undertaken in the event of disasters such as earthquakes, fires, etc., that affect the source of nectar and pollen, and threatening the survival of the colony.	The colonies shall be loaded with their frames parallel to the direction of movement in case of trucks and at right angles in case of train transport. Migration by air, rail or truck shall be planned well in advance so as to avoid damage due to avoidable delay in transit. On arrival at the migratory site, the colonies shall be promptly arranged on the hive stands and the entrance gates opened at the earliest appropriate hour. The first post-migration inspection shall be done within 7 days after the colonies settle down to work. During this inspection, it may be observed whether there are any combs broken, queens lost, bees dead, etc. The old combs that need immediate replacement shall be taken to one side of the hive where the queen does not generally lay eggs. These old combs shall be subsequently removed, and wax recovered, and the empty frames shall be sterilized by dipping in hot water and shall be dried in direct sun before giving foundation strips for comb renewal. In addition to honey flow and pollination, this migration period can also be looked upon as an occasion for an increase in the number of colonies by simple divisions or a planned queen-rearing programme. The superannuated queens shall be replaced by young mated queens.
7.12 Record Keeping	
a) Records should be maintained regarding a) Purchase of bees and inputs, b) Treatment/ medication for managing pests and diseases, c) Harvesting and	Record keeping is mandatory for proper traceability and quality purposes.

marketing, d) Cleaning, and e) Disinfection. b) Records shall be maintained related to a) Forage area site map up to a radius of 3 Km to be maintained with GPS coordinates, and b) Migration plan and the locations with map and GPS coordinates.	
7.13 Quality Control of Honey	
a) Maximum moisture level allowed in honey is 18%. ***b) No ingredients or additives are permitted during processing of honey.*** ***c) No dilution or adulteration with sugar or high fructose corn syrup is allowed during the honey extraction or processing steps.*** d) Honey or wax to be tested in an FSSAI and NABL-accredited laboratory for pesticide residue in case the forage location belongs to an intensive pesticide-applied area.	Excess moisture increases the chance of mould formation and deterioration
7.14 Standards for external assessment	
a) N+3F will externally assess the beekeeping practices and standards compliance by the beekeeper annually. b) A sample of hives or randomly selected apiaries (in case of group beekeeping) will be assessed by N+3F or agencies appointed by N+3F to check the compliance of the project with ZPUAF standards. c) Testing of the samples will be done to ensure food safety based on need. The testing will cover pesticide residues, heavy metals and mycotoxins following standard protocols set by the N+3F. Samples will be drawn at appropriate points in the product chain during external assessment following standard protocols set by the N+3F. d) The external assessment report will be submitted by the inspecting agency to the	The purpose of external assessment is to check the effectiveness and the capability of the producer organisation to: a) Verify compliance of Apiaries with the ZPUAF Standards b) Identify non-compliance and suggest suitable actions c) Effectively assess whether appropriate corrective actions are implemented d) Ensure transparency between the beekeepers and N+3F regarding non-compliance issues faced by the beekeepers. During 1st year of certification, for the keepers performing conventional beekeeping; certificate will be issued as In-Conversion, as the apiaries need to undergo 1 year conversion, while

Certification Committee of the N+3F, which will evaluate the same along with the non-compliance report and its corrective actions as well as the food safety test report. e) The N+3F will issue the Certificate to the individual beekeeper or producer organisation or food enterprise based on its compliance with all the ZPUAF Standards for the concerned year.	keepers already in the cycle of certification or complying with the standards requirements for past few years are awarded with Zero Pesticide Use certificate in the concerned year

VIII. Standards for Testing of Produce

Guiding Principles

To ensure that the pesticide-free quality of the original food material remains intact even after processing, wherein different processing aids and additives are used as part of processing, testing of the resulting product is taken up to check if the pesticide residues are within the permissible limits. This testing is done at different levels of the supply chain when the product gets transformed and when there is a change in the chain of custody.

Standards for testing of produce	
(i) Testing of the samples should be done to ensure food safety based on need. The decision to send samples for testing will be made by the Certification Committee. However, all samples will be stored in the sample storage room at the N+3F. (ii) The testing should cover pesticide residues, heavy metals, and mycotoxins following standard protocols set by the N+3F. (iii) The pesticide-free foods should be tested for pesticide residues as per the Maximum Residual Limits (MRLs) of Insecticides in Organic Foods specified by Jaivik Bharat, Government of India. (iv) The foods should be tested for heavy metals and mycotoxins as per the limits specified in the Food Safety and Standards (Contaminants, Toxins and Residues) Regulations, 2011, **Government of India.** (v) For sampling and testing, protocols set by the N+3F will be followed. (vi) Testing of food samples should be done in FSSAI-notified laboratories identified by the N+3F.	The MRL test report will be submitted by the inspecting agency to the Certification Committee of the N+3F for certification decision.

IX. Standards for Approving Inputs

Guiding Principles:

N+FFS strives to make available foods that are wholesome, authentic, unadulterated, and of high quality.

Note:-

-'wholesome' means preferably whole, minimally processed, contributing to positive health.

-'authentic' means honest/genuine food from a known source, not giving a false impression regarding its nature.

-'unadulterated' means food made using recipes and methods that minimize the use of additives and processing aids.

-'high quality' means as good and as nutritious as possible (of its kind).

This Standard applies to technical means or inputs to assess their suitability for use in zero pesticide use agriculture and foods.

Zero pesticide use agriculture and processing methods are based on the use of natural, organic, and renewable resources. Zero pesticide use agriculture maintains soil fertility, first and foremost, through the reuse of biological material.

Nutrient availability depends first and foremost on the activity of organisms in the soil. Pests, diseases, and weeds are treated, first and foremost, through cultural practices. Pesticide-free food and other pesticide-free products are obtained through the use of pesticide-free ingredients that are processed, first of all, through physical, mechanical, and biological means.

For the same principle, the production of technical means for Zero pesticide use agriculture must limit the use of substances that may cause damage to the environment or create imbalances in the crops on which they are intended to be used. The production of technical means (inputs) for pesticide-free farming must take into account at least the following factors: the possibility of soil and water contamination, the risk of any nutritional imbalance for crops where it is intended to be used, the risk to human and animal health, and the depletion of natural resources.

What are the inputs in Zero Pesticide Use Agriculture and Foods?

The term "inputs" covers products used in the agricultural production of plants, animals, and foodstuffs, including: -

- Fertilizers
- Crop protection products
- Cleaning and disinfection products
- Additives and auxiliaries for food and feed

What is input in Pesticide-Free Agriculture (PFA)?

Inputs are products that are used in the production/manufacturing process of a produce/product

that is certified as Pesticide-Free (PF), but which are not themselves certified as PF. These products are substances that serve as a toolbox for producers and processors when it is no longer possible to use only naturally available resources allowed under ZPUAFS.	
A. Criteria for the Evaluation of Additional Inputs to Zero Pesticide Use Agriculture and Foods (ZPUAF)	
I. For Fertilizing and Soil Conditioning Purposes:	
1. The material is essential for achieving or maintaining soil fertility or to fulfil specific nutrient requirements, for specific soil-conditioning and rotation purposes which cannot be satisfied by the on-farm practices mentioned in the Zero Pesticide Use Agriculture and Foods standards or of other products included in the appendices of PF Standards. 2. The ingredients must be of plant, animal, microbial, or mineral origin, which may undergo the following processes: - • Physical (mechanical, thermal) • Enzymatic • Microbial (composting, digestion)	(i) The inputs used in zero pesticide use agriculture and foods must not be produced by or from GMOs and must be based exclusively on raw materials listed as compliant. (ii) The use of the input must not result in, or contribute to unacceptable effects on, or contamination of, the environment, including soil organisms. (iii) The use of the input must not have any unacceptable effects on the quality and safety of the final product.
II. For Plant Disease or Pest and Weed Control Purposes: -	
1. The material is essential for the control of a harmful organism or a particular disease for which other biological, physical, or plant breeding alternatives and/or effective management techniques are not available. 2. The substances (active compound) must be of plant, animal, microbial, or mineral origin, which may undergo the following processes: - • Physical • Enzymatic • Microbial	(i) Their use must not result in, or contribute to unacceptable effects on, or contamination of the environment. (ii) Nature-identical products, such as pheromones, which are chemically synthesized may be considered if the products are not available in sufficient quantities in their natural form, provided that the conditions for their use do not directly or indirectly contribute to contamination of the environment or the product.

B. Evaluation Standards

Guiding Principles:

Before an input undergoes evaluation, certification programs must examine it to determine if it meets the eight specified criteria. The input must satisfy all eight requirements to be deemed appropriate for utilization in zero pesticide use agriculture and foods.

Regularly assess inputs and compare them to alternative options. This consistent evaluation process should lead to the continual improvement of zero pesticide use agriculture and food production, making it increasingly beneficial for humans, animals, the environment, and the ecosystem.

1. Necessity

a) It is essential to determine the relevance of each input, a task that will be examined within the specific context of the product's intended use. b) The use of input may be restricted to – (a) specific crops (b) specific regions, and (c) specific conditions under which the input may be used.	Justification for the necessity of an input can be derived from various criteria, including but not limited to yield, product quality, environmental safety, ecological protection, landscape considerations, as well as concerns for human and animal welfare.

2. Nature and Method of Production/Collection

2.a) Nature:

a) The origin of the input should be • Organic – vegetative, animal, microbial. • Mineral b) Non-natural products, which are chemically synthesized and identical to natural products, may be used.	When there is a choice, renewable inputs are preferred. The next best choice is inputs of mineral origin. The 3rd choice is inputs that are chemically identical to natural products. The allowance of chemically identical inputs must be based on the consideration of ecological, technical, or economic aspects.

2.b) Method of Production

The ingredients of the inputs may undergo processes such as • mechanical, physical, enzymatic, action of micro-organisms, and • chemical (as an exception and restricted)	

2.c) Collection	
The collection of raw materials comprising the input must not affect the stability of the natural habitat nor affect the maintenance of any species within the collection area.	
3. Environment	
Environmental Safety	
Guiding Principles: *The input must not be harmful or have a lasting negative impact on the environment. Nor should the input give rise to unacceptable pollution of surface or groundwater, air, or soil. All stages during processing, use, and breakdown must be evaluated.* *The following characteristics of the input must be taken into account: -*	
3.a) Degradability	
a) All inputs must be degradable to their mineral form. b) Inputs with high acute toxicity to non-target organisms should have a maximum shelf life of five days.	Natural substances used as inputs that are not considered toxic do not need to be degradable within a limited time.
3.b) Acute toxicity to non-target organisms	
a) When inputs have relatively high acute toxicity for non-target organisms, restrictions for their use are needed. Measures have to be taken to guarantee the survival of these non-target organisms. b) Maximum amounts allowed for application may be set. c) The use of input shall not be allowed if the necessary measures are not taken.	
3.c) Long-term chronic toxicity	
Inputs that accumulate in organisms or systems of organisms and inputs that have, or are suspected of	If there are any risks, sufficient measures have to be taken to reduce any risk to an

having mutagenic or carcinogenic properties must not be used.	acceptable level and to prevent long-lasting negative environmental effects.
3.d) Chemically synthesized products and heavy metals	
a) Inputs should not contain harmful amounts of man-made chemicals. b) Mineral inputs should contain as few heavy metals as possible.	(i) Chemically synthesized products may be accepted only if identical to the natural product. (ii) Due to the lack of any alternative, and long-standing traditional use in agriculture, copper and copper salts are an exception for the time being. The use of copper in any form in zero pesticide use agriculture must be seen, however, as temporary, and use must be restricted with regard to environmental impact.
4. Human Health and Product Quality	
4.a) Human Health	
a) Inputs must not be harmful to human or animal health. b) All stages during processing, use, and degradation must be taken into account.	Measures must be taken to reduce any risks, and standards are to be set for inputs used in zero pesticide use agriculture.
4.b) Product Quality	
a) Inputs must not have negative effects on the quality of the product. e.g. taste, appearance, and quality. b) The use of ionizing radiation for the treatment of inputs is prohibited. c) No human wastes, such as urban or multisource water or sewerage, shall be used within inputs.	
5. Ethical Aspects – Animal Welfare	
Inputs must not have a negative influence on the natural behaviour or physical functioning of animals kept at the farm.	

