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

Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards



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Nature-Positive Farming & Wholesome Foods Foundation (N+3F) Bengaluru, India Nature-Positive Farming and Food Systems (N+FFS) Standards: Zero Pesticide Use Agriculture and Foods (ZPUAF) Standards is the copyright material of the Nature-Positive Farming & Wholesome Foods Foundation (N+3F). The N+3F is a non-profit organisation with a mandate to catalyse scaling up nature-positive farming and wholesome food systems (N+FFS) across India to meet the fundamental human right to healthy foods, while operating within planetary boundaries. Its specific objectives are:

- a. To support farming communities, farmers' organizations (FOs), NGOs, and other agencies to evolve, establish, and scale-up context-based N+FFS, leading to 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. 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 <u>total system interventions</u> at production level that builds 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 and irrigation management, etc. It mainly relies on preventive and planned strategies of 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 to be given for supply chain management beyond production and 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 Nature-Positive (N+) production and value chain development, so that the resulting output is ensured of its 'pesticide-free quality' and that the public at large and the consumers in specific 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, 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 N+ 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 N+ farms, products, and processes.

2. ACCREDITED CERTIFICATION BODY

An organisation with legal entity complying with accreditation criteria set by N+3F and recognized by the N+3F for certifying NFOs and for granting the right to use the N+ Certification Trademark to the NFOs on behalf of the N+3F, the Accreditation Body.

3. APPLICANT BODY

Applicant body shall mean the organization seeking accreditation.

4. APPROVED FARMERS LIST (AFL)

List of farmers who have practiced N+ agriculture by adhering to ZPUAF Standards properly in a particular crop season and vouched by Internal N+FFS Guarantee System (INGS) and approved under certification by N+3F.

5. BUFFER ZONE

A clearly defined and identifiable boundary area bordering an N+ 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 farm land 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 which are not in conformity with the ZPUAF Standards of N+ production.

13. CONVERSION

The process of changing from conventional to N+ methods of production in an agricultural farm. This is also called transition.

14. CONVERSION PERIOD

The time between the start of N+ 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 N+ production methods.

17. FOOD ADDITIVE

Food additive is an external permissible ingredient added to improve the keeping quality, consistency, colour and other physicochemical, 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 consisting of fresh green plant matter, which is ploughed in or turned into the soil to improve it improving health.

20. GROUP CERTIFICATION

Certification of an organized group of producers, processors and exporters with similar farming and production systems and which are in geographical proximity.

21. HAZARD ANALYSIS AND CRITICAL CONTROL POINT (HACCP)

The Hazard Analysis and Critical Control Point (HACCP) is a system which identifies, evaluates, and controls hazards which are significant for food safety. Food safety management systems based on HACCP are internationally recognized 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 N+ farming.

24. INPUTS PERMITTED

Those items that can be used in N+ farming.

25. INPUTS RESTRICTED

Those items that are allowed in N+ farming, in a restricted manner, after a careful assessment of contamination risk, natural imbalance and other factors arising out of their use. 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. IRRADIATION

High energy emissions to control microbial pathogens, parasites, and pests in food, to preserve the food or to inhibit physiological processes such as sprouting or ripening.

30. 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.

31. MARKETING

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

32. MULTIPLICATION

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

33. 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 by any harmful chemicals.

34. NON-CONFORMITY

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

35. 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 Programme in its working area.

36. N+ FARMERS GROUP (NFG)

It is the group constituted by the farmers participating in N+FFS Programme 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.

37. N+FFS GUARANTEE SYSTEM (NGS)

N+FFS 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 N+ farmers to autonomous FOs or CSOs/NGOs termed as NFOs, which in turn are inspected by an external agency on a seasonal basis.

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 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 N+ farming or N+ 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 fertilizers and pesticides.

43. PACKAGE OF PRACTICES

Guidelines for N+ 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 both under pesticide-free production system and conventional production system. Also see 'Split Production'.

45. PESTICIDE FREE

Shall mean any substances (Food, Feed or Fibre) produced, processed and handled without the use of synthetic pesticides which includes insecticides, herbicides, rodenticides, fungicides, algicides, fumigants, miticides, molluscides, 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 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 practiced N+ agriculture by adhering to ZPUAF Standards properly in a particular crop season and vouched by Internal N+FFS 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 standardized protocols.

51. RAW MATERIALS

All ingredients other than food additives.

52. RISK ASSESSMENT

Risk assessment is done to identify and control potential risks in production, processing and handling of N+ products that may infringe upon the N+ 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

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

- 1. Farm Production Standards
- 2. N+ Produce Aggregation Standards
- 3. N+ Produce Processing and Handling Standards
- 4. Wild Harvesting
- 5. Input Approval
- 6. Large Default/Converted Pesticide-Free Areas
- 7. Reciprocity with NPOP and PGS Standards
- 8. N+FFS Guarantee System (NGS)
- 9. Rules for the use of Zero Pesticide Use Logo
- 10. Overriding Rule

Sections & Standards

Explanation, associated action, and other additional information

I. Farm Production Standards

1. Conversion to N+FFS Zero Pesticide Use approach- Requirements and Prerequisites

Guiding principles

a. It takes many cropping seasons for a farm converted from conventional production systems to N+ 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 endow resilience against pests and other disturbances. Also, it takes a few cropping seasons for a farmer to comfortably adopt N+FFS approach in her/his farm, by learning through an iterative practice. Therefore, N+FFS needs to be practiced 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 N+ production methods approach in their farms, it is envisaged that farmers will appreciate and imbibe the importance of N+FFS approach and adopt it in their entire farms over the years.

1.1 If a farmer wants to join the N+FFS programme, 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 <u>The farmer needs to declare to the N+</u> <u>Farmers Group (NFG) and NFO all her/his</u> <u>plots allocated to N+ production methods</u> <u>and the date of last application of synthetic</u> <u>chemical pesticides. Farmers who already</u> <u>participate in the N+FFS programme but are</u> <u>now expanding the N+FFS approach to new</u> <u>plots also need to declare the last use of</u> <u>unallowed chemical pesticides in the new</u> <u>plots.</u>

- 1.3 <u>Farm land shall be free from pollutants such</u> <u>as industrial waste, etc</u>
- 1.4 <u>Each new farmer must attend a training</u> <u>session on N+ production and N+FFS ZPUAF</u> <u>Standards in the first year of registration.</u>

Key persons engaged at the farm shall be conversant with crop management standards to be followed.

1.5 <u>There is no conversion period</u> required for shifting from conventional system of production to the N+ system of production.

1.6 Split production: In the case of annuals, split production- (i.e.) adopting N+ 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 N+ production.

