Non Pesticidal Management (NPM)

Table of Contents

Sr. No	Contents	Page No
1	***Preface***	4
2	***Definitions***	6
3	***Standards***	11
I	***Farm Production Standards***	11
I.A	Conversion Requirements and Pre-requisites	11
I.B	Seeds and Planting Material	11
I.C	Parallel Production	12
I.D	Soil Management	12
I.E	Pest and Disease Management	12
I.F	Weed Management	13
I.G	Harvesting	14
I.H	Storing of Crops	14
I.I	Transportation of crops	15
II	***Processing Standards***	15
II.A	General Requirements of NPM Processing	16
II.B	General Requirements of NPM Processing Methods	17
II.C	Requirements for Ingredients and Processing Aids	18
III	***Handling Standards***	18
III.A	Storage and Warehousing	18
III.B	Packaging	19
III.C	Cleaning and Hygiene	20
III.D	Cleaning Schedule	21
III.E	Pest Control	21
IV	***Wild Harvesting***	22
V	***Reciprocity with NPOP***	23
VI	***Overriding Rule***	24
VII	***Documentation and Record Keeping***	24
VIII	***Collective Guarantee System (CGS)***	24
IX	***Rules for the use of Zero Logo***	29
App 1	***Appendix 1 – List of substances allowed for pest control***	31

App 2	*Appendix 2 - List of Approved Ingredients as Additives and Processing Aids Used in Processing of NPM Foods.*	36
App 3	*Appendix 3 – Documentation Required by the Processing Units*	49
App 4	*Appendix 4 - Documentation Required for Group Approval*	50

Preface

After various workshops and review meetings and much work by the entire team of NPMI and SHPL, it is a pleasure to present Non Pesticide Management Initiative (NPMI)- Standard Manual.

To be precise the actual process of development of this manual started in the year 2009-10 wherein all the partner participated in the procedure and after seeking their inputs , NPMI manual was devolved with Participatory Guarantee System as it's main base of application and operation. However after applicability of the same over a period of time it was realised that the manual needs have Community Guarantee System as base and the standards need to be revised in such a way that partner can fit them easily in their current working systems. It was strongly felt that the standards which were framed earlier were lacking the justification part. In the present manual the standards have been provide the justification wherever required. This is done with an intension to provide the conceptual clarity as well as the reason behind doing so.

Along with the standard documents efforts are also made to develop training manual and traceability manual separately as they form a vital component during the application of NPMI standards at field level. The present manual gives vivid classification of standards for production, storage and processing unit. This will enable all the partners to maintain the traceability of the standards at all the level and will quality the final produce for certifying it as NPM. This document underwent many changes considering the learning and experiences of the staff over a period of 5 years. After a series of workshops every year and constructive criticism from well wishers, finally the document took shape. The formats of internal inspections were tested and reviewed in practice.

This standard manual is written for the field staff as well as for the project managers, together with their implementation partners: The developed Community Guarantee System is a source of credible NPMI certification information. This information is subjected to assessment and ratified. Therefore the developed system is a mechanism that portrays transparency and thereby improving the trustworthiness of the organisation. For the development of the manual, senior consultant having more than 20 years of experience are appointed by SHPL. The consultant studied the process of its implementation by verifying all the documents relate at field level and also at partners senior management level.

Acknowledgements

The manual would like to place on record its sincere thanks to Mr. Rangu Rao for all the encouragement to undertake the activity of developing this manual. It also recognises the

contributions from Mr. Neju George[1], Dr. Selvam Daniel[2], Ms. Mrunal Lahankar[3] Ms. Rashmi Kanthi[4], & Mr. Aditya Sethiya[5] other staff of SHPL as well the Partner Organization members, who have provided unstinted cooperation in shaping this manual

1

2
3
4
5

Definitions

BUFFER ZONE:
A clearly defined and identifiable boundary area bordering an NPM production site that is established to limit application of, or contact with, prohibited substances from an adjacent area.

CHAIN OF CUSTODY:
All relevant steps in the production chain including growing, harvesting, processing, handling and related activities.