6. Socio-Economic Aspects	
a) **Consumers' perception:** Inputs should not meet the resistance or opposition of consumers of PF products. An input might be considered by consumers to be unsafe to the environment or human health, although this has not been scientifically proven. Inputs should not interfere with a general feeling or opinion about what is natural or pesticide-free, e.g., genetic engineering. b) Products that are assessed as 'Restricted' shall clearly specify in labelling and sales information the areas, sectors, and specific conditions under which they may be utilized. Some restricted products may be expressly prohibited for use in certain sectors or under particular conditions, and this must be clearly communicated to the end user via marketing and related information materials.	
7. Transparency and Traceability	
The pesticide-free (PF) certification process requires transparency and traceability of farm inputs. Manufacturers and suppliers of PF inputs need to provide detailed information about the composition, sourcing, and processing methods used for their products. This information allows certification bodies to assess the compliance of the inputs with Zero Pesticide Use Agriculture and Foods Standards.	
8. Compliance with prevailing Regulations for Pesticide-Free (PF) products	
Farm inputs seeking PF certification must comply with the specific regulations and standards set by the certification body or the governing agriculture organization in a particular country or region. These regulations may include specific requirements for labelling, documentation, and handling of inputs used for zero-pesticide use agriculture and foods.	
C. Sampling and Testing	
Where potential risk of contamination from ingredients or inputs is noted, random residue tests shall be carried out	

by the operator to verify that levels of pesticides and heavy metals, among other contaminants, are absent or below acceptable limits within the production system.	
D. Certification Procedure (Procedure for the evaluation of conformity of inputs/ technical means)	
1. Request for certification	
To start the certification process, the operator must send the following documents: a) **Application documents**: Request for Certification, Input list, Product and Ingredient Composition of the inputs, and Supplier list of ingredients. b) Descriptive dossier for each input. c) Any advertising project and label used for the inputs. d) Any supplier certificates or product certificates available for the inputs.	(i) The documents sent must be signed by a person properly authorized to sign. (ii) By signing the documents listed, the operator accepts all the requirements and obligations contained in the N+3F certification documents.
2. Review of application documents	
In this phase, the N+3F evaluator performs a technical evaluation of the documents sent by the operator to verify their completeness and ensure that products and processes comply with certification requirements. In particular, the evaluator assesses: a) The conformity of the accession documents: Application for Certification, Input list, Product and Ingredient Composition of the inputs, and Supplier list of ingredients. b) The conformity of the products and processes as defined in the Standard. c) The conformity of advertising projects and labels as defined in the Standard.	(i) If significant discrepancies/ shortcomings are detected (for example, inconsistencies or documentary deficiencies), the evaluator notifies the operator of a Non-Compliance with a description of the NC and the timeframe for compliance. (ii) If the operator responds by sending the supplementary documentation requested within the indicated timeframe and this documentation is satisfactory, the evaluator schedules the initial inspection. The evaluator informs the inspector of the documentary deficiencies found and what the operator has sent to resolve the NC.

Following a risk analysis assigns the risk level and frequency of audits. The table below presents the criteria to be followed: -

Risk Factor	Score		Notes
	1	2	
Raw material (GMO Risk)	Animal origin	Vegetables, algae, mycorrhizas, and products of fungal origin	
Non-conformity was detected in the previous year	Minor NC & AFI	Major NC	
Company size	Micro and small enterprise	Medium enterprises and large companies	Defined on a case-by-case basis
Nitrogen (N) fertilizers	N < 3%	N > 3%	Decided by mandatory analysis
Pesticides	-	For each product	Decided by mandatory analysis

Frequency Controls	Score
Every 3 years (or only documental check)	< 5
Every 2 years	6 – 8
Every year	9 – 10

3. Initial inspection

N+3F selects an inspector who has the appropriate requirements (qualification, absence of conflict of interest, language confidence, etc.) to carry out the visit; the selection of the inspector is also made taking into account the geographical location of the company/operator.

The inspection procedure includes the following key elements:

a) Opening meeting to confirm the purpose of the visit and proceed to plan specific activities, and identify the staff members who will be involved.

b) Evaluation of the operator's documents sent to N+3F to verify the correspondence between what has been declared and the actual reality of the production site.

c) Verification of the effectiveness of the measures taken by the operator and the application of good processing practices, development system, processing and storage; separation and

identification of products and raw materials; and labels in the production site. d) Review of records to verify the flow of goods (entries/exits, mass balance, lot traceability, and shipments). e) Verification that previously issued NCs (e.g., resulting from document evaluation or inspection) have been resolved and corrective actions implemented. f) Closing meeting to present the results of the inspection and any NC: during the closing meeting, the inspector presents the results of the inspection, discusses any NC found, and provides an explanation on how and when to provide the documents and details to close the NC (the inspector notifies the NC to the operator).	
4. Reporting	
a) During the inspection, the inspector shall use the format for the inspection report for input approval provided by N+3F. b) The inspector may also take a sample of the product or raw material for laboratory testing and analysis (if requested by the N+3F evaluator). c) The results of the inspection are formalized in the Inspection Report for Inputs Approval countersigned by the operator (or delegate) who receives a copy. d) All inspection documents are sent to the N+3F office by the inspector.	
5. Final evaluation and certification proposal	
a) The evaluator reviews the completeness of the documents, specifically: 1. Inspection Report 2. Non-Compliance Report (if any) 3. Test Report (if any) 4. Additional inspection for NC closure verification, if any	The conformity evaluation can also be extended to the requirements of the main national regulations for pesticide-free agriculture (e.g., Bio EU 848/18, NOP/USDA, JAS). In this case, all requirements and limitations foreseen by these Standards will also be taken into account. When the evaluation is compliant,

5. Labels and advertising projects b) If the evaluation is positive, the evaluator proposes certification to the Certification Manager/Committee for the issuance of the Certificate of Conformity. c) In case of Non-Compliance compromising the certification proposal, the evaluator outlines the reasons and submits the report to the Certification Manager/Committee. d) In case of Non-Compliance that compromises the issuing of the certificate, the N+3F Certification Manager/Committee shares the report, which requires the operator to apply the appropriate corrective actions and to integrate the documentation within a specific deadline. e) The operator must send the documentation proving the adoption of the indicated preventive and corrective measures to N+3F, within this deadline. f) If, within the deadline indicated by N+3F, the operator demonstrates that it has adopted the corrective measures, eliminating the deficiencies found, N+3F repeats only the necessary parts of the inspection, and the Certification Manager/Committee decides on certification. If this is not the case, the Certification Manager/Committee refuses to accept the certification, giving reasons for the refusal.	a note "In compliance with ...." will appear on the certificate.
6. Certification decision and Issuance of Certificate of Conformity (COC)	
Certification Resolution: The evaluator's certification proposal is submitted to the Certification Manager/Committee, who, if he/she/they approve it, will issue the Certificate of Conformity, according to the criteria indicated in the Standard. With the resolution of the Certification Manager/Committee, there are: ✓ The issuance of the Certificate of Conformity and the authorization to use the indications of conformity. ✓ The approval of the labels and the use of the Logo.	(i) The certification decision may include the request for correction of minor Non-compliances within a specific period. The operator shall submit to N+3F, within this period, comprehensive documentation demonstrating the implementation of corrective and preventive actions. (ii) The Certificate of Compliance does not replace in any case the certifications and authorizations required by law. Compliance with applicable Laws, Procedures, Authorization, and Registration requirements for the above-mentioned

The Certificate of Conformity is valid for a maximum of one year from the date of issue. The annual inspection and the above procedure are to be followed to renew the certificate annually.	products in force in the country of manufacture and/or distribution is not covered by the Certificate of Conformity and is the full responsibility of the manufacturing company.
E. Labelling	
a) All products intended to be marketed as usable in zero pesticide use agriculture and foods, in addition to being labelled in accordance with the regulations in force in the country of production and/or those of destination, will have to indicate: ✓ The establishment of production, ✓ The list of raw materials or active ingredients used in the composition, ✓ The intended use, ✓ The wording "suitable for use in zero pesticide use agriculture and foods", ✓ The reference to the N+3F control for the verification of compliance with this Standard, and ✓ The N+3F Input recognition mark (optional). b) Products can only be marketed after all advertising designs and labels have been approved.	Below is an example of how a fertilizer is labelled. **Fertilizer based on allowed contents** Produced by the company XXXXX ADDRESS XXXXXXXXX (control code N+3F YYYYYYY) Composition: XXXXXXXXXXXXXXX and other mandatory information Suitable for use in zero pesticide use agriculture and related activities, according to "ZPUAF- Input Standard" of Nature-Positive Farming and Wholesome Foods Foundation.
F. Maintenance of Certification	
a) To maintain compliance, the operator shall: ✓ Continuously comply with N+3F's Certification Regulations and Certification Agreement. ✓ Provide N+3F and, where applicable, Accreditation Body personnel with the right to access all facilities, relevant documentation, and records, including financial records. ✓ Cooperate with N+3F inspectors and provide documents, information, and records regarding activities related to certified products.	All of the operator's locations must be accessible to the N+3F inspector in charge of inspections (and Accreditation personnel, if any).

✓ Notify N+3F (within 30 days) of any changes to the product, process, or management system that may affect compliance (descriptive documents must be updated, in whole or in part, whenever there is a change in product or process); inform N+3F of any accidental events that may affect compliance and, if involved in legal proceedings regarding product compliance. ✓ Record complaints and keep all documents regarding corrective actions taken. The operator shall also consider complaints from sub-licensees for which the operator is responsible. ✓ Send advertising projects concerning N+3F-certified products for approval before publication; misleading advertising is considered Non-Compliance and can lead to a sanction. b) Misuse of trademarks and certificates, e.g. due to printing errors, may lead to suspension and revocation of certification and even a claim for damages if corrective action is not taken immediately. c) Misrepresentation and counterfeiting of trademarks and certificates are subject to legal action.	
G. Certification Renewal and Extension	
1. Certification Renewal	
The Operator must send to N+3F the Request for Renewal of Certification one month before the expiry date of the certificate, in order to maintain the validity of the certificate.	In general, the re-evaluation activity follows the same procedures as the initial evaluation.
2. Certification Extension	
a) The following options for certification extension are available: ✓ Extension of the Certificate of Conformity to new products.	