1.7 If 'split production' is followed by a farmer, she/he needs to take all necessary efforts to avoid contamination of pesticide-free plot and produce.	 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. Conventional fields need to be at sufficient distance from the N+ fields or must be separated by buffer zones to exclude the risk of drift. 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. Synthetic chemical pesticides should be stored in a safe way, 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 N+ production in the subsequent seasons. 1.9 If more than one crop is grown on a parcel of land, N+ production methods to be followed for all the crops, for any one of them to be considered N+. 	See the 'Guiding principle'.
1.10 <u>Parallel production (i.e.) growing,</u> <u>handling or storage of the same crop by</u> <u>pesticide-free production methods and by</u> <u>conventional methods by the same farmer is</u> <u>not allowed.</u>	Parallel production is to be avoided since there are high chances for co-mingling 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 N+ production methods, then the NFO should get the permission of the N+3F. If a farm is engaged in parallel production, the certification programme 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 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.	
	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	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.
	0.5 acre.	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 he resistant to paste 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 and 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							
	2.2 <u>Seeds and planting materials not treated with</u> <u>chemicals should be used as far as possible.</u>	1							
	2.3 <u>If chemically treated seed and planting</u> <u>materials are used, necessary treatment</u> <u>should be followed to remove the pesticides</u> <u>as much as possible.</u>	One option is washing the seeds pre- treated with pesticides in running water and to shade dry them before sowing.							
	2.4 <u>Genetically modified seeds and planting</u> <u>material (GMOs) are not allowed.</u>	The N+ 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 informed to the NPO. The NFO should educate the farmers on these methods.							
		No seed treatment with un-allowed 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 agricultural area should be leguminous in the crop rotation pattern. If there is any difficulty in practicing this in the N+ 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 N+ 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 manures, 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 N+ 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/dyes factories are located	
4.4 Chemical fertilizers can be used <u>judiciously</u> to meet the plant nutritional needs following <u>appropriate application methods, to avoid</u> <u>nutrient losses and susceptibility for pest</u> <u>attacks.</u>	Preference to be given to mineral fertilisers which are in their natural composition and not rendered more soluble by chemical treatment to avoid nutrient loss (E.g. Rock phosphate).
	Appropriate fertilizer 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 damages 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 ecosystem. It involves carefully designing and managing the whole farm system to achieve 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 the same. 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 needs 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 na	atural	The NFO, in consultation with N+
predators in and around crops like:		farmers, will identify contextually
a. companion planting, intercropping mixed cropping and	and	relevant ways to prevent pest infestation for each cropping pattern and farming system, and will promote

	 b. leaving field margins, hedges, windbreaks, and wildlife corridors uncultivated 	the same through the N+ package of practices.
	 5.2 Choose pest and disease resistant crops and 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 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. 	Few proven practices Deep summer ploughing: Summer ploughing by May – June immediately after the first showers exposes the pupae surviving inside the soil. Depth of ploughing should be more than six inches. Exposed pupae will die due to excess heat (or) 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 -7 PM to attract adult insect pests (E.g.: Red hairy caterpillar). Attracted adult insects will fall in 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.	120
	5.7 Use bio and other non-synthetic pesticides prepared using plants, animals, micro- organisms, and other materials, <i>preferably at</i> <u>the farm or in the location</u> , in a timely manner to control pest infestation.	Permitted products for plant pest and disease control listed in Annex 1 were adopted from the Revised National Programme for Organic Production (NPOP) Standards 2014.
	<u>Permitted products for plant pest and disease control are listed in Annex 1.</u> <u>For preparations sourced from outside, only use those approved by the NFO.</u>	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 N+ farm.
	5.8 <u>The use of synthetic fungicides, insecticides</u> and other pesticides is prohibited.	
	5.9 <u>The use of genetically engineered organisms</u> or products is prohibited.	

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5.10 <u>Appropriate measures (buffer zones,</u> <u>non-harvest zones, hedges/trees, non-</u> <u>spraying agreement with neighbours, etc.)</u> <u>must be taken to prevent drift/movement of</u> <u>unwanted chemicals to the N+ plot from</u> <u>conventional neighbouring fields.</u>

Risk of drift is identified in the beginning of the crop season for each N+ plot and timely efforts to prevent the same are taken proactively by the N+ farmer.

Buffer zones are areas around the N+ plots which are cultivated by buffer crops or are utilised for non-agricultural purposes like roads. Buffer crops are crops, which are different from the N+ 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 feet band of N+ 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 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,	The NFC	, in co	onsultatio	n with the N+
whiche	ever is c	onte	extual	ly relevant,	to control	farmers,	will	identify	contextually
weeds:						relevant	ways	of weed	management

	 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 	for each cropping pattern and farming system in their location, which involve low cost and less drudgery. These will be promoted through the N+ package of practices. Appropriate planting methods have to be adopted such that they aid in 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, to be given preference. 	Paddy straw and sugarcane leaves must be used for mulching instead of burning after 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 oth <mark>er non-synthetic weedicides,</mark> <u>prepared</u> preferably at the farm or in the <u>location.</u>	
	6.6 <u>The use of synthetic weedicides/herbicides</u> <u>is prohibited.</u>	
	7. Soil and Water Conservation Standards	

,
The NFO, in consultation with N+ farmers, will identify contextually relevant ways to prevent soil erosion in its location and promote the same.
 Identify and prepare threshing, winnowing and drying yard well in advance. Minimise movement of domesticated animals inside the drying yard. The machines and equipment used for harvesting and threshing N+ 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 to be considered 'conventional' (non-N+) and to be kept separately from that of N+ output.
A representative sample from each product lot/batch must be kept in a clean bags with adequate labelling.
Preferably potable water to be used.

8.4 Produce shall be brought to desired moisture level following the recommended practices.	Farmers to be guided about the ideal moisture content for different crops based on practical experience.
9. Storage of N+ Crop Produce by Producer	
9.1 <u>N+ produce should be stored separately</u> from conventional crops by the farmer to avoid co-mingling.	Dedicated storage facility with clear labelling to be used wherever possible. Pallets or raised platform to be used wherever possible.
9.2 The produce shall be stored as per the recommendation so as to maintain the quality of produce.	
9.3 <u>Bags and other packing materials used for</u> <u>storing N+ produce should be pesticide free.</u>	Bags to be used for storage has 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 <i>Vitex negundo</i>) can be used to manage insect pests and rodents during storage.	
9.5 <u>No synthetic pesticides and synthetic</u> <u>fumigants should be used to control storage</u> <u>pests.</u>	
9.6 <u>Prohibited products shall not be stored in the</u> proximity of the N+ 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.
proximity of the N+ produce. 10. Record keeping by Producer or Producer G	synthetic fumigants, petroleum products mosquito repellents, and chemicals used for domesticated animals like Notix mus not be kept inside the farm produce storage areas.