COLLECTIVE GUARANTEE SYSTEM:

Collective Guarantee System is complaince management system for NPMi standards which is owned and managed by autonomous farmer's groups which are verified by an external agency on an annual basis.

CONTAMINATION:
Pollution of NPM product or land; or contact with any material that would render the product unsuitable for NPM certification.

CONVENTIONAL:
Farming systems dependent on pesticides, fungicides and herbicides or on substances which are not in conformity with the basic standards of NPM production.

CONVERSION:
The process of changing an agricultural farm from conventional to NPM farm. This is also called transition.

CONVERSION PERIOD:
The time between the start of NPM management, and the certification of crops as NPM.

FARM UNIT:
An agricultural farm, area or production unit managed by NPM methods, by a farmer or a group of farmers

FOOD ADDITIVE:
Food additive is an external permissible ingredient added to improve the keeping quality, consistency, colour and other physico chemical, sensory properties, wholesomeness and safety of food

GREEN MANURE:
Manure consisting of fresh green plant matter, which is ploughed in or turned into the soil for the purpose of soil improvement.

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

HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP):
A systematic process that identifies food safety hazards, critical control points, critical limits, corrective actions and documentation and integrates monitoring procedures to ensure food safety.

OR
The Hazard Analysis Critical Control Point (HACCP) system is a science based on systematic approach to producing safe food. Food safety management systems based on HACCP are internationally recognized as the most effective way to ensure food safety and minimize the risks of food poisoning.

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.

INPUTS BANNED:
Those items, the use of which is prohibited in NPM farming.

INPUTS PERMITTED:
Those items that can be used in NPM farming.

INPUTS RESTRICTED:
Those items that are allowed in NPM 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 certifying agency.

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

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

INTERNAL CONTROL SYSTEM:
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.

IRRADIATION:
High energy emissions from substances for the purpose of controlling microbial, pathogens, parasites and pests in food, preserving the food or inhibiting physiological processes such as sprouting or ripening.

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.

LIVESTOCK:
Shall mean any domestic or domesticated animal including bovine (including buffalo and bison), bovine, porcine, caprine, equine, poultry and bees raised for food or in the production of food. The products obtained by hunting or fishing of wild animals shall not be considered as part of this definition.

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

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

NPM
Means a method of farm production and processing without the use of pesticides, fungicides, herbicides or by any harmful chemicals.

NPOP
Means the standards implemented through the National Programme for Organic Production by the Ministry of Commerce, Government of India.

OPERATOR:
Shall mean an individual or a business enterprise practicing NPM farming or NPM processing.

ORGANIC:
Refers to a particular farming system as described in these standards and not to the term used in chemistry.

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

PACKAGE OF PRACTICES:
Guidelines for NPM production and processing established by NPMi., for specific crops, specific to the region.

PARALLEL PRODUCTION:
Shall mean any production where the same unit is growing, breeding, handling or processing the same products both in a NPM production unit and a non-NPM production system.

PART CONVERSION:
Shall be when part of a conventional farm or unit has already been converted to NPM production or processing and a part is in the process of conversion.

PLANT PROTECTION PRODUCT:
Shall mean any substance intended for preventing, destroying, attracting, repelling, or controlling any pest or disease including unwanted species of plants or animals during the production, storage, transport, distribution and processing of food, agricultural commodities, or animal feeds.

PREPARATION:
Shall mean the operations of slaughtering, processing, preserving and packaging of agricultural and animal products and also alterations made to the labelling concerning the presentation of the NPM production method

PROCESSING AIDS:
A substance or material not consumed as a food ingredient by itself but used in the processing of 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.

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.

RAW MATERIALS:
All ingredients other than food additives.

SANITIZE:
To adequately treat the produce or food-contact surfaces by a process that is effective in destroying or substantially reducing the numbers of vegetative cells of micro organisms of public health concern, and other undesirable micro organisms, but without adversely affecting the safety and quality of the product.