✓ Extension to new types of activities and/or new structures: plots, farms, production lines, production sites. b) The Operator must send the following documents to N+3F: ✓ Request for Certification, ✓ If applicable, Input list, Product and Ingredient Composition of the inputs, and Supplier list of ingredients. c) The Certification Manager/Committee assesses the need for a new inspection and evaluation. Based on this evaluation and the results of the inspection, the Certification Manager/Committee decides on the certification extension and issues the new certificate.	
H. Non-Compliance (Non-Conformity) and Penalty System	
1. Non-Compliance/Non-Conformity – definition ✓ Failure to comply with Zero Pesticide Use Agriculture and Foods Standards. ✓ Non-compliance/non-conformity may be caused by behaviours and/or negligence on the part of the operator or by events not directly attributable to the operator. There are two types of Non-Compliance, depending on whether they affect the production process or not: minor and major. Each of these is subject to a different penalty. Non-compliance attributable to sub-licensees/sub-contractors is always reported to the licensee/certificate holder of reference.	
2. Minor NCs – definition ✓ Minor non-conformities are defined as non-compliance with the formal aspects of the production process, the self-control system, the management of documentation, and the application of regulations. ✓ Minor NCs must not be prolonged and must not be due to deceptive or fraudulent behaviour or the intention to conceal information. Minor NCs usually do not affect the production process	

and/or the self-control system of the production process.	
3. Major NC – definition ✓ A failure to comply with an important requirement that may compromise key aspects of the production process, the self-control system, document management, and enforcement of the standard or contractual aspects. ✓ Major NCs are long-term and/or due to deceptive, fraudulent behaviour or intent to conceal information. Major NCs seriously affect one or more aspects of the production process.	
4. Reiteration – definition ✓ A repetition (or reiteration) occurs when an operator falls into the same non-compliance two or more times. This occurrence, which is repeated several times over a period of time, is considered more serious. ✓ Non-compliances of the same type are summarized for a maximum of 24 months for minor NCs and 36 months for major NCs. Therefore, if an operator commits the same minor NC after 24 months or the same major NC after 36 months from the previous one, it is not counted in the sum. ✓ Reiteration does not apply to non-compliance that is not the responsibility of the operator.	
5. Termination – definition ✓ This is an action that does not compromise certification. If there is a reiteration and necessary corrective actions are not taken even after the warning from N+3F, then the certification will be terminated. N+3F warns the operator by requesting the closure of the non-compliance, identifying the causes, and planning suitable actions in order not to repeat it.	

✓ The adoption and effectiveness of the corrective action are checked during the following inspection. ✓ If the Operators do not comply with the warning, the NC becomes more serious. An inspector or evaluator will usually issue a warning. ✓ In the case of major NCs, the implementation and effectiveness of corrective actions must be verified by an extraordinary supplementary audit/lab testing.	
X. Reciprocity with NPOP and PGS Standards	
N+FFS ZPUAF Standards will be considered ***reciprocal*** to NPOP and PGS Standards. Products certified 'Organic' or 'Under conversion to organic' by any Accredited Certification Agency as per NPOP and PGS Standards will be accepted as a pesticide-free product.	This is because all the farms certified as 'Organic' or as 'Under conversion to organic' comply with the ZPUAF Standards. For these farms, verification of the required organic certification documents will be taken up.

XI. N+FFS Guarantee Systems (NGS)

This is an internal control system (ICS) of a farmers' organisation or a development agency (hereafter called N+FFS Facilitating Organisation (NFO) facilitating the adoption of the pesticide-free farming approach by a large group of farmers). The compliance with N+FFS ZPUAF Standards is guaranteed by the NFO by working closely with participating pesticide-free farmers and N+ Farmers Groups (NFGs). Such a collective guarantee is re-assessed by an external agency, either the Nature-Positive Farming and Wholesome Foods Foundation (N+3F; the national level support organisation with the mandate to promote N+FFS) or another agency duly authorized by N+3F, to assure the public at large about the effectiveness of the compliance management system. NGS involves the following interventions:

1. Setting up Internal Control Systems (ICS)/ Internal N+FFS Guarantee System (INGS) by the NFO, which in turn involves (i) risk assessment, (ii) evolving internal ZPUAF standards, catalogue of relevant non-conformities and corrective actions and modalities to be followed, and (iii) preparation of ICS/INGS Manual.
2. Implementing the ICS/INGS, which in turn involves,
    a. Pledge by pesticide-free farmers
    b. Peer review/internal assessment system of compliance with the N+FFS ZPUAF Standards and
    c. Corrective actions to address non-compliances identified in a timely manner
3. External re-assessment of the ICS/INGS
4. Testing the pesticide-free produce in an accredited lab following FSSAI protocols to determine the presence of pesticide residues, if the risk levels are high.
5. Issuing pesticide-free certification
6. Allowing the use of pesticide-free logo

Pre-requisites of NGS

1. All the farmers participating in the N+FFS program should be organized into or be a member of an existing functional group like a produce group, SHGs, etc., commonly designated as N+ Farmers Group (NFG).
2. The membership of these NFGs should have small farmers (i.e., farmers with landholdings below 4 hectares or 10 acres) mobilized based on solidarity, mutual familiarity, proximity of their landholdings, and ease of face-to-face meetings.
3. These groups should agree to be ***formally guided*** by an N+FFS Facilitating Organisation (NFO)- which is a registered farmers' organisation formed by federating NFGs, or a development agency like an NGO.
4. This guiding agency or the NFO will be responsible for i) educating the participating farmers and NFGs on N+FFS ZPUAF Standards, ii) developing internal standards in alignment with the N+FFS ZPUAF Standards based on the contextual requirements, iii) capacity building of farmers on adopting contextually relevant pesticide-free production methods in their farm,

iv) aggregation, storage, cleaning, grading, processing, and marketing of pesticide-free produce in alignment with N+FFS ZPUAF Standards and v) running the sustainable agriculture programme, including the ICS/INGS for N+FFS.

1. Standards for entry of the farmers into the N+ Farmers Group (NFG)

1) ***All the farmers who wish to practice pesticide-free production methods need to enroll to the INGS at least 15 days before the cropping season.*** Farmers need to give information on the location of their farm and its area, the pesticide-free and conventional crops planned, their area, commitment to follow pesticide-free agriculture approach in the agreed plot of land and adhere to the modalities of NFG & NFO, including participating in the training sessions and meetings, cooperating for field inspection and payment for services rendered. *2)* ***Farmers need to renew their membership in INGS every cropping season.*** 3) ***NFO will prepare an Enrolled Farmers List (EFL) by consolidating farmer details across all the NFGs supported by it at the location and organisation level every cropping season.***	The NFG will facilitate the enrolment of the farmers in INGS. The EFL will provide details of the location of each farmer, farmerwise and cropwise area and yield estimates for pesticide-free production and the expected marketable surplus.

2. Standards for capacity building of pesticide-free farmers and NFGs

1) ***Each farmer enrolled in INGS should undergo a training and extension programme, which will build their capacity to adopt pesticide-free practices and internal pesticide-free standards.*** *2)* Each NFG should undergo a training on pesticide-free practices, internal pesticide-free standards and their role in INGS. *3)* Enrolled farmer and NGF will be informed by the INGS/NFO about the possible non-conformities at the farmer-level and corrective actions that will be followed.	Pesticide-free farmers face many challenges in pesticide-free production, including those of emerging crop pests and diseases like Fall armyworm. There should be a continuous process of capacity building, delivery of advisory services and timely handholding support to the farmers by the NFO to enable them to adopt pesticide-free practices and adhere to internal pesticide-free standards effectively. Specific efforts are needed to facilitate cross learning between the farmers.

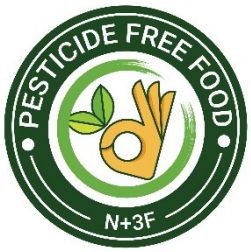
3. Standards for the Farmer's Pledge

1) Every farmer enrolling in the N+FFS Programme have to take a pledge in the NFG meeting following the process specified by NFO. 2) The content of the farmer's pledge should contain all the relevant internal ZPUAF Standards developed by the NFO based on the generic ZPUAF Standards developed by the N+3F.	The farmer's pledge is a declaration of the promises by a pesticide-free farmer regarding the farming practices she/he intends to adopt in her/his farm. It is an important document, as it serves as proof of commitment of the farmer to the concept of pesticide-free cultivation approach. The process of taking a farmer's pledge is equally important as its content. The pledge should be in a language that can be understood by the farmers in the group.
4. Standards for Peer Review / Internal Assessment System	
1) ***100 % of all farms will be audited by the NFO every cropping season through a defined peer review/ Internal Assessment System procedure involving regular farm visits and meetings by the concerned field staff and exclusive field inspection by an internal auditor in coordination with each NFG.*** 2) The farmer shall offer all the needed support for inspection of her/his farm by fellow farmers, NFO staff and agencies deployed by the NFO and share the necessary details. *3)* ***Based on these measures, a list of farmers who have complied with Internal NPM/Pesticide-free Standards will be identified by the NFO. NFO will prepare a Provisional Approved Farmers List (PAFL) by the end of every crop season, just before harvest, and share it with the N+3F or the designated Certification Agency.*** 4) The records of peer review/internal assessment will be available for external re-assessment/inspection.	100% internal assessment of all pesticide-free farms is essential since the risk component in pesticide-free systems of production is very high, as split production is allowed, and there is no conversion period. The INGS should ensure that possible risks are avoided at all stages, including production, harvesting, threshing, storage, transportation, and processing.
5. Standards to address non-compliance issues and for corrective actions	
1) If there is any deviation from or non-compliance with the internal pesticide-free standards, the farmer should inform her/his NFG and NFO staff and should not sell the harvested crop as 'pesticide-free produce'.	Non-compliances offer a window to understand the constraints faced by the farmers while adopting pesticide-free cultivation approach and have to be looked as a learning opportunity. The potential to improve the sustainable