10.1 <u>Mapping of plots allocated for pesticide-</u> <u>free/N+ cultivation will be done indicating</u> <u>the cultivation methods followed in the</u> <u>surrounding fields, risk involved and the</u> <u>buffer areas allocated.</u>	To be done through individual farm diary or group-level farm diary. Records of preventive measures suggested and action taken must be kept at farm level.
10.2 <u>Records of sowing/planting/</u> <u>transplanting to be maintained.</u>	
10.3 <u>Records of inputs applied at various</u> stages of crop to be maintained.	
10.4 <u>The yield of produce from the verified plot</u> <u>shall be recorded.</u>	Care should be taken to do yield estimation at an appropriate cropping stage.
10.5 <u>All records should be made accessible</u> <u>during audit inspection.</u>	2
10.6 <u>Corrective actions for non-conformances</u> shall be undertaken and recorded.	Corrective Action Plan (CAP) and corrective action implementation record must be kept at farm level.
10.7 <u>All farmers shall maintain inventory</u> <u>records of certified produce for each season</u>	
<i>10.8</i> The records of previous two years shall be maintained	
II. N+ Produce Aggregation Standards	
1. Transportation of N+ Produce	

<i>1.1 <u>Packing materials used for procuring N+</u> <u>produce should be pesticide free.</u></i>	<u>It is recommended that</u> fresh bags be used for procurement to avoid contamination. Once the list of approved N+ 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, N+ produce and conventional produce should not be transported together (i.e.) 'part loading' should be avoided. If 'part loading' cannot be avoided, then the N+ products are to be transported in closed packaging or in containers.	Transport vehicle will be inspected for cleanliness before loading N+ produce.
2. Storage of Aggregated N+ Produce 2.1 <u>All N+ produce should be stored separately</u> <u>from conventional crops to avoid co-</u> <u>mingling.</u>	Plastic or untreated wooden pallets to be used.
2.2 N+ 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 N+ products in storage is essential to avoid comingling. 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 use of leaves of neem and <i>Vitex negundo</i> 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 are susceptible for 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 hygienic environment. Records on planned cleaning schedules and their adherence to be maintained.	
2.6 <u>No synthetic pesticides and synthetic</u> <u>fumigants should be used to control storage</u> <u>pests.</u>	Chemical fumigants like Aluminium phosphide, Methyl bromide, Ethylene Oxide or UV/gamma radiation etc. should not be used.
2.7 <u>Proper inventory records should be</u> <u>maintained to document inward and outward</u> <u>flow of goods from storage areas.</u>	Inventory records are essential for the traceability of the N+ produce.
III. N+ Produce Processing and Handling Star	ndards
Guiding Principles:	
N+FFS strives to make available foods that are wh high quality.	olesome, authentic, unadulter <mark>ated, and of</mark>

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 N+ 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 N+ 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

The operator must develop an N+ produce	(i) A list of each substance/input used
procurement, production, and handling plan.	during production, storage, and handling

		<u>,</u>
	An N+ produce procurement, production, and handling plan must include:(i) Description of practices and procedures to be performed, including SOP and process flow chart.	indicating its composition, source, locations where it will be used and documentation of commercial availability as applicable need to be included in the
	(ii) Risk assessment and identification of pollution sources.	 plan. The approved ingredients and additives used in the food processing of N+
	(iii) Description of practices and procedures to be followed while procurement and storage of raw materials.	products can be found in Annex – 2 (A) & (B).
	(iv) Description for decontamination, cleaning, or disinfections of all facilities where N+ products are kept, handled, processed, or stored.	means and measures to be allowed.
	(v) Description of pest prevention and pest control at different parts of the unit.	0
	(vi) Description of the management practices and separation measures established to prevent the commingling of N+ and non-N+ products during processing and handling after processing.	
	(vii) Description of sampling procedures followed for testing of produce.	1
	(viii) Description of packaging and labelling procedures followed for the processed produce.	1000
	(ix) Description of procedures followed for storage and transport of processed produce.	EUS SA
	(x) Description of personal hygiene procedures followed.	
	(xi) Description of the monitoring practices and procedures followed and maintained to verify that the plan is effectively implemented.	
	(xii) Description of the record-keeping system implemented to comply with the requirements of ZPUAF Standards.	
	2. N+ Raw Materials Procurement, Storage, and Handling Standards	
	A. Procurement/Aggregation/Collection Standa	irds
	(i) The N+ products are to be procured from certified pesticide-free farms/operators. (ii) Part-loading during procurement is to be avoided.	(i) Procured raw materials should be tested for unallowed chemical substances by the processor or the producer/seller.

 (iii) Clean packing materials (bags) to be used for procuring the raw materials. (iv) Procurement register is to be maintained by the processor with the minimum required details such as the name of the seller, name of the product, quantity procured, condition of the product (moisture content, grade, packed/labelled, form (dried, fresh, semi-dried, etc.), the rate at which procured, etc.). 	 (ii) The N+ 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, N+ products and non-N+ products are to be packed separately to avoid any commingling from each other. N+ raw material to be labelled properly to distinguish from other packages/materials.
 B. Standards for storage and handling of N+ ra B.1. <u>Storage Standards for N+ raw materials</u> (i) If the operator is handling both N+ and conventional raw materials, storage areas should have designated areas to segregate N+ materials, so that they can be easily cleaned and maintained to prevent contamination and deterioration. (ii) Storage areas should be kept clean, well-ventilated, lighted, and dry. (iii) Pest control should be compliant with the standards prescribed under III - N+ Produce Procurement, Processing, and Handling Standards; 2-Pest Control. (iv) Stock register is to be maintained with the minimum required details such as product name, available quantity, quantity used for processing, balance quantity, etc. 	 w materials (i) N+ materials should be stored off the floor on pallets or in racks and away from walls and ceilings. (ii) Rows of stored materials should be spaced to allow cleaning and inspection. (iii) N+ 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.
 B.2. <u>Handling Standards for N+ raw materials</u> (i) The N+ raw materials should be handled without cross-contamination from conventional products and other unallowed substances. (ii) The N+ raw materials should be used by date to avoid the expiration of the stock (first-come-first-go basis). (iii) Ingredients, packaging supplies, and other materials should be used on a first-come-first-go basis. 	 (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 to be decided so that storage of raw materials for a long duration in the unit can be avoided. (ii) Single-point entry and single-point exit to be followed.

(iii) Partially used pesticide-free materials should be adequately sealed or protected before being returned to storage.

(i) Suitable pictorial charts in a local

language can be used.

3. N+ Produce Processing & Post-processing Handling Standards

A. 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.1. 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) <u>All equipment is cleaned before and after</u> <u>N+ processing/periodically.</u>

The in and around surroundings of the facility are cleaned daily and/or periodically.

A.2. Cleaning Methods Standards

(i) Allowed substances/techniques and practices for cleaning and hygiene are:

- 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 N+ product integrity.

Ultra-violet radiation to prevent mould growth on the surface of the dough and baked goods.