SPLIT PRODUCTION:
Where only part of the farm or processing unit is certified for NPM production. The remainder of the property can be Non – NPM but not verified. Also see parallel production.

STANDARDS:
Shall mean the standards for Non Pesticidal Management as established by the Non-Pesticidal Management Initiative (NPMi).

SURVEILLANCE:

The measures undertaken to provide monitoring of an operator's / certification body's compliance with the standards / criteria for meeting the certification / accreditation requirements.

USE OF GMO AND GMOs DERIVATIVES:
A plant, animal, microbe or their derivatives that are transformed through genetic engineering.

VETERINARY DRUG:
Means any substance applied or administered to any food-producing animal, such as meat or milk-producing animals, poultry, fish or bees, whether used for therapeutic, prophylactic or diagnostic purposes or for modification of physiological functions or behaviour.

Standards

Sections of Standards	*Comments and Explanations*
I. Farm Production Standards	
A. Conversion Requirements and Pre Requisites	
In case of annuals i. There is no conversion period required from conventional form of production to NPM system of production. Ii NPM and conventional production can be done on the same plot of land but in different seasons. In case of perennials i. There should be no use of any pesticide from the last harvest of the crop till the NPM harvest. ii. NPM and conventional production can be done obtained from the same plant/tree but in different production cycles. Parallel production of conventional and NPM crops are not allowed by same farmer.	Conversion is a concept in organic farming systems primarliy to perfect the ability of farmer to adopt organic farming system. In case of NPMi this is not required since the techniques adopted is much simpler and the farmer is able to comprehend and adopt the NPM standards better.
B. **Seeds and Planting Material**	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
i. Seeds and planting material can be treated by contact pesticides but systemic pesticides are not allowed. ii. Naturally occurring plant growth hormones are only allowed. iii. Tissue cultured planting material is allowed. iv. Genetically modified seeds and planting material are not allowed.	Contact pesticides remain in the seed coat unlike systemic pesticides which enter the plant tissues and may create residual effects in the final produce. There are no harmful chemicals used in tissue culture and further there are no possiblity of any residue in the final produce due to the use of products from tissue culture.
C. Parallel Production	
Growing, handling or storage of the same crop by NPM and by conventional methods are not allowed by the same farmer. Such production where the same unit (all plots belonging to the same farmer) is growing, breeding, handling or processing the same products both in a NPM production unit and a non-NPM production system is banned.	Parallel production is banned since there will be high incidence of co-mingling of NPM and conventional crops. This is will lead to greater cots of rejection.
D. Soil Management	
i. Chemical fertilizers can be used to compensate the plant nutritional needs after using	Increasing soil organic matter is essential for good

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
sufficient compost and farm yard manure. ii. Soil applications of pesticides are not allowed in case of tubers, rhizomes and root crops.	soil health and will contribute to sustainable fertility management.
E. Pest and Disease Management	
The best way to control pests and disease is by carefully designing and managing the whole farm system to achieve health, diversity and vitality in the soils and crops. This will then encourage natural growth and a balanced farm ecosystem.	All methods of ecological and integrated pest and disease management should be adopted to avoid crop losses due to pest and disease attack.
The following methods should be used for controlling pests and disease: • creating fertile soils of high biological activity to provide crops with a balanced supply of nutrients • encouraging natural predators within and around crops by: i. companion planting, under-sowing and mixed cropping, and ii. leaving hedges, windbreaks, wildlife corridors and field margins uncultivated • choosing resistant crops and varieties that are suited to your farm conditions • grafting onto resistant rootstock • carefully planning planting dates, and	All the products adopted in Appendix 1 are adapted from the Indian organic standards of NPOP. Buffer zones are areas around the NPM plots which are cultivated by buffer crops. Buffer crops are crops which are different from the NPM crops. Buffer crops could be annual or perennial and has the height and

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
• using good husbandry and hygiene practices to limit the spread of any pests or disease. All the NPM plots should have adequate buffer zones to prevent spray drift contamination from adjoining plots. For products which are allowed to be used for pest control – refer Appendix 1.	the bushiness to prevent spray drift contamination. Buffer zones are not necessary when there are no possiblity of spray drift contamination.
F. Weed Management	
All synthetic chemical weedicides/herbicides are not allowed. The best way to control weeds is by carefully designing and managing the whole farm system. To control weeds it is important to use good rotation design, manure management, well timed soil cultivation and good farm hygiene. The following methods should be used for controlling weeds: • balanced rotations which include weed-suppressing and weed-susceptible crops	Weedicides and herbicides are phyto-toxic chemicals. When these chemicals are used in NPMi production systems – these chemicals could leave residues in the final produce.