2) ***All the non-compliances need to be properly recorded in the internal and external assessment process.*** 3) ***Appropriate action needs to be taken for non-compliance by the NFO in consultation with the NFG.*** 4) ***Major non-compliances observed in every peer review/ internal assessment cycle for every crop by NFG across the location/Programme must be compiled, summarized, and informed by the NFO to the N+3F.***	agriculture programme operations and the ZPUAF Standards by understanding the pattern of non-compliances needs to be capitalized in full by the NFO and the N+3F.
6. Standards for external re-assessment	
1) ***NFO will submit application for certification each crop season along with PoPs followed for the focus crops, INGS manual, PAFL, NC report and sample filled internal inspection checklist.*** 2) ***N+3F will assess the documents shared by the NFO and agree for external inspection of NFO is found eligible.*** 3) ***The ICS/INGS run by the NFO will be externally re-assessed for every cropping cycle by N+3F or by an agency authorized by the N+3F.*** A sample of the farmers will be re-assessed along with a complete evaluation of the peer review/internal assessment system, post-harvest operations and other collective value chain interventions undertaken by the NFO. 4) If NFO applies for second cycle of certification, then compliances of NFO to the non-conformities and areas for improvement identified in the earlier season will also be checked by N+3F/certification agency. 5) Samples will be drawn at appropriate points in the product chain during external re- assessment following standard protocols set by the N+3F, if the risk is more. 6) Testing of the samples will be done to ensure food safety. The testing will cover pesticide residues, heavy metals and mycotoxins following standard protocols set by the N+3F. 7) NFO have to offer its full cooperation to N+3F for external inspection, provide all necessary documents	The purpose of external re-assessment is to check the effectiveness and the capability of the ICS/INGS to 1) Verify compliance of every farmer in the Provisional Approved Farmers List (PAFL) with the internal NPM/pesticide-free standards 2) Identify non-compliances and areas for improvement 3) Effectively ensure appropriate corrective actions are implemented 4) Ensure transparency between the NFO and N+3F regarding non-compliance issues faced by the farmers Testing of the samples for food safety: 1) The decision to send samples for testing will be taken by the Certification Committee. 2) The pesticide-free foods will be tested as per the standards given in the earlier section on testing of produce. N+3F will issue scope certificate to NFO only if corrective actions for all the major non-conformities are completed by the NFO.

and data in time and maintain transparency. 8) If the evaluation finds that ICS/INGS comply with most of the ZPUAF Standards, the inspector(s) proposes certification to the Certification Manager/Committee for the issuance of the Scope Certificate. 9) In case of Non-Compliances compromising the certification proposal, the inspector(s) outlines the reasons and submits the report to the Certification Manager/Committee. 10) In case of Non-Compliance that compromises the issuing of the certificate, the N+3F Certification Manager/Committee shares the report, which requires the operator to apply the appropriate corrective actions and to integrate the documentation within a specific deadline. 11) In case of Non-Compliance that compromises the issuing of the certificate, the inspectors will share the external inspection report indicating the non-conformities and areas for improvement identified, and suggested corrective actions with the NFO; NFO have to share its responses to suggested corrective actions and its commitment to adhere to ZPUAF Standards. 12) The operator is required to undertake appropriate corrective actions within a specific deadline. 13) The operator must send the documentation proving the adoption of the indicated preventive and corrective measures to N+3F, within this deadline. 14) Once NFO takes necessary corrective actions and agree to undertake corrective actions for the balance non-conformities and areas for improvement as per the agreed timeline, the inspectors will submit the inspection summary report to the Certification Committee of the N+3F, which will evaluate the same along with the pesticide-residue lab test report (if testing for pesticide-residues was undertaken). 15) ***The N+3F will issue the pesticide-free certificate to the NFO on its compliance with the ZPUAF Standards for the concerned season. This certificate will be valid for one year.*** 16) If, within the deadline indicated by N+3F, the operator does not demonstrate that it has adopted the corrective measures, eliminating the deficiencies	

found, the Certification Manager/Committee refuses to accept the certification, giving reasons for the refusal.	
7. Certification Renewal	
The Operator must send to N+3F the Request for Renewal of Certification one month before the expiry date of the certificate, in order to maintain the validity of the certificate.	In general, the re-evaluation activity follows the same procedures as the initial evaluation.
8. Non-Compliance (Non-Conformity) and Corrective Actions	
6. Non-Compliance/Non-Conformity – definition Failure to comply with Zero Pesticide Use Agriculture and Foods Standards. There are two types of Non-Compliance, depending on whether they affect the production process or not: **minor and major**. Each of these is subject to a different levels of corrective actions. **Major NC:** A failure to comply with an important requirement that may compromise key aspects of the production process, the self-control system, document management, and enforcement of the standard or contractual aspects. Major NCs are due to deceptive, fraudulent behaviour or intent to conceal information. Major NCs seriously affect one or more aspects of the production process. Corrective actions have to be taken by the operator immediately. **Minor NC:** Minor non-conformities are defined as non-compliance with the formal aspects of the production process, the internal-control system, the management of documentation, and the application of regulations. Minor NCs usually do not affect the production process and/or the self-control system of the production process. Minor NCs does not involve deceptive or fraudulent behaviour or the intention to conceal information. Operator can avail some time for undertaking the corrective actions.	Non-compliance/non-conformity may be caused by behaviours and/or negligence on the part of the participating farmers or by the operator.

Non-compliance attributable to sub-licensees/sub-contractors is always reported to the licensee/certificate holder of reference. **Areas for improvement** These will include minor deviations less important than minor NCs and actions that will improve the production systems, operations and ICS/INGS. Operator can avail some time for correcting these.	
XII. Rules for the Use of Zero Pesticide Use Logo	
 All products certified under ZPUAF Standards can be labelled with the "Zero Pesticide Use Logo" as below: There can be no variation in the colour scheme. The application of the logo should be verified by the N+3F team before it is printed on labels or on packages.	The Zero Pesticide Use Logo helps to identify and differentiate pesticide-free products from other conventional products. This logo can be applied to packaged products and also to the labels on the bulk packaging.

Annex 1:

List of Products Allowed for Fertilization and Soil Conditioning

Sl. No.	Name (Products composed of or containing only substances listed below)	Description, conditions, and specific limits
I	**Products Produced on the Pesticide-Free Farm Unit/Nearby Villages:**	
1	Farmyard, goat/sheep, and poultry manure, silt, slurry, and urine	
2	Crop residues, green leaf manure, and green manure	
3	Composted or fermented household waste mixture	Product obtained from source-separated household waste, composted or anaerobically fermented for biogas production, only domestic vegetable and animal waste if produced within a closed and supervised collection system
4	Composted or fermented mixture of plant materials	Product obtained from mixtures of plant materials that have undergone composting or anaerobic fermentation for biogas production
5	Straw and other mulches	
6	Vermicasts	
7	**Do-It-Yourself Bioformulations**	
a)	**Soil Fertility Enhancers:**	
	Product	**Ingredients**
i.	Sanjeevak/Amrithpani	Cow dung, Cow urine, and Jaggery
ii.	Ghanajeevamruth	Cow dung, Cow urine, Jaggery, and Pulses/Basen powder
iii.	Bakramruth	Goat manure, Oilseed cake/Mahua cake, and Ash
iv.	Pranamruth	Poultry manure, Oilseed cake/Mahua cake, and Ash
v.	Gajaramrith	Parthenium, Alum, and Rock salt
vi.	Fermented liquid plant fertilizer	Parthenium, Available plants, and Jaggery
vii.	Jadam microbial solution	Soil, Salt, and boiled mashed potato
b)	**Seed Treatment Formulations:**	
i.	Beejamruth	Cow dung, Cow urine, Cow dung cake, Soil, and Lime
ii.	Beejraksha	Cow urine, Turmeric powder, Asafoetida, Ash, and Soil
iii.	Coating for bold-seeded crops	Cow dung, Cow urine, Cow dung manure, Ash, Termite mound soil, and Jaggery
iv.	Cow milk	
c)	**Growth Promoters:**	
i.	Shri Amrith/Saptadanyankur tonic	Pulses, Wheat, and Black sesame
ii.	Fish amino acid	Fish and Jaggery
iii.	Fermented plant juice	Mugwart/Water amaranth/Bamboo shoot
iv.	Oriental herbal nutrient (OHN)	Ginger, Garlic, Cinnamon, Licorice, Angelica, and Jaggery
v.	Uplamrith/Gibberellic acid	Cow dung cake
vi.	Egg amino acid	Egg, Lemon, Jaggery, and Detergent.
d)	**Broad Spectrum Biostimulants:**	
i.	Jeevamrutha	Cow dung, Cow urine, Soil, Jaggery, and Pulses/Basen powder
ii.	Panchagavya	Cow dung, Cow urine, Cow milk, Curd, Ghee, Tender coconut, Jaggery, and Banana/Fruits

iii.	IMO	Cooked rice
iv.	Kunapajala	Cow dung, Cow urine, Cow milk, Flesh and bone marrow of animals with horns, and Honey
v.	Dasagavya	Cow dung, Cow urine, Cow milk, Curd, Ghee, Neem leaves, *Vitex, Leucas aspera*, *Lantana camera,* Datura, Calotropis, Jatropa, *Adathoda*, Tender coconut, and Banana/Fruits
vi.	Compost tea	Compost
vii.	Vermiwash	Vermicompost
II	**Products Produced outside the Pesticide-Free Farm Unit (*should be used in a restricted manner only after checking the source and chances of non-contamination*)**	
1	Manure	Prohibited, if from industrial farms (like large-scale poultry farms)
2	Blood meal, meat meal, bone meal, hoof meal, horn meal, fish meal, and feather meal without preservatives (non-synthetic animal by-products)	
3	Composted livestock effluents, including manure and composted manure	Prohibited, if from industrial farms
4	Farmyard, slurry, and urine	- After controlled fermentation and/or appropriate dilution. - Prohibited, if from industrial farms
5	Fish and fish products without preservatives	
6	Guano	- Includes bat guano, seabird guano, and decomposed and dried deposits from wild bats or wild birds. - Domesticated fowl excrement is considered manure, not guano. - Must not be directly treated with pesticides. - Guano that is not composted or processed may only be (i) applied to land used for a crop not intended for human consumption; (ii) incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or (iii) incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles.
7	By-products from the food and textile industries of biodegradable material of microbial, plant, or animal origin without any synthetic additives	
8	Peat without synthetic additives	- Prohibited for soil conditioning. - Use limited to horticulture (horticultural crops, floriculture, arboriculture, nurseries).
9	Sawdust, wood shavings, and wood, provided it comes from untreated wood	
10	Seaweed and seaweed products obtained by physical processes, extraction with water or aqueous acid and/or alkaline solution	

11	Urban composts from separate sources that are monitored for contamination	
12	Animal charcoal	
13	Compost and spent mushroom and vermiculate substances	Mushroom media waste that has been composted before or after mushroom production.
14	By-products from oil palm, coconut, and cocoa (including empty fruit bunch, palm oil mill effluent (pome), cocoa peat, and empty cocoa pods)	Must not contain prohibited materials.
15	By-products of industries processing ingredients from organic agriculture	Must not contain prohibited materials.
16	Compost tea	Made from compost with manure feedstocks or allowed non-manure feedstock that has been fully composted.
17	Alfalfa meal or pellets	The palletisation process must not involve prohibited materials
18	Algae and algae products	If obtained directly by: i. physical processes including dehydration, freezing, and grinding, ii. extraction with water or acid and/or alkaline aqueous solution, iii. fermentation only organically or from sustainable harvesting
19	Synthetically extracted aquatic plant products	- Synthetic extraction process is limited to the use of potassium hydroxide or sodium hydroxide; the solvent amount used is limited to that amount necessary for extraction. - Aquatic plant products are prohibited if they contain synthetic preservatives such as formaldehyde or are fortified with otherwise prohibited plant nutrient sources.
20	Plant or animal ash	- Ash from plant and animal sources only. - Ashes from burning minerals, manure, or prohibited materials are prohibited.
21	Wood ash	- Wood ash must be produced exclusively from untreated and unpainted wood. - Wood stove ashes must not be generated from the burning of coloured paper, plastic, or other prohibited materials.
22	Non-synthetic beeswax	
23	Biochar	- Biochar is biomass that has been carbonized or charred. - Sources must be untreated plant or animal material. - Biochar from manure is prohibited. The pyrolysis process must not use prohibited additives.
24	Coffee grounds	Must not contain prohibited materials.
25	Crabs/crustacean meal	- Must not contain prohibited stabilizers or preservatives. - Crustacean is defined as any member of the Arthropod subphylum Crustacea, which includes (but is not limited to): crabs; lobsters; shrimp (including fairy, horseshoe, and seed shrimp); and barnacles.