 A.3. 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 sanitizers 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.	
1.3 <u>A.4. Standards for Cleaning the Premises/</u> <u>Facility</u> (i) Always rinse off remaining disinfectants and sanitizers with water (which is close to drinking water standards) to prevent residues left on the surface from contaminating the N+ products. (ii) No use of unallowed substances on contact surfaces that could taint or contaminate N+ products.	(i) Only use alcohol wipes that do not leave any residue after the alcohol has evaporated.	
 A.5. 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 N+ 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 N+ 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 N+ 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 N+ product will be used and showing how this will remove all conventional material. 	
<u>(ii) Dry run to be done.</u> <u>(iii) Clean all surfaces that may be in contact with</u> <u>N+ products before the start of production.</u>	 (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: 	

(iv) Clean after the production process to prevent the build-up of residues or micro- organisms that could contaminate the product.	 Boxes in the machine Corners in the shoots Elevator buckets Silos
	(iii) Air blower can be used for effective cleaning inside the machine.

B. 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, ultra-sound, 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 1 as a last resort.

(i) Application of synthetic chemical pesticides (i) Regular inspection of N+ products or and fumigation using them are not allowed. bags shall be done to find out the pest attack. (ii) Irradiation is prohibited. (ii) Examples of techniques to ward off (iii) There shall never be direct or indirect contact pests in processing units are: between N+ products and prohibited substances. (e.g., chemical pesticides). • 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.



C. Ingredients

Guiding Principles:

100% of the ingredients used in processing shall be N+ except where an N+ ingredient is not available in sufficient quality or quantity, non-N+ ingredients may be used to a minimum extent only in case of essential technological need or for particular nutritional purposes. Such non-N+ raw materials shall not be genetically engineered. The accredited Certification Body may authorize the use of non-N+ raw materials subject to periodic re-evaluation.

Standards for ingredients

(i) The same ingredient within one product shall not be derived both from an N+ and non-N+ origin.	(i) For the production of enzymes and other micro-biological products, the medium shall be composed of N+
(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 N+ products.	6
 (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 severe dietary or nutritional deficiency can be demonstrated. (v) Ethylene gas is permitted for ripening. 	

D. Processing

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Guiding Principle:

Processing methods should be based on mechanical, physical, and biological processes. The vital quality of an N+ 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.

 (i) The following kinds of processes are approved: Mechanical and physical Biological Smoking Extraction Precipitation Filtration 	 Suitable processing methods that do not result in a loss of nutritional value to be adopted. Methods to avoid/reduce the presence of Aflatoxins to be followed.
 (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 which may negatively affect the product. (iv) Irradiation is not allowed. 	
D.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	 (i) Equipment made of food-grade stainless steel is to be used wherever possible. (ii) Boric acid usually used in paddy processing is not allowed in N+ paddy.
macmine.	(iii) In grain processing, maintain an optimal level of bran percentage to retain nutritional benefits.

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 taken 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 N+ 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.

F. Packaging

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 N+ foodstuffs are given in Annex 3. 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 N+ product being carried in the package. (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

(ii) The accredited Certification Body shall approve	cannot be achieved without manipulation
the packaging material for use.	or damage of the seal.

G. Labelling

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. (i) Name and address of the last handler to be indicated.

(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, which influence the product properties in a way not immediately obvious.

(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 "N+" when all standard requirements have been met.

(ii) Multi-ingredient products where not all ingredients, including additives, are of N+ origin may be labelled in the following way based on their share in the raw material weight:

a) <u>Where a minimum of 95% of the</u> <u>ingredients are of certified N+ origin,</u> <u>products may be labelled "certified N+"</u> <u>or similar and should carry the logo of the</u> <u>certification program.</u>

(i) Added water and salt shall not be included in the percentage calculations of N+ ingredients. For aquaculture products, the use of iodized salt shall be referred to on the labels.

(ii) Additional product information shall be

made available on request.

(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 N+-certified origin and which are not. All additives shall be listed with their full name.
b) Where less than 95% but not less than 70% of the ingredients are of certified N+ origin, products may be labelled as "made with N+ ingredients" provided there is a clear statement of the proportion of the N+ ingredients.

- An indication that the product is covered by the certification program should be used, close to the indication of the proportion of N+ ingredients.
- c) Where less than 70% of the ingredients are of certified N+ origin, the indication that an ingredient is N+ may appear in the ingredients list. Such a product may not be termed as "N+".

(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) N+ 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 N+ 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.

H. Storage and Transport of N+ Processed Product

Guiding Principles

Product integrity should be maintained during the storage and transportation of the processed N+ products. Processed N+ 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 N+ farming and handling.

Standards for storage and transport of processed products

(i) Transport N+ products in vehicles that are suitable for them.

 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 N+ products should be stored and handled separately with necessary labelling to maintain their identity. (iii) Storage areas, loading equipment, vehicles, and transport containers for N+ 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 - 1. (v) Transport N+ products in closed packaging or containers. (vi) Outgoing register is to be maintained. (vii) The processed N+ products should be transported by date to avoid the expiration of the stock (first-come-first-go basis). 	 Transport chilled of frozen N+ 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 N+ materials should be protected from pests, condensates, drains, sewage, dust, dirt, chemicals, or other contaminants. Slip curtains or air curtains can be used. (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.
I. Personal hygiene of staff engaged	
Guiding Principles The employees/staff coming in direct/indirect contac need to follow a set of personal hygiene protocols/sta	t with the N+ product in the processing unit andards to ensure product quality.
Guiding Principles The employees/staff coming in direct/indirect contact need to follow a set of personal hygiene protocols/sta Standards for personal hygiene (i) All employees must wash their hands and keep them clean	t with the N+ product in the processing unit andards to ensure product quality. (i) All employees must wash their hands and keep them clean during the following (at least) times: -
Guiding Principles The employees/staff coming in direct/indirect contact need to follow a set of personal hygiene protocols/state 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.	 (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

	 with single-use gloves. N+ product handlers with bandages may be assigned to jobs that do not involve N+ product contact. iv) Eating, drinking, and smoking in the processing area is prohibited. 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. 	 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: - 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. 	
	 IV. Wild Harvesting Harvesting any species defined as 'critically endangered' in the IUCN red list (The World Conservation Union) (www.iucn.org) is not allowed. Products can only be approved as 'N+' if derived from a designated area for collection, clearly depicted in the map of the authorized area of collection by the forest department or state department, which is subject to inspection. <u>Wild harvested products shall only be certified 'N+' 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.</u> <u>Not be spraved with any synthetic chemical pesticides</u> 	 Wild harvested products are those products which 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 	

 <u>Be at least 10 metres distance from</u> <u>conventional farms or areas sprayed with</u> <u>unallowed products</u> processes are in accordance with the ZPUAF Standards.

- <u>Be at least 50 metres from highways and</u> <u>railroads and</u>
- <u>Be at a suitable distance from any other</u> source of pollution or contamination

V. Input Approval 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).

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, the depletion of natural resources.

What are 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)?	NIL ST
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: -

(i) The inputs used in zero pesticide use 1. The material is essential for achieving or agriculture and foods must not be maintaining soil fertility or to fulfill specific produced by or from GMOs and must be nutrient requirements, for specific soilbased exclusively on raw materials listed conditioning and rotation purposes which as compliant. (ii) The use of the input must not result in, cannot be satisfied by the on-farm practices or contribute to unacceptable effects on, mentioned in the Zero Pesticide Use or contamination of, the environment, Agriculture and Foods standards or of other including soil organisms. products included in the appendices of PF Standards. (iii) The use of the input must not have 2. The ingredients must be of plant, animal, any unacceptable effects on the quality

and safety of the final product.