Sections of Standards	*Comments and Explanations*
• sowing green manures • composting manure and plant waste, and aerating slurry • pre-sowing cultivation and stale seed bed techniques • selecting crop varieties for vigour and weed suppression • using re-cleaned seed • high seed rates and/or under-sowing, and • hygiene in the field and with machinery. Following methods may be used if suitable: • pre-germinating, propagating and transplanting • raised beds and no-dig systems • mulches, including plastic mulches but made only from polyethylene, polypropylene or other polycarbonates • mixed stocking and tight grazing • pre-emergence and post-emergence mechanical operations, such as hoeing, harrowing, topping, hand weeding, and • pre-emergence and post-emergence flame weeding.	
G. Harvesting	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
i. NPM crops should be harvested and threshed separately. ii. The machines and equipments used for harvesting NPM crops should be cleaned before use.	Harvesting and threshing NPM and conventional crops even if they are of different crops – it can lead to pesticidal residues in the final NPM produce.
H. Storing of Crops	
i. All NPM crops should be stored separately from conventional crops and there should be no possibility of comingling of these products. ii. All NPM crops should be labelled when kept in storage. The labels should be able to clearly identify NPM crop, the crop produce stored and the year of harvest. a) Labeling should contain the name of the farmer, the locational details of the NPM plot and the weighment details. b) Color coding of labels should be done to segregate NPM and conventional produce. iii. All stores should maintain proper inventory records to document inward and outward flow of goods from storage areas.	Clear identification of NPM products in storage is essential for avoiding comingling. This identification should be made possible by easily identifiable labling systems with proper codification to ensure traceability. Inventory records are means of verification of the product flow into and outside the storage areas is essential to verify NPM integrity of the produce.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

	Sections of Standards	*Comments and Explanations*
	iv. Packaging materials which are contact with crop produce should be pesticide free. v. There should be no use of pesticides and synthetic fumigants for control of storage pests. vi. The rodent control traps should kept at suitable distance from the crop produce and should ensure that the dead rodents and rodent baits are disposed carefully without contact with the crop produce.	
	I. Transportation of Crops	
	i. All NPM crops should be transported in properly labelled packages which documents the NPM product, famer's name and village. ii. Where products need to be transported in bulk; NPM products and conventional products cannot be transported together.	Transportation could be a source of comingling hence bulk transportation of NPM should be avoided. When needed they should not be transported with conventional produce.
	II. Processing Standards	
A.	NPM foods are wholesome, authentic, unadulterated and of high quality. Note:	Processing standards are included in this standard document since it is required to address the

	Sections of Standards	*Comments and Explanations*
	- '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 minimise the use of additives and processing aids - 'high quality' means as good and as nutritious as possible (of its kind).	problems of adulteration and the rampant use of processing methods and additives/ingredients which are a serious concern to human health.
	A. General Requirements for NPM Processing	
B.	Any handling and processing of NPM products should be optimised to maintain the quality and integrity of the product and directed towards minimising the development of pests and diseases. Processing and handling of NPM products should be done separately in time or place from handling and processing of conventional products. Pollution sources shall be identified and contamination avoided. Food grade flavouring extracts are allowed.	There are possiblities of comingling and contamination from conventional produce during processing activities. These possibilities should be avoided segregation from conventional products and by using only permitted substances for NPM processing.
	Standards i. NPM products shall be protected from co-mingling with conventional products.	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
ii. All products shall be adequately identified through the whole process. iii. NPM products and conventional products shall not be stored and transported together except when labelled or physically separated. iv. NPMi shall regulate the means and measures to be allowed or recommended for decontamination, cleaning or disinfection of all facilities where NPM products are kept, handled, processed or stored. v. Besides storage at ambient temperature, the following special conditions of storage are permitted - Controlled atmosphere - Cooling - Freezing - Drying - Humidity regulation	
B. General Requirements of NPM Processing Methods	
Processing methods should be based on mechanised, physical and biological processes. The vital quality of an NPM ingredient shall be maintained throughout each step of its processing. Processing methods shall be chosen to limit the number and quantity of	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