26	Fertilizers blended with uncomposted manure	May only be (i) applied to land used for a crop not intended for human consumption; (ii) incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or (iii) incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles.
27	Gluconic acid	Produced by fermentation by *Aspergillus niger.*
28	Humates	- Stable decomposed organic matter. - Sources include, but are not limited to leonardite, lignite, or coal; not acceptable if fortified with synthetic nutrients.
29	Mycorrhizae	- Includes but is not limited to vesicular-arbuscular mycorrhizae. - Symbiotic microorganisms that colonize the roots of plants.
30	Propolis	The resinous mixture produced by honeybees.
31	Enzymes	May be produced by microbial processes or extracted from plants or other organisms. Acceptable if produced from non-synthetic and non-GMO sources and not fortified with synthetic plant nutrients.
32	Fermented products	- Non-synthetic acetic acids, such as those made by oxidative or anaerobic fermentation (solutions with less than 8% acetic acid are vinegar). - Non-synthetic citric acids, such as those produced from microbial fermentation of carbohydrate substances (e.g., sugar). - Alcohols made by fermentation or other non-synthetic means.
33	Non-synthetic cannery wastes and cannery wastewater that do not contain prohibited materials.	
34	Synthetic cardboard	- Cardboard must not be waxed or impregnated with synthetic fungicide. - For use as a mulch or compost feedstock.
35	Chelating agents	- Non-synthetic chelating agents are permitted, including but not limited to non-synthetic amino acids, citric acid (to form citrate in solution), humic acids, tartaric acid (made from grape wine), and gluconic acid.
III	**Minerals (to be used as per recommended dosages)**	
1	NPK fertilizers	Allowed chemical fertilizers by the Government of India to be used judiciously, following effective methods like split application, placement, etc.
2	Micronutrient fertilizers	
3	Basic slag	Restricted use
4	Calcareous and magnesium rock	Restricted use
5	Calcified seaweed	
6	Calcium chloride	- Non-synthetic sources only (from the brine process). - For use as a foliar spray to treat a physiological disorder associated with calcium uptake.

7	Calcium carbonate of network origin (chalk, limestone, gypsum, and phosphate chalk)	Only of natural origin.
8	Mineral potassium with low chlorine content (e.g., sulfate of potash, kainite, sylvinite, patenkali)	Restricted use
9	Natural phosphates (e.g., Rock phosphates)	- Product obtained by milling soft natural phosphates and containing essential components such as tricalcium phosphate and calcium carbonate. - Restricted use.
10	Pulverized rock	Restricted use
11	Sodium chloride	
12	Trace elements (baron, In, Fe, Mn, molybdenum, Zn)	Restricted use
13	Potassium sulfate	Restricted use
14	Magnesium sulfate (Epsom salt)	
15	Gypsum (Calcium sulfate)	Only mined forms are acceptable.
16	Stillage and stillage extract	
17	Aluminium calcium phosphate	Use is limited to basic soils (pH > 7.5)
18	Sulphur	- May be used for crop fertility as a soil amendment. - Must have at least 99% purity for use in the on-farm generation of sulfurous acid as a soil amendment.
19	Stone mill	Restricted use
20	Clay	Includes, but is not limited to, attapulgite, bentonite, montmorillonite, kaolin, and Fuller's earth.
21	Feldspar	
22	Non-synthetic Borates	Includes borax, colemanite, and other natural deposits.
23	Synthetic boron products	Includes hydrated forms of sodium tetraborate, sodium borate derivatives, Disodium octaborate, and its hydrated forms, and hydrated forms of colemanite.
24	Cobalt products	Allowed forms include cobalt oxide (CoO), cobalt sulfate ($CoSO_4$), cobalt carbonate ($CoCO_3$), and cobalt silicates.
25	Copper products	Includes basic copper sulfate, copper oxide (CuO), copper carbonates, copper silicates, and copper oxysulfate.
26	Diatomaceous earth	Mined sources, including calcined forms.
27	Mined dolomite	Includes naturally occurring minerals containing magnesium carbonate and calcium carbonate.
28	Iron products	Includes ferric oxide, ferric sulfate, ferrous sulfate, iron citrate, iron oxide (FeO or Fe_2O_3), iron sulfate ($FeSO_4$ or $Fe_2(SO_4)^3$), iron carbonate ($FeCO_3$), iron silicate, and iron tartrate.
29	Molybdenum products	Includes sulfates, carbonates, oxides, or silicates of molybdenum.
IV	**From Processing Units**	
1	Cotton gin trash	Prohibited if the processing unit is conventional
2	Cotton seed meal	Prohibited if the processing unit is conventional
V	**Other sources**	
1	Homeopathic preparations	Must be composed entirely of allowed materials
2	Molasses	Both nonorganic and organic sources are permitted. Non-organic molasses must not contain prohibited materials such

		as synthetic scale inhibitors, aggregation and precipitation agents, or additives to control fluidity

References:

1. Australian Certified Organic Standard 2021 Version 1
2. Bioagricert Certification for Inputs
3. OMRI Generic Materials List, 2022
4. Data from N+3F

Annex 2:

List of Products Allowed for Plant Pests, Disease, and Weed Management

I) Products from plant and animal origin

A) Products that can be prepared on-farm or in the villages:

I. Botanicals

a) Primarily Bio Insecticides:

1. Neemasthra – Cow dung, Cow urine, and Neem leaves.
2. Neem bio enzyme – Neem leaves and Jaggery.
3. Vitex decoction – *Vitex* and Detergent.
4. Tobacco decoction – Tobacco and Detergent.
5. Mahuastra – Cow urine, Mahua, and Jaggery.
6. Onion kashayam – Cow urine, Turmeric powder, Onion, and Detergent.
7. Datura leaf extract – Cow urine, Datura, and Detergent.
8. Thutikada kashayam (*Ipomea* extract) – Cow urine and *Ipomea*.
9. *Ocimum* kashayam – *Ocimum* and Detergent.
10. *Lantana* preparation – *Lantana camera*, Jaggery, and Detergent.
11. Turmeric extract – Cow urine, Turmeric powder, and Detergent.
12. Chunastra – Neem/Pongamia oil, Lime, and Kerosene.
13. Agniastra – Cow urine, Neem leaves, Tobacco, Chillies, and Garlic.
14. Brahmastra – Cow urine, Neem leaves, Pongamia, Datura, Castor, and Custard apple leaves.
15. Dashparni ark – Cow dung, Cow urine, Neem leaves, Pongamia, *Calotropis*, Jatropa, *Adathoda*, Nerium, Castor, Custard apple leaves, Papaya, Chillies, Garlic, and Guduchi.
16. Handi katha – Cow dung, Cow urine, Neem leaves, Pongamia, Calotropis, and Jaggery.
17. Sarva Keetnashi – Cow urine, Parthenium, Neem leaves, Calotropis, *Ipomea*, *Ocimum*, Custard apple leaves, Chillies, and Garlic.
18. Panch patti kada – Cow urine, Neem leaves, Pongamia, Datura, Calotropis, and Sapota.
19. Chilli garlic solution – Chillies, Garlic, Kerosene, and Detergent.
20. Char chatni – Ginger, Chillies, Garlic, and Onion.

b) Primarily Antimicrobials (to manage diseases):

1. Sothastra – Cow urine, Cow milk, Mahua, Ginger, and Jaggery.
2. Bael patti ked awa (Stone apple leaf extract) – Cow urine, Stone apple leaf, and Detergent.

II) Non-Botanicals:

a) Primarily insecticides

1. CVR technique (Chintala Venkat Reddy technique).

b) Primarily antimicrobials (to manage diseases):

1. Katta matta (Spoiled buttermilk) – Curd.
2. Cooking oil and egg yolk (COY) – Egg and Castor oil/Cooking oil.

B) Products sourced from outside the village/area

1) Corn gluten - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
2) Repellents - Acceptable if derived from a non-synthetic source, such as blood meal, rotten eggs, hair, or predator scents, provided synthetic additives are not used. Inert ingredients must be non-synthetic.
3) Plant disease controls - Includes plant extracts, biological control agents, and other non-synthetic sources. Inert ingredients must be non-synthetic.
4) Compost tea from composted manure feedstock - Compost tea made on the farm may be used to suppress the spread of disease organisms. Compost tea sold for disease suppression must comply with all pesticide regulations. Must be used in a manner that does not contribute to contamination of crops, soil, or water by pathogenic organisms.
5) Compost tea without manure feedstock - Compost tea sold for disease suppression must comply with all pesticide regulations. Compost teas are acceptable if made from allowed non-manure-based compost. Compost tea is used to suppress the spread of disease organisms.
6) Citrus products - Includes limonene. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
7) Fermentation products - Products made by the biological activity of bacteria, fungi, or other microorganisms.
8) Neem and neem derivatives - Includes neem cake and neem oil. Azadirachtin, an extract of neem, is also permitted. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
9) Oils - Plant or animal-derived (e.g., fish). Used as suffocating or stylet oils, summer oils, and dormant oils. As an insecticide. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
10) Non-synthetic Spinosad - An active insecticidal ingredient is derived from *Saccharopolyspora spinosa*. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

II) Minerals:

1) Non-synthetic acetic acid - Includes non-synthetic forms such as those made by oxidative or anaerobic fermentation. Solutions that contain less than 8% acetic acid are vinegar. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
2) Ethanol, Isopropanol - For use as an algicide. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
3) Borates - Only mined sources are acceptable. An active insecticidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.
4) Bordeaux mixes - Must be used in a manner that minimizes copper accumulation in the soil and shall not be used as herbicides. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

5) Boric acid - May be used as an insecticide for structural pest control, provided there is no direct contact with pesticide-free food or crops. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

6) Calcium polysulfide (lime sulphur) - For use as plant disease control, or as an insecticide (including acaricide or mite control). May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

7) Copper sulfate - For plant disease control, it must be used in a manner that minimizes the accumulation of copper in the soil. For use as an algicide in aquatic rice systems and for tadpole shrimp control in aquatic rice systems, must not exceed one application per field during any 24-month period. Application rates are limited to those that do not increase baseline soil test values for copper over a time frame agreed upon by the producer and accredited certifying agent. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