- The ingredients must be of plant, animal, microbial, or mineral origin which may undergo the following processes: -
 - Physical (mechanical, thermal)
 - Enzymatic
 - Microbial (composting, digestion)

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 alternatives and/or effective breeding management techniques are not available.
- 2. The substances (active compound) must be 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 foods production, making it increasingly beneficial for humans, animals, the environment, and the ecosystem.

1. Necessity

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

2. Nature and Method of Production/Collection

2.a) Nature:

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.
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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	If there are any risks, sufficient measures
organisms and inputs that have, or are suspected of	have to be taken to reduce any risk to an
having mutagenic or carcinogenic properties must	acceptable level and to prevent long-
not be used.	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. 4. Human Health and Product Quality 	 (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.a) Human Health	
a) Inputs must not be harmful to human or animal health.	Measures must be taken to reduce any risks and standards are to be set for inputs used in zero pesticide use agriculture.

 b) All stages during processing, use, and degradation must be taken into account.

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 pesticidefree, 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:	(i) The documents sent must be signed by a person properly authorized to sign.
a) Application documents: Request for	(ii) By signing the documents listed, the
Certification, Input list, Product and	operator accepts all the requirements and
Ingredient Composition of the inputs, and	obligations contained in the N+3F
Supplier list of ingredients.	certification documents.
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.	

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.	(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
In particular, the evaluator assesses:	for compliance.
 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. 	(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 below table presents the criteria to be followed: -

Diek Fester	Bick Factor Score		Notos	
RISK Factor	1	2	Notes	
Raw material (GMO Risk)	Animal origin	Vegetables, algae, mycorrhizas, and products of fungal origin	11	
Non-conformity detected in the previous year	Minor NC & AFI	Major NC		
Company size	Micro and small enterprise	Medium enterprises and large companies	Defined case by case	
Nitrogen (N) fertilizers	N < 3%	N > 3%	Decided by mandatory analysis	
Pesticides	- 44	For each product	Decided by mandatory analysis	
	Frequency Contro	ls	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 inspen who has the appropriate absence of conflict of in etc.); the selection of	ctor to carry out the e requirements (qu iterest, language co the inspector is a	e visit and alification, onfidence, 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.
- 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.



	a)	The evaluator reviews the completeness of the documents, specifically:	The conformity evaluation can also be extended to the requirements of the main
		1. Inspection Report	agriculture (e.g., Bio EU 848/18,
		 Non-Compliance Report (if any) Test Report (if any) 	requirements and limitations foreseen by
		4. Additional inspection for NC closure verification, if any	account. When the evaluation is compliant a note "In compliance with
		5. Labels and advertising projects	will appear on the certificate.
	b)	If the evaluation is positive, the evaluator proposes certification to the Certification Manager/Committee for the issuance of the Certificate of Conformity.	
2	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.	SE A
1	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.	

Certification	Resolution:	The	evaluator's	(i) The certification decision may include
certification prop	oosal is submitte	d to the	Certification	the request for correction of minor Non-

	 Manager/Committee who, if he/she/they approve it, will issue the Certificate of Conformity, by 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. 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. 	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 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.
	 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 XXXXXXXX (control code N+3F YYYYYY) Composition: XXXXXXXXXXXXXXX and other mandatory information Suitable for use in zero pesticide use agriculture and related activities, according to "N+3F- Input Standard" of Nature-Positive Farming and Wholesome Foods Foundation.
	a) To maintain compliance, the operator shall:	All of the operator's locations must be accessible to the N+3F inspector in

- ✓ 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.
- 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 sublicensees 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

charge of inspections (and Accreditation personnel, if any).



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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 license extension are available:	20022
 ✓ 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: 	~ 1
 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	y System
1. Non-Compliance/Non-Conformity – definition	
 ✓ Failure to comply with a requirement (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	

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	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.	
1	 Minor NCs must not be prolonged and must not be due to deceptive or fraudulant behaviour or the intention 	
1	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	115- 00
-11	✓ 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.	KAN.
111	✓ 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.	23
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 	

major NC after 36 months from the previous one, it is not counted in the sum. Reiteration does not apply to noncompliance that is not the responsibility of the operator. 5. Termination – definition \checkmark 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. VII. Certification of Large Default/Converted Pesticide-Free Areas

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

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 patch 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 To qualify for large area certification, all the farmers will be treated as one group. the farming members of the patch, subvillage, or village should be following pesticide-free production protocols that ZPUAF comply with Standards, regardless of the crops. 3. Those areas are preferably geographically Village councils or Gram Panchayats isolated from conventional agricultural areas and need to corroborate the practice of have to be separated by effective natural barriers pesticide-free agriculture by the farmers such as hills, non-agricultural land, the sea, rivers, in the designated patch, sub-village, or forests, or any other effective barrier. village. 4. Documentation of the entire area, including geotagged 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 If there is a functional farmers' ensure that all the growers undertake the pesticideorganization anchoring the pesticide-free free pledge and sign the pledge and patch-wise or agriculture initiative, then the office sub-village-wise application form. bearers of the organization selected by 6. Once all the farmers sign the pledge and the member farmers will endorse the application, it needs to be endorsed by the patch or application. village lead farmer. This leader has to be selected by the member farmers in the group with the facilitation of NFO.

	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.	0
	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 programme, 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 the same or near the 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 are no synthetic chemical insecticides or herbicides 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 'one patch/village one group' 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 which need to be signed by all the individual farmers and by the officer bearers or group leader.

7. Request the necessary authorities to issue relevant documents to prove that the area has been free of synthetic pesticides and herbicides 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/subvillage/village-wise or Gram Panchayat-wise.

9. Facilitate formation of 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/subvillages in coordination with the peer and ensure their implementation. (i) Submit applications from all the villages and Gram Panchayats in the region, if certification is planned for more than one patch or village.

(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: - \checkmark 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/subvillage. 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 vear. Facilitate Focus Group Discussions (FGDs) with groups of farmers of all the patches/subvillages. 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 or 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.



VI. Reciprocity with NPOP and PGS Standards

N+FFS ZPUAF Standards will be considered <u>reciprocal</u> to NPOP and PGS Standards. Products certified 'Organic' or 'Under conversion to

organic' by any Accredited Certification Agency as

This is because all the farms certified as 'Organic' or as 'Under conversion to organic' comply with the N+FFS ZPUAF Standards. For these farms, verification of the required

per NPOP and PGS Standards will be accepted as	organic certification documents will be taken
an N+ product.	up.