	Sections of Standards	*Comments and Explanations*
	additives and processing aids.	
	Standards i. The following kinds of processes are approved : - Mechanical and physical - Biological - Smoking - Extraction - Precipitation - Filtration ii. Extraction shall only take place with water, ethanol/ hexane, plant and animal oils, vinegar, carbon dioxide, nitrogen or carboxylic acids. These shall be of food grade quality, appropriate for the purpose. iii. Irradiation is not allowed. iv. Filtration substances shall not be made of asbestos nor may they be permeated with substances which may negatively affect the product.	- Any other solvents used for extraction will leave residues in the final produce. - Irradiation is not allowed since there could be possible genetic mutation of live products. - Asbestos cannot be allowed since there it is proved that it causes lung cancer and is very carcinogenic.
D.	**Bleed runs** In case of continuous processing is done there is requirement of bleed runs. Bleed run – is	There are two kinds of processing.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
the quantity of NPM product that is run through equipment to flush out any remaining conventional product. The bleed run is then discarded as conventional. Bleed runs are required for cleaning equipment under continuous processing conditions. Under such conditions, it is required to: • work out how much NPM product is needed to put through to remove all residue of conventional product • procedure should be put in place for how the purging will be done, including how much NPM product will be used and showing how this will remove all conventional material • show this at the inspection so that the procedure can be approved and • keep full records of all the bleed runs, including the quantities of purge material that have been used.	a) Continous processing – like in the case of processing of white sugar from cane sugar. b) Bacth processing – like in the case of processing of milk or milling of rice. Bleed runs are applicable in the case of continuous processing.
C. Requirements for Ingredients and Processing Aids	
All ingredients and processing aids to be used for NPM processing should be in accordance to Appendix 2 - List of Approved Ingredients as Additives and Processing Aids Used in Processing of NPM Foods.	
III. Handling Standards	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
A. Storage and Warehousing i. Labelling the room, area, or racking with the word 'NPM Area' to show that it is for storing NPM products. ii. label all NPM products clearly to avoid accidental contamination iii. have sufficient space or barriers around the NPM product storage area to stop accidental contamination iv. only use stores, bins and containers that are made of materials suitable for contact with the food they are to store v. dedicate and label bins and containers as NPM products vi. prevent contamination by birds, insects and vermin, and vii. clean the stores regularly so that there are no residues which could contaminate NPM products or encourage pests. Chemical fumigants are not allowed in NPM storage places. Storage records are necessary and should include the following: - stock records - traceability records, and	- Chemical fumigants has been found to leave residues on the final products.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
- records showing that the store was cleaned regularly during use and before holding NPM products.	
B. Packaging	
Only food grade packaging materials must be used and that: - are strong enough to protect the product during its handling, transport and display - do not change the taste or smell of the product, and - do not transmit anything to the product that may be harmful to human health.	Packaging materials that are in direct contact with can affect the organoleptic condition of food. Hence packaging materials should be approved as food grade.
C. Transport	
To prevent contamination, mixing or substitution of NPM products with conventional products following standards should be followed: - transport NPM products in closed packaging or containers - transport NPM products in vehicles that are suitable for them, and - make sure the loading equipment and the vehicles are clean and have been cleaned only in with substances of Appendix 1 – List of Substances used for pest control. - transport chilled or frozen NPM products only in vehicles that have systems to ensure the	It is required for closing/enclosing the NPM products since it does not get contaminated and/or co-mingled by conventional products.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
temperature stays correct throughout the journey, and - record results of all the checks you make.	
C. Cleaning and Hygiene	