8) Coppers - These include basic copper carbonate (malachite), copper-ethylenediamine complex, copper hydroxide, copper lime mixtures, copper linoleate, copper oleate, copper oxychloride, copper octanoate, copper sulfate basic, copper sulfate pentahydrate, cupric oxide, cuprous oxide. For plant disease control. Must be used in a manner that minimizes copper accumulation in the soil and shall not be used as herbicides. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

9) Diatomaceous earth - Mined sources, including calcined forms. An active insecticidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

10) Elemental sulphur - For use as plant disease control, or as an insecticide (including acaricide or mite control). For use as a slug and snail bait. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

11) Hydrated lime - For plant disease control. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

12) Hydrogen peroxide - For use as a plant disease control or as an algicide. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

13) Hydrogen peroxide starting materials - Includes dry products containing permitted precursors to hydrogen peroxide. Must be mixed with water prior to use. The resulting hydrogen peroxide may only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

14) Unprocessed mined minerals - Must not have undergone any processing that causes a change in their molecular structure, such as heating in a way that produces a chemical change in the material, resulting in a synthetic product. Must not be processed or formulated with prohibited dust suppressants, anti-caking agents, pelleting agents, or other additives. The manufacturing processes of each mineral must be reviewed individually to ensure non-synthetic status. Minerals made synthetically or industry by-products are not permitted as non-synthetic minerals. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

15) Polyoxin D Zinc salt - For plant disease control. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

16) Potassium bicarbonate - For plant disease control. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

17) Aqueous potassium silicate - The silica used in the manufacture of potassium silicate must be sourced from naturally occurring sand. For use as plant disease control, or as an insecticide (including acaricide or mite control). May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

18) Sodium chloride – non-synthetic sources only, such as mined sources and evaporation from natural brines. An active insecticidal or herbicidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

III) Micro-organisms used for biological pest control

1) *Bacillus thuringiensis* - An active insecticidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

2) *Beauveria spp.* - An active insecticidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

3) *Trichoderma spp.* - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

4) Biological controls - Living organisms and viruses used as active ingredients. No genetically modified organisms. Inert ingredients must be non-synthetic.

5) Biopesticides - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

6) Microbial products - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed. **Prohibited** when the microorganisms are produced by genetic engineering (excluded methods).

7) Virus sprays - Codling moth granulosis virus is acceptable. No genetically modified viruses are allowed. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

IV) Others

1) Vitamin D_3 - Also known as “cholecalciferol.” For use as a rodenticide. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

2) Vitamin B_1.

3) Cytokinins - As a plant growth regulator.

4) Fatty alcohols - As a plant growth regulator. Fatty alcohols (C6, C8, C10, and/or C12) correspond to 1-hexanol, 1-octanol, 1-decanol, and 1-dodecanol. Can be derived from fats or oils (most commonly coconut oil, palm kernel oil, lard, tallow, rapeseed oil, soybean oil, and corn oil) or from petroleum products.

5) Gibberellic acid - Also called Gibberellin A3. Acceptable if made from a fermentation process. The fermentation process must not use genetically modified organisms.

6) Fungal herbicides - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

7) Non-synthetic herbicides - The need for and use of herbicides derived from natural sources should be explained in the pesticide-free system Plan. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

8) Mulch for use as crop weed control – non-synthetic mulches are permitted, including but not limited to wood chips, leaves, straw, and crop residues. Inert ingredients must be non-synthetic.

9) Plastic mulch - Petroleum-based plastic mulch, other than polyvinyl chloride (PVC), is permitted, including mulches that are composites of paper and synthetic resins, polymers, or other nonrecycled or nonbiodegradable components. This allowance does not include biodegradable plastic. Must be removed from the field at the end of the growing or harvest season. For crops grown as annuals, removal must occur annually. For perennial crops, removal must occur before the plastic decomposes or breaks down, so that it can be effectively removed.

10) Natural acids - May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

11) Peracetic acid/Peroxyacetic acid - Also called peracetic acid. For use in hydrogen peroxide formulations, at a concentration of no more than 6% as indicated on the pesticide product label. May include both non-synthetic inerts and synthetic inerts allowed on the National List. For use as a pesticide to control fire blight. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

12) Predators and Parasites - Augmentation or introduction of predators or parasites of a pest species is permitted.

13) Pyrethrum - An active insecticidal ingredient. Pyrethrum is a natural botanical extract. Synthetic pyrethroids are prohibited. Piperonyl butoxide may not be used as a synergist. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

14) Quassia amara, Ryania, Sabadilla, Zeolite - An active insecticidal ingredient. May only be used if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

15) Row covers - Use of polyvinyl chloride as plastic mulch or row cover is prohibited. Must not be incorporated into the soil or left in the field to decompose; must be removed at the end of the growing season.

16) Sea Salt - For use as a pest lure, repellent, as part of a trap, or as a disease control. May be used for other pesticidal purposes if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

17) Seed treatments – non-synthetic materials such as microbial products, kelp, yucca, gypsum, and various clays. Plant disease problems may be controlled through the application of materials composed entirely of non-synthetic biological, botanical, or mineral inputs. Inert ingredients must be non-synthetic..

18) Soap/Ammonium - For use as an algicide/demosser, herbicide, or insecticide. When used as an herbicide may only be used for farmstead maintenance (roadways, ditches, right of ways, building perimeters) and ornamental crops. When used as an animal repellent, it may only be used as a large animal repellent, and the substance must not contact soil or the edible portion of the crop. May be used for other pesticidal purposes if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

V) Traps

1) Limonene - Includes d-limonene and l-limonene. For use as a pest lure, repellent, or as part of a trap, or as a disease control. May be used for other pesticidal purposes if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

2) Pheromones - May be used for other pesticidal purposes if the use of preventive, mechanical, physical, and other pest, weed, and disease management practices have failed.

3) Physical methods - Includes traps of various types (light traps, sticky traps, etc.), forced air, and water sprays. Inert ingredients must be non-synthetic.

References

1. Data from N+3F
2. OMRI Generic Materials List, 2022

Annex 3:

Food Additives Including Carriers for Use in the Production of Processed Pesticide-free Food

International Numbering System	Product	Preparation of food products		Conditions for use
		Plant origin	Animal origin	
INS 170	Calcium carbonate	√	√	Not for use for colouring/calcium enrichment of products
INS 220	Sulphur dioxide	√	√	For fruit wines without added sugar
INS 270	Lactic acid		√	For concentrated fruit / veg. juice & fermented veg. products
INS 296	Malic acid	√		
INS 290	Carbon dioxide	√	√	
INS 300	Ascorbic acid	√	√	For meat products
INS 306	Tocopherols, mixed, natural concentrates	√	√	Antioxidant for fats and Oils
INS 322	Lecithin	√	√	For milk products (to be obtained without the use of bleaches and organic solvents)
325	Sodium lactate		√	For milk-based and meat products
INS 330	Citric acid	√	√	For concentrated fruit/veg. Jam, fermented veg. product
INS 331	Sodium citrate	√		
INS 333	Calcium citrate	√		
INS 334	Tartaric acid	√		
INS 335	Sodium tartarate	√		
INS 336	Potassium tartarate	√		
INS 341	Mono calcium Phosphate	√		For raising flour only
INS 400	Alginic acid	√	√	For milk-based products
INS 401	Sodium alginate	√	√	For milk-based products
INS 402	Potassium alginate	√	√	For milk-based products
INS 406	Agar	√	√	For milk-based and meat products
INS 407	Carrageenan	√	√	For milk products
INS 410	Locust bean gum	√	√	
INS 412	Guar gum	√	√	
INS 414	Arabic gum	√	√	
INS 415	Xanthium gum	√	√	

INS 422	Glycerol	√		For use in plant extracts
INS 440	Pectin	√	√	For milk-based products
INS 464	Hydroxy propyl methyl Cellulase	√		For encapsulation material for capsules
INS 500	Sodium carbonate	√	√	For milk product Substances
INS 501	Potassium carbonate	√		For the drying of grapes Resins
INS 503	Ammonium carbonate	√		
INS 504	Magnesium carbonate	√		
INS 509	Calcium chloride	√	√	For milk coagulation
INS 516	Calcium sulphate	√		Restricted; For use only as carrier
INS 524	Sodium hydroxide	√		
INS 551	Silicon dioxide	√		Anticaking agent for herbs & spices
INS 553	Talc	√		Coating agent for meat Products
INS 938	Argon	√	√	
INS 939	Helium	√	√	
INS 941	Nitrogen	√	√	
INS 948	Oxygen	√	√	

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2014.

Annex 4:

Processing Aids and Other Products for Use for Processing of Ingredients of Agricultural Origin from Pesticide-free Production

Product	Preparation of food products of		Conditions for use
	Plant origin	Animal origin	
Water	√	√	Potable water standards
Calcium chloride	√		Coagulation agent
Calcium carbonate	√		Coagulation agent
Calcium hydroxide	√		
Calcium sulfate	√		Coagulation agent
Magnesium chloride	√		Coagulation agent
Potassium carbonate	√		Drying of grapes
Sodium carbonate	√		Sugar production
Lactic acid		√	For the regulation of pH of the brine bath in cheese Production
Citric acid	√	√	For the regulation of pH of the brine bath in cheese production; oil production and hydrolysis of starch
Sodium hydroxide	√		Sugar production, oil production from rape seed
Sulphuric acid	√	√	Gelatin production Sugar production
Hydrochloric acid		√	Gelatin production
Ammonium hydroxide		√	Gelatin production
Hydrogen peroxide		√	Gelatin production
Carbon dioxide	√	√	
Nitrogen	√	√	
Ethanol	√	√	Solvent
Tannic acid	√		Filtration aid
Egg white albumin	√		
Casein	√		
Gelatin	√		
Isinglass	√		
Vegetable oils	√	√	Greasing, releasing, or antifoaming agent
Silicon dioxide gel	√		
Activated carbon	√		
Talc	√		In compliance with the specific purity criteria for food additives

Kaolin	√	√	
Cellulose	√	√	Gelatin production
Diatomaceous earth	√	√	Gelatin production
Perlite	√	√	Gelatin production
Hazel nut shells	√		
Rice meal	√		
Bee wax	√		Releasing agent

Flavouring Agents

(i) Volatile (essential) oils produced by means of solvents such as oil, water, ethanol, carbon dioxide and mechanical and physical processes

(ii) Natural smoke flavour

(iii) Use of natural flavouring preparations should also be approved by the Certification Body

Preparations of Micro-organisms

(i) Preparations of micro-organisms accepted for use in food processing

(ii) Genetically modified microorganisms are excluded

(iii) Baker's yeast produced without bleaches and organic solvents

Ingredients

(i) Drinking water

(ii) Salt

(iii) Minerals (including trace elements) and vitamins where their use is legally required or where severe dietary or nutritional deficiency can be demonstrated.

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2014.