VIII. N+FFS Guarantee Systems (NGS)

This is a guarantee system for a farmers' organisation or a development agency facilitating adoption of N+FFS approach at the grassroots (hereafter called N+FFS Facilitating Organisation (NFO)). The compliance to N+FFS ZPUAF Standards is guaranteed by the NFO by working closely with participating N+ 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) preparation of ICS/ INGS Manual, (ii) evolving internal ZPUAF standards and (iii) risk assessment
- 2. Implementing the ICS/ INGS, which in turn involves,
 - a. Pledge by N+ farmers
 - Peer review/internal assessment system of compliance to the N+FFS ZPUAF Standards and
 - c. Corrective actions to address non-compliance in a timely manner
- 3. External re-assessment of the internal assessment system
- Testing the N+ produce in an accredited lab following FSSAI protocols to know the presence of pesticide residues.
- 5. N+ Certification
- 6. Use of N+ logo

Pre-requisites of NGS

- 1. All the farmers participating in N+FFS program should be organized into or be a member of an existing functional group like 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 land holding below 4 hectares or 10 acres) mobilized based on solidarity, mutual familiarity, proximity of their land holdings, and ease of face-to-face meetings.
- These groups should agree to be <u>formally guided</u> by an N+FFS Facilitating Organisation (NFO)-which is a registered farmers' organisation formed by federating

NFGs-or by 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 developed by the N+3F, ii) improvising some of the N+FFS ZPUAF Standards based on the contextual requirements in consent with N+3F, iii) capacity building of farmers on adopting contextually relevant N+ methods in their farm, iv) aggregation, storage, cleaning, grading, processing, and marketing of N+ produce and v) running the N+FFS Programme, including the ICS/INGS for N+FFS.
- 5. NFO will be accredited by the NPO. As part of this, NFO needs to have an agreement with the N+3F for guidance and support.

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

1) <u>All the farmers who wish to practice N+</u> production methods need to apply to the NFG and <u>NFO at least 15 days before the cropping season</u>. This application will have information on location of the farm and its area, the N+ and conventional crops planned, their area, commitment to follow N+FFS approach and adhere to the modalities of NFG & NFO, including participating in the training sessions and meetings, co-operating for field inspection and payment for services rendered. <u>This application to</u> join the N+FFS Programme needs to be renewed every cropping season.

2) <u>The NFG needs to approve the application from</u> the interested farmer based on the ZPUAF Standards in place and enrol her/him in the group.

3) <u>The NFG needs to make an Enrolled Farmers List</u> (EFL) and submit it to the NFO every cropping <u>season</u>. The EFL will provide details of the location of each farmer, farmer wise and crop wise area and yield estimates for N+ production and the expected marketable surplus. NFO will consolidate the EFL received from all the NFGs supported by it at the location and organisation level and will share it with the N+3F.



1) Each NFG should undergo a training and extension programme, which will build the capacity of N+ farmers and the NFG to adopt N+ practices and ZPUAF Standards.

 Prescriptive action(s) to be taken for non-compliance based on the degree to which it compromises N+FFS ZPUAF Standards will be given by the NFO to each NFG during the training. N+ farmers face many challenges in N+ production, including that of emerging crop pests and diseases like Fall armyworm. There should be a continuous process of capacity building and delivery of advisory services to the farmers to enable them to adopt N+ practices effectively. Specific efforts are needed to facilitate cross learning between the farmers.

Standards for the Farmer's Pledge

- 1) <u>Every farmer enrolling in the N+FFS Programme must</u> <u>take a pledge in the NFG meeting following the</u> <u>process specified by NFO.</u>
- 2) <u>The content of farmer's pledge should contain all the</u> <u>relevant internal ZPUAF Standards developed by the</u> <u>NFO based on the generic ZPUAF Standards</u> <u>developed by the N+3F.</u>
- 3) The pledge should be in a language which can be understood by the farmers in the group.
- 4) Every member in the NFG should have a copy of the farmer's pledge.

The farmer's pledge is a declaration of the promises by an N+ farmer regarding the farming practices she/he intends to adopt in her/his farm. It is an important document, as it serves as the proof of commitment of the farmer to the concept of N+FFS.

The process of taking a farmer's pledge is equally important as its content.

Standards for Peer Review / Internal Assessment System

- 1) <u>100 % of all farms will be audited by the NFO every</u> <u>cropping season through a defined peer review/</u> <u>Internal Assessment System procedure involving</u> <u>regular meetings and farm visits in coordination with</u> <u>each NFG.</u>
- 2) The farmer shall offer all the needed support for inspection of her/his farm by fellow farmers, N+FFS Programme staff and agencies deployed by the NFO and share the necessary details.
- Based on these measures, a list of farmers who have complied ZPUAF Standards will be identified by the NFG. NFG will prepare a Provisional Approved Farmers List

100% internal assessment of all N+ farms is essential since the risk component in N+ systems of production is very high as split production is allowed and there is no conversion period.

The INGS should ensure that possible risks should be avoided at all stages, including production, harvesting, threshing, storage, transportation, and processing. (PAFL) by the end of every crop season just before harvest and share it with the NFO.

- 4) The NFO will review the AFL submitted by NFG and will approve it.
- 5) The records of peer review/internal assessment will be available for external re-assessment.

Standards to address non-compliance issues and for corrective actions

- I) If there is any deviation from or non-compliance with the ZPUAF Standards, the farmer should inform the N+ group and NFO staff and should not sell the harvested crop as 'N+ produce.'
- 2) <u>All the non-compliances need to be properly recorded</u> in the internal and external assessment process.
- 3) <u>Appropriate action needs to be taken for non-</u> compliance by the NFG in consultation with the NFO.
- 4) <u>Major non-compliances observed in every peer review/</u> <u>internal assessment cycle for every crop by NFG</u> <u>across the location/Programme must be compiled,</u> <u>summarized, and informed by the NFO to the N+3F.</u>

Non-compliances offer a window to understand the constraints faced by the N+ farmers and have to be looked at with necessary perspective. The potential to improve the N+FFS 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.

Standards for external re-assessment

- <u>The N+FFS Programme of the NFO will be externally</u> <u>re-assessed for every cropping cycle by an agency</u> <u>authorized by the N+3F.</u> A sample of the farmers will be re-assessed along with a complete evaluation of the peer review/internal assessment system followed by the NFO.
- Samples will be drawn at appropriate points in the product chain during external re- assessment following standard protocols set by the N+3F.
- 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.
- 4) The external re-assessment report will be submitted by

The purpose of external reassessment is to check the effectiveness and the capability of the NFO to

- 1) Verify compliance of every farmer in the Provisional Approved Farmers List (PAFL) to the ZPUAF Standards
- 2) Identify non-compliance and suggest suitable actions
- 3) Effectively assess whether appropriate corrective actions are implemented

the inspecting agency to the Certification Committee of the N+3F, which will evaluate the same along with the non-compliance report from the NFO and the food safety test report.