Allowed substances 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 - dry cleaning methods where they will not risk NPM product integrity - ultra-violet radiation to prevent mould growth on the surface of dough and baked goods. Following standards should be complied to ensure NPM processing: - clean all surfaces that may be in contact with NPM products before the start of production - clean throughout the production process to prevent build up of residues or micro-organisms that could contaminate the product - always rinse off remaining disinfectants and sanitizers with water (treated to drinking water standards) to prevent residues left on the surface contaminating the NPM products, and - only use alcohol wipes that do not leave any residue after the alcohol has evaporated. - No use of substances on contact surfaces that could taint or contaminate NPM products.	Cleanliness is very essential for NPM processing and storage. Cleaning should be done in a manner to arrest harmful microbial activity, eliminate the chances of chemical contamination and prevent possiblities of physical contamination.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
Standards for storing cleaning materials - label all detergents and sanitizers correctly with the name of the product and safety information - store bulk stocks of detergents and sanitizers safely in a marked store to reduce the risk of contamination, and - store stocks of detergents and sanitizers in closed containers.	Labelling of storage chemicals are essential since it will enable the workers to understand which chemicals they are using and during verification by external agencies – they can identify conformance of the substances to the standards.
Cleaning schedule	
Cleaning schedule should be a written procedure and should be strictly adhered and should include: - what will be cleaned - how and how often - what chemicals and equipment you will use, and - The final rinse of food contact surfaces with drinking standard water before processing NPM products. The cleaning records should be maintained regularly and should be signed by a responsible person which shows that: - all equipments are cleaned before NPM processing	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
- the clean was done according to the schedule, and - the final rinse of all surfaces in case of wet processing was rinsed with drinking standard water	
E. Pest Control	
General Requirements for Pest Control Pests should be avoided by good manufacturing practices. This includes general cleanliness and hygiene. Treatments with pest regulating agents must thus be regarded as the last resort. Recommended treatments are physical barriers, sound, ultra-sound, light, and UV-light, traps (incl. pheromone traps and static bait traps), temperature control, controlled atmosphere and diatomaceous earth.	
E. Standards i. For pest management and control the following measures shall be used in order of priority: - Preventive methods such as disruption, elimination of habitat and access to facilities - Mechanical, physical and biological methods - Pesticidal substances contained in the Appendix 1 – List of Substances used for pest control.	Fumigation by chemical substances are not allowed in storage places. Use of chemicals which are phenolic in nature – whose actions are like pesticides are not allowed as disinfectants and cleaning agents.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
- Other substances used in traps - Irradiation is not allowed. F. ii. There shall never be direct or indirect contact between NPM products and prohibited substances. (e.g. pesticides). In case of doubt, it shall be ensured that no residues are present in the NPM product. iii. Persistent or carcinogenic pesticides and disinfectants are not permitted.	
IV. Wild Harvesting	
1. Harvesting any species defined as 'critically endangered' in the IUCN red list (The World Conservation Union) (www.iucn.org) is not allowed in these standards. 2. The areas under wild harvesting must: a. be at least 10 metres from conventional farming operations or areas sprayed with products we do not allow in these standards b. be at least 50 metres from highways and railroads c. and be a suitable distance from any other source of pollution or contamination. 3. The areas where the wild harvesting is done will be inspected annually to ensure that the products are coming only from wild harvesting sources and the post harvesting methods and the processing meets the NPM standards.	Wild harvested products are those products which are harvested from wild ares. Wild areas principally fall into the following catagories: 1) From forests – primary and secondary forests. 2) From social forestry systems on community lands. 3) From abandoned orchards which do not have any cultivation practices for the past 10 years. 4) From community lands which have had no farming activity for the past 10 years. The need for inspection of wild harvested products