Annex 5:

Approved Products for Packaging of Pesticide-free Foods

Certain products are allowed for use in pesticide-free agriculture for the packaging of foodstuffs; however, many of these are restricted for use in pesticide-free production. In this annex "restricted" means that the conditions and procedures for use shall be set by the accredited certification programme.

Use of plastics for the packaging of pesticide-free foods

S. No.	Products	Limitation
1.	4,4'-Bis(2-benzoxazolyl)stilbene	Restricted
2.	9,9-Bis(methoxymethyl)fluorine	Restricted
3.	Carbonic acid, copper salt	
4.	Diethylene glycol	Restricted
5.	2-(4,6-Diphenyl-1,3,5-triazin-2-yl)-5-(hexyloxy)phenol	
6.	Ethylenediaminetetraacetic acid, copper salt	Restricted
7.	2-(2-Hydroxy-3,5-di-tert-butyl-phenyl-5-Chlorobenzotriazole	
8.	2-Methyl-4-isothiazolin-3-one	Restricted
9.	Phosphoric acid, trichlorocthylester	
10.	Polyesters of 1,2 propanediol and/or 1,3-and 1, 4 butanediol and/or polypropylene glycol with adipic acid, also end-capped with acetic acid or fatty acids C10-C18 or n-octanol and/or n-decanol	Restricted
11.	1,1,1-Trimethylolpropane	
12.	3-hydroxybutanoic acid 3-hydro xypentanoic acid, Copolymer	Restricted

Permissible Packaging Material for Aquaculture

- Paper, wax paper, paper coated with PE
- Polyethylene (PE), polypropylene (PP), polyacrylic, polyamide (PA) (single compound or as coating)
- Polystyrene cold boxes with PE coating film or inside bag
- Textile packaging (tested for harmful substances)

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2014.

Annex 6:

List of Diseases for Herd / Flock Diagnosis

In consultation with the veterinarian, a health management program for the animals should be developed, and testing for the following diseases should be carried out on the herd:

Cattle and Buffaloes:

- Brucellosis:
- Leptospirosis
- Mastitis
- Tuberculosis
- Para-tuberculosis

Sheep and Goat:

- Brucellosis:
- Leptospirosis
- Tuberculosis
- Para-tuberculosis

Pigs:

- Swine fever
- Brucellosis

Poultry:

- *Mycoplasma gallinarum*
- Fowl Typhoid

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 7:

Products Authorized for Cleaning and Disinfection of Livestock Buildings and Installations

- Potassium and sodium soap
- Water and steam
- Milk of lime
- Lime
- Quicklime
- Sodium hypochlorite (e.g. as liquid bleach)
- Hydrogen peroxide
- Natural essences of plants with the exception of linseed oil, lavender oil and peppermint oil
- Citric, peracetic acid, formic, lactic, oxalic and acetic acid
- Alcohol
- Formaldehyde

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 8:

Approved List of Feed Ingredients, Additives, and Processing Agents for Animal Nutrition

1. **Feed materials from plant origin**

1.1. Cereals, grains, their products and by-products:

- Oats as Grains, Flakes, Middlings, Hulls and Bran
- Wheat as Grains, Wheat as Germ, Middling, Bran
- Barley as Grains, Protein and Middlings
- Maize as Grains; Bran, Middling; Germ expeller and Gluten
- Sorghum as Grains
- Rice Germ Expeller and bran
- Millet as Grains
- Rye as Grains and Middlings
- Triticale as Grains, Bran, Middlings, Brewers' Grains.
- Other cereals & grains

1.2. Oil seeds, oil fruits, their products and by-products:

- Rape seed and mustard as expeller and hulls
- Soya bean as bean, toasted, as expeller and hulls
- Sunflower seed as expeller and hulls
- Cotton as seed and seed expeller
- Linseed as seed and expeller
- Sesame seed as expeller
- Groundnut seed as expeller
- Palm kernels as expeller
- Safflower decorticated cake
- Toria Cake
- Taramira Cake
- Pumpkin seed as expeller
- Other oilseeds
- Vegetable oils (from physical extraction).

1.3. Legume seeds, their product and by-products

- Bengal gram as seeds, middlings and hulls
- Black gram as seeds, middlings and hulls
- Pigeon pea as middlings and hulls
- Green gram as middlings and hulls
- Horse beans as seeds middlings and bran
- Lentil as middlings and hulls
- Chickpeas as seeds, middlings and bran;
- Ervil as seeds, middlings and bran as seeds submitted to heat treatment, middlings and bran
- Peas as seeds, middlings, and bran;
- Broad beans as seeds middlings and bran; and
- Lupin as seeds, middlings and bran
- Other legumes

1.4. Tuber, roots, their products and by-products

- Sugar beet pulp, potato

- Sweet potato as tuber,
- Potato pulp, potato starch, potato protein and manioc
- Carrot
- Turnip
- Other tubers

1.5. Other seeds and fruits, their products and by-products

- Fruits & Fruit Pulps of apple, citrus fruits, pears, peaches, grapes, figs, Pineapple, quinces, pumpkins
- Chestnuts, walnut expeller, hazelnut expeller; cocoa husks and expeller; acorns.
- Mango seeds, tamarind seeds meal

1.6. Forages and roughages

Cultivated fodder crops which include the following:

- Sorghum (*Sorghum vulgare*)
- Maize (*Zea mays*)
- Pearl millet (Bajra; *Pennisetum typhoides*)
- Teosinte (*Euchlaena maxicana*)
- Cow Pea (*Vigna unguiculata*)
- Guar (*Cyamopsis tetragonoloba*)
- Oats (*Avena sativa*)
- Berseem (*Trifolium alexadrinum*)
- Lucerne (*Medicago sativa*)
- Senji (*Melilotus parviflora*)
- Hybrid Napier
- Para Grass (*Brachiaria mutica*)
- Rhodes Grass (*Chloris gayana*)
- Guinea Grass (*Panicom maximum*)
- Sudan Grass (*Sorghum sudanenes*)
- Mustard (Brassica spp)
- Clover, Clover meal, Grass (obtained from forage plants), Grass meal,
- Hay, Silage & Straw of cereal crops and Root vegetables for foraging.
- Pasture Grass & Legumes: The following are included in this category:
- Anjan (*Cenchrus ciliaris*)
- Marvel (*Dichanthium annulatum*)
- Dinanath (*Penniactum pedicellatum*)
- Kazungla (*Setaria sphacelata*)
- Sain (*Sehima nervosum*)
- Siratro (*Macroptilum atropurpureum*)
- Stylo (*Stylosanthes humilis*)
- Bankulthi (*Atylosia scarabaeoides*)
- Field bean (*Dolichos lablab*)
- Butterfly Pea (*Clitoria termatea*)

1.7. Leaves of common Indian trees

- *Acacia arabica* (Babul)
- *Acacia senegal* (Kumat)
- *Adina cordifolia* (Haldu)
- *Ailanthus excelsa* (Ardu)
- *Amaranthus spinosus* (Goja),
- *Albizia lebbeck* (Siras)
- *Azadirachta indica* (Neem)
- *Banhinia variegate* (Kachnar)
- *Cassia auriculata* (Tarwad)
- *Dalbergia sissoo* (Sissoo)
- *Ficus benghalensis* (Bargad)

- *Ficus relegiosa* (papal)
- *Ficus glomerata* (gular)
- *Hardwickia binata* (Anjan)
- *Leucaena leucocephala* (Subabul)
- *Morus alba* (Tut)
- *Marus indica* (Mulberry)
- *Prosopis cineraria* (Khejri)

1.8. Other plants, their products and by-products

- Molasses
- Seaweed meal (obtained by drying and crushing seaweed and washing to reduce iodine content),
- Powders and extracts of plants
- Plant protein extracts (solely provided to young animals)
- Spices and herbs

2. Feed materials from animal origin

2.1. Milk and milk products encompass the following substances:

- Raw milk
- Milk powder, skimmed milk, skimmed-milk powder
- Buttermilk, buttermilk powder
- Whey, whey powder, whey powder low in sugar, whey protein powder (extracted by physical treatment)
- Casein powder, lactose powder, curd and sour milk

2.2. Fish, other marine animals, their products, and by-products include only the following substances:

- Fish, fish oil and cod-liver oil not refined
- Fish molluscan or crustacean autolysates, hydrolysate and proteolysates obtained by an enzyme action, whether or not in soluble form, solely provided to young animals.
- Fish meal

2.3. Eggs and egg products intended for use as poultry feed, preferably sourced from the same holding.

3. Feed materials from mineral origin

The substances included in this category are as follows:

a. Sodium

- Sodium sulphate
- Sodium carbonate
- Sodium bicarbonate
- Sodium chloride (Unrefined sea salt, Coarse rock salt)

b. Potassium

- Potassium chloride

c. Calcium

- Lithotamnion and maerl
- Shells of aquatic animals (including cuttlefish bones)
- Calcium carbonate
- Calcium lactate

- Calcium gluconate

d. Phosphorus
- Defluorinated dicalcium phosphate
- Defluorinated monocalcium phosphate
- Monosodium phosphate
- Calcium-magnesium phosphate
- Calcium-sodium phosphate

e. Magnesium
- Magnesium oxide (anhydrous magnesia)
- Magnesium sulphate
- Magnesium chloride
- Magnesium carbonate
- Magnesium phosphate

f. Sulphur
- Sodium sulphate

4. Feed additives, specific substances used in animal nutrition, and processing aids utilized in animal feed.

4.1. Feed additives

4.1.1. Trace elements, with the following substances included in this category:

a. Iron
- Ferrous (II) carbonate
- Ferrous (II) sulphate monohydrate and/or heptahydrate
- Ferric (III) oxide

b. Iodine
- Calcium iodate, anhydrous
- Calcium iodate, hexahydrate
- Sodium iodide

c. Cobalt
- Cobaltous (II) sulphate monohydrate and/or heptahydrate
- Basic cobaltous (II) carbonate, monohydrate

d. Copper
- Copper (II) oxide
- Basic copper (II) carbonate, monohydrate
- Copper (II) sulphate, pentahydrate

e. Manganese
- Manganous (II) carbonate
- Manganous oxide and manganic oxide
- Manganous (II) sulfate, mono- and/or tetrahydrate

f. Zinc
- Zinc carbonate
- Zinc oxide
- Zinc sulphate mono- and/or heptahydrate

g. Molybdenum
- Ammonium molybdate
- Sodium molybdate

h. Selenium
- Sodium selenate
- Sodium selenite

4.1.2. Vitamins, pro-vitamins, and chemically well-defined substances with a similar effect. The following substances are included in this category:

- Preferably derived from raw materials occurring naturally in feeding stuffs, or
- Synthetic vitamins identical to natural vitamins, only for monogastric animals

The use of synthetic vitamins A, D, and E for ruminants may be authorized, provided that the following conditions are met:

- The synthetic vitamins are identical to the natural vitamins, and
- The authorization issued by the Competent Authority is founded on precise criteria

Producers may only benefit from this authorization if they have demonstrated to the satisfaction of the inspection body or authority that the health and welfare of their animals cannot be ensured without the use of these synthetic vitamins.