5) <u>The N+3F will issue the N+ Certificate to the NFO on</u> its compliance with all the ZPUAF Standards for the concerned year. properly by NFGs

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. However, all samples will be stored in the sample storage room at the N+3F.
- 2) The N+ foods will be tested for pesticide residues as per the <u>Maximum Residual</u> Limits (MRLs) of Insecticides in Organic Foods specified by Jaivik Bharat, Government of India.,
- 3) The foods will be tested for heavy metals and mycotoxins as per the limits specified in the <u>Food Safety</u> and <u>Standards</u> (Contaminants, Toxins and <u>Residues)</u> Regulations, 2011, Government of India.
- For sampling and testing, protocols set by the N+3F will be followed.
- 5) Testing of food samples will be done in FSSAI notified laboratories identified by the N+3F.

IX. Rules for the Use of Zero Pesticide Use Logo

All products conforming to ZPUAF Standards can be labelled with the "Zero Pesticide Use Logo" as below:



The logo can be applied to those products which proved conformance through the inspection program and the tests.

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.

Zero Pesticide Use Logo has to be applied to identify and differentiate N+ products from other conventional products.

This logo can be applied to packaged products and also to the labels on the bulk packing.

X. Overriding Rule

There are groups of farmers and tribal communities which conform to the ZPUAF Standards but do not follow documentation of all the processes required to prove during an external assessment.

Under such circumstances, an appropriate method of external assessment will be followed by the N+3F to assess such farmer's/tribal groups, and if found compliant, then such groups can be approved as 'N+ compliant groups' to supply N+ products.

Concerned tribal communities may avail the support of external agencies for documentation and record keeping.

Annex 1A:

List of Products for Use in Fertilizing and Soil Amendment

	SI. No.	Name (Products composed of or containing only substances listed below)	Description, conditions, and specific limits		
	Ι	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 which have undergone composting or anaerobic fermentation for biogas production		
	5	Straw and other mulches			
	6	Vermicasts			
100		Do-It-Yourself Bioformulations			
	a)	Soil Fertility Enhancers:			
		Product	Ingredients		
	1	Sanjeevak/Amrithpani	Cow dung, Cow urine, and Jaggery		
A	2	Ghanajeevamruth	Cow dung, Cow urine, Jaggery, and Pulses/Basen powder		
	3	Bakramruth	Goat manure, Oilseed cake/Mahua cake, and Ash		
	4	Pranamruth	Poultry manure, Oilseed cake/Mahua cake, and Ash		
1.20	5	Gajaramrith	Parthenium, Alum, and Rock salt		
1.12	6	Fermented liquid plant fertilizer	Parthenium, Available plants, and Jaggery		
	7	Jadam microbial solution	Soil, Salt, and Boiled mashed potato		
	b)	Seed Treatment Formulations:			
	1	Beejamruth	Cow dung, Cow urine, Cow dung cake, Soil, and Lime		
	2	Beejraksha	Cow urine, Turmeric powder, Asafoetida, Ash, and Soil		
	3	Coating for bold-seeded crops	Cow dung, Cow urine, Cow dung manure, Ash, Termite mound soil, and Jaggery		
	4	Cow milk			
	c)	Growth Promoters:			
	1	Shri Amrith/Saptadanyankur tonic	Pulses, Wheat, and Black sesame		
	2	Fish amino acid	Fish and Jaggery		
	3	Fermented plant juice	Mugwart/Water amaranth/Bamboo shoot		
-	4	Oriental herbal nutrient (OHN)	Ginger, Garlic, Cinnamon, Licorice, Angelica, and Jaggery		
	5	Uplamrith/Gibberellic acid	Cow dung cake		
	6	Egg amino acid	Egg, Lemon, Jaggery, and Detergent.		
-	d)	Broad Spectrum Biostimulants:			
	1	Jeevamrutha	Cow dung, Cow urine, Soil, Jaggery, and Pulses/Basen powder		

-			Cow dung Cow urine Cow milk Curd Ghee Tender		
	2	Panchagavya	coconut, Jaggery, and Banana/Fruits		
	3	IMO	Cooked rice		
	4		Cow dung, Cow urine, Cow milk, Flesh and bone		
	4	Kunapajala	marrow of animals with horns, and Honey		
	5	Dasagavya	Cow dung, Cow urine, Cow milk, Curd, Ghee, Neem leaves, Vitex, Leucas aspera, Lantana camera, Datura, Calotropis, Jatropa, Adathoda, Tender coconut, and Banana/Eruits		
	6	Compost too	Compost		
	0		Compost		
	/	Vermiwash	Vermicompost		
	П	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)			
R	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 		
N.	5	Fish and fish products without preservatives	CALL CONTRACT		
	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 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			

ZERO PESTICIDE USE AGRICULTURE & FOODS STANDARDS, NATURE-POSITIVE FARMING & WHOLESOME FOODS FOUNDATION

	0	Dest with out swith sting additions	- Prohibited for soil conditioning.
	8	Peat without synthetic additives	- Use infinited to norticulture (norticultural crops, floriculture, arboriculture, nurseries).
	9	Sawdust, wood shavings, and wood	
		Seaweed and seaweed products	
	10	obtained by physical processes,	
		and/or alkaline solution	Contract the second
-	11	Urban composts from separate sources	
	12	that are monitored for contamination	
	12	Compost and spent mushroom and	Mushroom media waste that has been composted before
	13	vermiculate substances	or after mushroom production.
		By-products from oil palm, coconut,	
	14	bunch, palm oil mill effluent (pome).	Must not contain prohibited materials.
		cocoa peat, and empty cocoa pods)	
	15	By-products of industries processing ingredients from organic agriculture	Must not contain prohibited materials.
1	16	Compost tea	Made from compost with manure feedstocks or allowed non-manure feedstock that has been fully composted.
1000	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
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- Synthetic extraction process is limited to the use
		Synthetically extracted aquatic plant	the solvent amount used is limited to that
	10		amount necessary for extraction.
	19	products	- Aquatic plant products are prohibited if they
			formaldehyde, or are fortified with otherwise
		. W. C.	prohibited plant nutrient sources.
	20	Diant on animal ask	- Ash from plant and animal sources only.
	20		prohibited materials are prohibited.
		Car Car	- Wood ash must be produced exclusively from
	21	Wood ash	- 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 un-composted 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 extraction 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 is 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. 				
-	ш						
-	111	winierais (to be used as per recommen	Allowed chemical fertilizers by the Government of				
	1	NPK fertilizers	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					
1	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. 				
14	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 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 onfarm generation of sulfurous acid as a soil 				
			amendment.				
Ē	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 (CoSO4), cobalt carbonate (CoCO3), 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 Fe2 O3), iron sulfate (FeSO4 or Fe2 (SO4)3), iron carbonate (FeCO3), iron silicate, and iron tartrate.
29	Molybdenum products	Includes sulfates, carbonates, oxides, or silicates of molybdenum.
		The second second second second
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
		10 100
	Other sources	
1	Homeopathic preparations	Must be composed entirely of allowed materials

•	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 1B: List of Products 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. Dature 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 (manages 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) <u>Primarily insecticides</u>
1. CVR technique (Chintala Venkat Reddy technique).

b) **<u>Primarily antimicrobials (manages diseases)</u>**:

- 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 pests, 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 nonsynthetic 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 pests, 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 pests, weed, and disease management practices have failed.
- 10) Non-synthetic Spinosad An active insecticidal ingredient derived from *Saccharopolyspora spinosa* may only be used if the use of preventive, mechanical, physical, and other pests, weed, and disease management practices have failed.