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
	annually is for verification of traceability of the wild harvested products to wild areas and to verify if all post harvesting methods and processes are in accordance to the NPMi standards.
V. Reciprocity with NPOP	
Products certified organic or under any stage of conversion to organic by any Accredited Certification Agency as per NPOP will be accepted as an NPM product by these standards.	All of NPMi standards are complied with farms and processing units whichare certified as organic or as certified as under conversion to organic. Under such circumstances, NPMi standards accept the certification of any accredited agency, but will further ensure all conformance by testing and verification of required organic certification documents.
VI. Overriding Rule	
There are instances where there are farmer's groups and tribal communities which have all	There are groups of farmers and tribal communities

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
the components of Collective Guarantee System (CGS) – 1) Farmer's Pledge – in the form a internal customs and traditions which conform to NPMi standards. 2) Internal Assesment – in the form of societal functions and procedures. 3) Capacity building systems – in the form of internal knowledge building and peer learning systems. Under such circumstances an appropriate method of external assesment will be done to approve such farmer's/tribal groups and if found complaint then such groups can be approved as NPMi complaint groups to supply NPMi products.	which conform to the NPMi standards but do not have the capacity to document all the processes required to prove during an external assesment the complaince to NPMi standards. Under such circumstances, these standards provide provisions for inclusion of such groups.
VII Documentation and Record Keeping	
The record keeping and documentation of all practices of farming, processing and handling of NPM products are essential. The records to be kept are described in the following Appendices. a. Appendix 3 – Documentation Required by the Processing Units	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
b. Appendix 4 - Documentation Required for Group Approval	
VII Collective Guarantee Scheme: (CGS):	
This is a guarantee scheme for a farmer's group practising NPMi standards. The guarantee of compliance to NPMi standards is collectively guaranteed by the farmer's group. Such a collective guarantee is re-assessed by an external agency and assured to the public at large about the effectiveness of the compliance management system. CGS has the following four components: 1) The farmer's pledge 2) Peer review / internal assessment system of compliance to the standards. 3) Capacity building system to implement corrective actions. 4) External re-assessment of the internal assessment system of compliance to the standards.	Both internal control systems (ICS) and Participatory Guarantee Systems (PGS) as applied to organic farming systems are not suited to verify compliance to NPMi standards due to the following reaons: In case of PGS: - There is no common marketing system. All farmers in the group can sell seperately. - The list of farmers and the farm locational details do not change every cropping season. Thus PGS groups are weak in internal assesment systems related to constant changes of farmers and NPMi plots for every cropping season.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
	- There is no capacity building systems to implement NPMi standards In case of ICS: - Execessive dependence on the documentation of processes. - Inspections are only conducted on a annual basis and is not based on cropping cycle. In case of NPMi, the farmers lists and NPMi cropped plots vary for every cropping season. Hence a closer and more intensive internal assesment and external reassesment is required coupled with good testing procedures. - The group does not own the complaince management system. Often external agencies control and drive the compliance of the standards.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
Pre-requisites of CGS:	
1) All farmers in the group will be having land holding sizes below 4 hectares or 10 acres. 2) The group should not exceed 500 farmers. 3) The group should have a TIN and PAN number or associated with a facilitating organization which has a TIN and PAN number through a contractual agreement.	As per the government standards smallholders are those whose landholding sizes are less than 10 acres. The group size of 500 farmers is derived from NPOP's standards as specified by the National Accrediation Board (NAB)
Standards for entry of the farmers in the CGS group:	
1) All farmers who wish to enter to the CGS group need to make an application to the group every cropping season. This application should be able to identify the location of the farm, area of NPM production and the crops planned to be under NPM production along with the yield estimates of NPM crops. This application need to be renewed for every cropping season. 2) CGS group need to approve the farmer in the group and make an approved farmer's list and submit it to NPMi every cropping season. The approved farmer's list will provide details of the location of each farmer, individual area and total area under NPM production, crop-wise area and farmer wise area and yield estimates of the NPM crops.	Approved farmer's list is an important document. This document contains the farmer's list with details of NPM plots, crops grown and the estimated yield of NPM crops. The process of approval of these farmers in the list is based on the internal systems of complaince of the CGS group.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
Standards for the Farmer's Pledge	
1) The content of farmer's pledge should contain all the relevant standards of NPMi. 2) The pledge should be in a language which could be understood by the farmers in the group. 3) Every farmer in the group should have a copy of the farmer's pledge.	The farmer's pledge is a declaration of the promises he/she makes regarding the farming practices they intend to do. Such a document also exists in PGS systems of production.
Standards for Peer review / internal assessment system of compliance to the standards	
1) 100 % of all farms will be peer reviewed or internally assessed by the facilitating organization for every cropping season. The records of peer review/internal assessment will be available for external re-assessment. 2) Major non-compliances observed in every peer review/ internal assessment cycle for every crops must be summarized and informed to NPMi during the external re-assessment process.	100% internal assesment of all farms is essential since: 1) Risk assesment component in NPM systems of production is very high and CGS should ensure that all possible contaminations should be avoided at all levels of farming, storage, transportation and processing. 2) NPM plots may change for every cropping season hence there is a requirement to internally assess every plot to evaluate the changed situations.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
Standards for capacity building system to implement corrective actions	
1) CGS groups should have a training and extension programme which demonstrates the capacity building of farmers to adopt NPMi standards. 2) The extension program of the CGS group should have the capability to train the farmers to correct the non-conformities observed during the peer review/internal assessment and external re-assessment.	NPM production is going to be a challenge under situations of pest and disease incidence. There should be continous process of capacity building and delivery of advisory services to enable the farmers to adopt NPM practices.
Standards for external re-assessment:	
1) The CGS group will be externally re-assessed for every cropping cycle. A sample of the farmers will be re-assessed along with a complete evaluation of the peer review/internal assessment system of the group. During the external re-assessment the following sampling methods will be followed for different conditions:	The purpose of external re-assessment is verify the effectiveness and the capability of the group to 1) Verify complaince of every farmer in the approved farmer list to the NPMi standards. 2) Identification non-conformance and take suitbable actions. 3) Effectively assess the appropriate actions and ensure corrective actions are implemented properly. 4) Ensure transparency between the groups and