4.1.3. Microorganisms: The following microorganisms are included in this category:

- Microorganisms such as lactobacillus, yeast, etc., that are not genetically modified

4.1.4. Preservatives: the following substances are included in this category:

- Sorbic acid
- Formic acid
- Acetic acid
- Lactic acid
- Propionic acid
- Citric acid
- Sodium formate

4.1.5. Binders, anti-caking agents and coagulants. The following substances are included in this category:

- Calcium stearate of natural origin
- Colloidal silica
- Kieselgur
- Bentonite
- Kaolinitic clays
- Natural mixtures of stearites and chlorite
- Venniculite
- Sepiolite
- Perlite
- Guar Gum
- Sodium Ferrocyanide
- Natrolite-phonolite
- Clinoptilolite of sedimentary origin

4.1.6. Antioxidant substances: The following substances are included in this category:

- Tocopherol-rich extracts of natural origin

4.1.7. Silage additives. The following substances are included in this category:

- Enzymes, yeasts and microorganisms that are not genetically modified.
- Sodium Propionate
- Sodium formate
- Formic acid
- Propionic acid

4.2. Certain products used in animal nutrition

The following products are included in this category:

- Brewer's yeasts

4.3. Processing aids used in feeding stuffs

4.3.1. Processing aids for silage. The following substances are included in this category:

- Sea salt, coarse rock salt, whey, sugar, sugar beet pulp, cereal flour and molasses

4.4. Biologicals and Immunological in feed:

- Colostrum powder / whole colostrum, provided that it is preferably derived from animals raised under pesticide-free farming practices.
- Ayurvedic and plant-derived products that are claimed to have immunopotentiating properties.

Use of Ethylene Oxide (ETO) is prohibited
The products not mentioned herewith are not allowed for use under these standards.

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 9:

Approved Enzymes and their Sources for Use in Animal and Poultry Feed

Name of the Enzyme	Source
alpha-Amylase	*Aspergillus niger,* var. *Aspergillus oryzae,* var. *Bacillus amyloliquefaciens* *Bacillus lentus* *Bacillus licheniformis* *Bacillus stearothermophilus* *Bacillus subtilis*, var. Barley malt *Rhizopus niveus* *Rhizopus oryzae,* var.
Maltogenic alpha-Amylase	*Bacillus subtilis*
beta-Amylase	Barley malt
Cellulase	*Aspergillus niger,* var. *Humicola insolens* *Trichoderma longibrachiatum* (formerly *reesei)*
alpha-Galactosidase	*Aspergillus niger, var.* *Mortierella vinaceae var. raffinoseutilizer* *Saccharomyces sp.*
beta-Glucanase	*Aspergillus niger, var.* *Bacillus lentus* *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
ß-Glucosidase	*Aspergillus niger*
Glucoamylase, also known as amlyo - glucosidase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Rhizopus niveus* *Rhizopus oryzae, var.*
Hemicellulase	*Aspergillus aculeatus* *Aspergillus niger, var.* *Bacillus lentus* *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
Invertase	*Aspergillus niger, var.* *Saccharomyces sp.*
Lactase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Candida pseudotropicalis Kluyveromyces marxianis var.lactis (formerly Saccharomyces sp.)*
beta-Mannanase	*Aspergillus niger, var.* *Bacillus lentus* *Trichoderma longibrachiatum*
Pectinase	*Aspergillus aculeatus* *Aspergillus niger, var.* *Rhizopus oryzae*
Pullulanase	*Bacillus acidopullulyticus* *Bacillus licheniformis containing Bacillus deramificans gene for pullulanse*
Xylanase	*Aspergillus niger, var.*

	Bacillus lentus *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
Lipase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Candida rugosa (formerly cylindracea)* *Rhizomucor (mucor) miehei* *Rhizopus oryzae* *Rhizomucor (Mucor-) miehei* *Rhizopus oryzae*
Bromelain	Pineapples – stem fruit
Ficin	Figs
Papain	Papaya
Protease (general)	*Aspergillus niger,* var. *Aspergillus oryzae,* var. *Bacillus amyloliquefaciens* *Bacillus licheniformis* *Bacillus subtilis,* var
Catalase	*Aspergillus niger, var.* *Micrococcus lysodeikticus*
Phytase	*Aspergillus niger, var.* *Aspergillus oryzae, var.*

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 10:

Minimum Indoor and Outdoor Surface Area Requirements, along with Other Housing Characteristics, for Various Species and Production Systems

1. Bovines, Ovine, Caprine and Pig

Livestock	Indoor Area (Net area available to animals)		Outdoor Area (Exercise area, excluding pasturage)
Breeding & fattening bovine	**Live Weight Minimum (Kg)**	**M^2/Head**	**M^2/Head**
	Up to 100	1.5	1.1
	Up to 200	2.5	1.9
	Up to 350	4.0	3
	Over 350	5 with a minimum of 1m^2/100 kg	3.7 with a minimum of 0.75m^2/100kg
Dairy Cows		6	4.5
Bulls for breeding		10	30
Sheep & Goats		1.5 for sheep/goat	2.5
		0.35 for lamb/kid	0.5
Farrowing Pigs with piglets up to 40 days		7.5 for sow	2.5
Fattening pigs	Up to 50	0.8	0.6
	Up to 85	1.1	0.8
	Up to 110	1.3	1
Piglets	Over 40 days and up to 30 Kg	0.6	0.4
Brood Pigs		2.5 for female	1.9
		6 for male (If pens are used for natural service: 10m^2/boar)	0.8

2. Poultry

Poultry	Indoor Area (Net area available to animals)	Outdoor run
Layers	6 birds/m^2	4 bird/m^2
Pullets 0-8 weeks	24 birds/m^2	16 birds/m^2
Pullets 9-18 weeks	15 birds/m^2	10 birds/m^2
Broilers/ fattening chickens	10 birds/m^2 with a maximum of 21 kg live weight/m^2	10 birds/m^2 with a maximum of 21 kg live weight/m^2
Turkeys/large birds	Up to 26 kg live weight/m^2	Up to 17 kg live weight/m^2
Outdoor runs are not required when flocks are undergoing an immunisation programme and when in the final phases of fattening		

3. Minimum indoor and outdoor space requirements for rabbits

Rabbits	Indoor Space	Outdoor –runs and concrete exercise	Outdoor – pasture

From weaning to slaughter	0.3 m²/head	2 m²/head	5 m²/head
Pregnant does	0.5 m²/head	2 m²/head	5 m²/head
Does and litters	0.7 m²/head	2 m²/head	-
Bucks	0.3 m²/head	2 m²/head	5 m²/head

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 11:

Withdrawal Period for Antibiotics/Antibacterials

Sl. No.	Intramammary Preparations	Discard time for milk
1	Benzathine cloxacillin	72 Hrs (of milk discard)
2	Cloxacillin sodium	48 Hrs (of milk discard)
3	Hetacillin potassium	72 Hrs (of milk discard)
4	Procaine penicillin G (Peanut oil)	84 Hrs (of milk discard)

Withdrawal Periods for Sheep and Goats

Sl. No.	Drug	Pre-slaughter withdrawal time (days)
1	Chlortetracycline (Oral)	2
2	Procaine penicillin-G	9
3	Procaine penicillin-G, dihydrostreptomycin Sulphate	30
4	dihydrostreptomycin sulphate	30
5	Erythromycin	3
6	Sulphamethazine	10
7	Sulphamethazine (Oral)	10
8	Sulphaquinoxaline(Oral)	10
9	Sulpfisoxazole(Oral)	10
10	Sulpfisoxazole(Oral)	10
11	Tetracycline(Oral)	--
12	Thiabendazole (Oral)	30

Withdrawal periods (Swine)

Sl. No.	Drug	Pre-slaughter withdrawal time (days)
1	Chlortetracycline (Oral)	2
2	Procaine penicillin-G	30
3	Procaine penicillin-G, dihydrostreptomycin Sulphate	30
4	Dihydrostreptomycin sulphate	30
5	Erythromycin	7
6	Ampicillin trihydrate	15
7	lincomycin hydrochloride	2
8	Oxytetracycline HCl	26
9	Tylosin	4
10	Amoxycillin trihydrate (oral)	15
11	Ampicillin trihydrate (oral)	15
12	Chlortetracycline, Sulphathiazole, Procaine penicillin (oral)	7
13	Chlortetracycline, sulphamethazine, penicillin (oral)	15
14	Chlortetracycline HCl (oral)	5
15	Dihydrostreptomycin (oral)	30
16	Erythromycin (oral)	7
17	Furazolidine (oral)	5
18	Hygromycin B (oral)	2
19	Lincomycin (oral)	6
20	Nystatin (oral)	--

21	Oxytetracycline (oral)	26
22	Penicillin 50gm/900kg fed (oral)	0
23	Spectinomycin dihydrochloride pentahydrate (oral)	21
24	Streptomycin, sulphathizole, phthalylsulphathiazole (oral)	10
25	Sulphachloropyridazine sodium (oral)	4
26	Sulphaethoxypyridazine (oral)	10
27	Sulphamethazine (oral)	15
28	S2ulphaquinoxaline (oral)	10

Withdrawal periods (Poultry)

Sl. No.	Drug	Pre-slaughter withdrawal time (days)
1	Bacitracin	0
2	Carbomycin	1
3	Chlortetracycline	1
4	Erythromycin	2
5	Gentamycin sulphate (inj)	35
6	Lincomycin	5
7	Monensin sodium	5
8	Nitrofurazone	5
9	Novobiocin	4
10	Oleandamycin	--
11	Oxytetracycline (50-200gm/900kg feed)	0
12	Penicillin (2.4-125 gm/900kg)	0
13	Spectinomycin	5
14	Sulphadimethoxine	5
15	Sulphaquinoxaline	10
16	Tylosin Phosphate	5

The products not mentioned herewith are not allowed for use under these standards.

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 12:

Approved Products in Beekeeping for Disinfestations/Cleaning/ Disease-Pest Control

- Caustic soda
- Lactic acid, Oxalic acid, Acetic acid
- Formic acid
- Sulphur
- Etheric oils
- Bacillus thuringiensis
- Menthol
- Thymol
- Eucalyptol
- Camphor
- Azadirachtin
- Gelatine
- Hydrolysed Proteins
- Lecithin
- Plant Oils
- Pyrethrins
- Quassia
- Rotenone extracted from Derris spp., Lonchocarpus spp .and
- Terphrosia spp.
- Micro-organisms
- Diammonium phosphate in traps
- Pheromones (in traps & dispensers)
- Soft Soap
- Lime Sulphur
- Paraffin Oils
- Mineral Oils
- Quartz sand
- Sulphur
- Potassium bi-carbon

Use of Ethylene Oxide (ETO) is prohibited
The products not mentioned herewith are not allowed for use under these standards

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.

Annex 13:

List of notifiable diseases of the honey bee

- American Foul Brood (AFB)
- European Foul Brood (EFB)
- Acarine Disease
- Nosema Disease

Source: Revised National Programme for Organic Production (NPOP) Standards, Government of India 2024.