II) <u>Minerals:</u>

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, 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 which 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-ethylene diamine 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) Bio pesticides May only be used if the use of preventive, mechanical, physical, and other pests, weed, and disease management practices have failed.
- 6) Microbial products May only be used if the use of preventive, mechanical, physical, and other pests, weed, and disease management practices have failed. <u>Prohibited</u> 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 pests, weed, and disease management practices have failed.

IV) Others

- Vitamin D₃ 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.
- 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 non-recycled or non-biodegradable 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 such that it is not possible to effectively be removed.

- 10) Natural acids May only be used if the use of preventive, mechanical, physical, and other pests, weed, and disease management practices have failed.
- 11) Peracetic acid/Peroxyacetic acid Also called periacetic 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 pests, 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 pests, 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 pests, 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 pests, 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, 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 pests, weed, and disease management practices have failed.

V) <u>Traps</u>

 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 2A:

Food Additives Including Carriers for Use in Production of Processed N+ Food

International	Product	Prepara	ation of	Conditions for use
Numbering		food pr	oducts	
System		Plant	Animal	-
		origin	origin	
INS 170	Calcium carbonate	~	\checkmark	Not for use for
	and the second s			colouring/calcium
				enrichment of products
INS 220	Sulphur dioxide	\checkmark	\checkmark	For fruit wines without
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			added sugar
INS 270	Lactic acid		\checkmark	For concentrated fruit /
				veg. juice & fermented veg.
				products
INS 296	Malic acid	\checkmark	-	
INS 290	Carbon dioxide	\checkmark	\checkmark	1
INS 300	Ascorbic acid	\checkmark	\checkmark	For meat products
INS 306	Tocopherols, mixed,	2	2	Antioxidant for fats and
	natural concentrates	v	•	Oils
INS 322	Lecithin	1	~	For milk products (to be
				obtained without use of
	The second se		1 mar 1	bleaches and organic
			1.000	solvents)
325	Sodium lactate		\checkmark	For milk based and
N			1.1.1	meat products
INS 330	Citric acid	\checkmark	\checkmark	For concentrated
				fruit/veg. Jam, fermented
				veg. product
INS 331	Sodium citrate	\checkmark	Sec. 7.	
INS 333	Calcium citrate	\checkmark	1	13
INS 334	Tartaric acid	\checkmark		
INS 335	Sodium tartarate	\checkmark		
INS 336	Potassium tartarate	\checkmark		
INS 341	Mono calcium			For raising flour only
	Phosphate	.v		,
INS 400	Alginic acid	\checkmark	\checkmark	For milk-based products
INS 401	Sodium alginate	\checkmark	\checkmark	For milk-based products
INS 402	Potassium alginate	\checkmark	\checkmark	For milk-based products
INS 406	Agar	\checkmark	\checkmark	For milk based and
				meat products

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INS 407	Carrageenan	\checkmark	\checkmark	For milk products
INS 410	Locust bean gum	\checkmark	\checkmark	
INS 412	Guar gum	\checkmark	\checkmark	
INS 414	Arabic gum	\checkmark	\checkmark	
INS 415	Xanthium gum	\checkmark	\checkmark	
INS 422	Glycerol	\checkmark		For use in plant extracts
INS 440	Pectin	\checkmark	\checkmark	For milk-based products
INS 464	Hydroxy propyl methyl Cellulase	\checkmark		For encapsulation material for capsules
INS 500	Sodium carbonate	\checkmark	√	For milk product Substances
INS 501	Potassium carbonate	\checkmark		For drying of grape Resins
INS 503	Ammonium carbonate	\checkmark		C
INS 504	Magnesium carbonate	\checkmark		
INS 509	Calcium chloride	\checkmark	\checkmark	For milk coagulation
INS 516	Calcium sulphate	\checkmark		Restricted; For use only as carrier
INS 524	Sodium hydroxide	√	1.000	the sea of
INS 551	Silicon dioxide	\checkmark	1	Anticaking agent for herbs & spices
INS 553	Talc	\checkmark	128	Coating agent for meat Products
INS 938	Argon	\checkmark	\checkmark	
INS 939	Helium	\checkmark	\checkmark	
INS 941	Nitrogen	\checkmark	\checkmark	
INS 948	Oxygen	\checkmark	\checkmark	

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

Annex 2B:

Processing Aids and Other Products for Use for Processing of Ingredients of Agricultural Origin from N+ Production

Product	Preparation of food products of		Conditions for use
	Plant origin	Animal origin	1.52
Water	\checkmark	\checkmark	Potable water standards
Calcium chloride	\checkmark	- 10 March 1	Coagulation agent
Calcium carbonate	\checkmark		Coagulation agent
Calcium hydroxide	√		
Calcium sulfate	√		Coagulation agent
Magnesium chloride	\checkmark		Coagulation agent
Potassium carbonate	\checkmark		Drying of grapes
Sodium carbonate	√		Sugar production
Lactic acid		~	For regulation of pH of brine bath in cheese Production
Citric acid	~	V	For regulation of pH of brine bath in cheese production; oil production and hydrolysis of starch
Sodium hydroxide	\checkmark	194	Sugar production, oil production from rape seed
Sulphuric acid	1	~	Gelatin production Sugar production
Hydrochloric acid	1000	\checkmark	Gelatin production
Ammonium hydroxide	11/2	\checkmark	Gelatin production
Hydrogen peroxide		\checkmark	Gelatin production
Carbon dioxide	\checkmark	\checkmark	
Nitrogen	\checkmark	√	
Ethanol	\checkmark	√	Solvent
Tannic acid	\checkmark		Filtration aid
Egg white albumin	\checkmark		
Casein	\checkmark		
Gelatin	\checkmark		
lsinglass	\checkmark		

Vegetable oils	\checkmark	\checkmark	Greasing, releasing or antifoaming agent
Silicon dioxide gel	\checkmark		
Activated carbon	\checkmark		
Talc	\checkmark		In compliance with the specific purity criteria for food additives
Kaolin	\checkmark	\checkmark	11 P.S.
Cellulose	\checkmark	\checkmark	Gelatin production
Diatomaceous earth	\checkmark	\checkmark	Gelatin production
Perlite	~	\checkmark	Gelatin production
Hazel nut shells	\checkmark		1
Rice meal	\checkmark		10
Bee wax	\checkmark		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) Bakers 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 3:

Approved Products for Packaging of N+ Foods

Certain products are allowed for use in N+ agriculture for packaging of foodstuffs, however, many of these are restricted for use in N+ 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 packaging of N+ 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	0
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.