Sections of Standards							*Comments and Explanations*
Farms in the growers group (N)	Number of farms to be inspected						NPMi regarding non-conformace issues faced by the farmers.
	Annual Audit (Initial Audit)	Reassessment	Surveillance Visit				
	Number to be inspected (n=√N)	% of Total	Number to be inspected (n=0.8√N)	% of Total	Number to be inspected (n=0.6√N)	% of Total	
25	5	20	4	16	3	12	The sampling of farmers for external reassement is an ISO principle of sampling for field audits – its mention has been made in section 5 of NPOP standards.
26-50	5-7	19-14	4-6	15-12	3-4	12-8	
51-100	7-10	14-10	11-8	22-8	4-6	8-6	
101-250	10-16	10-6	8-13	8-5	6-10	6-4	
251-500	16-22	6-4	13-18	5-4	10-13	4-3	Samples will be taken for every external reassesment visit. The decision to send samples for testing will be taken by the certification commitee. However, all

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
2) Samples will be withdrawn at appropriate points in the product chain during external re-assessment. 3) The external re-assessment report will be submitted to a certification committee which will evaluate the report along with test reports if needed and a non-compliance report will be provided to the CGS group. 4) CGS group on compliance of all the standards will be issued the certificate of compliance to NPMi standards.	samples will be stored in the sample storage room at NPMi. All policies, procedures and protocols of sampling and testing is mentioned in detail in the NPMi testing manual.
IX Rules for the Use of Zero Logo	
All products in conformance to these standards can be labelled with the "Zero Logo" as below: The logo can be applied to those products which proved conformance through the tests and the inspection program which verifies conformance.	Zero Logo has to be applied to identify NPM products from other conventioal products. This logo can be applied to packaged products and to the labels on the bulk packing.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Sections of Standards	*Comments and Explanations*
The hieght and breadth of the logo should be the same. The logo dimensions should be in a perfect square. The color should be purple and there could be no variation in the color scheme. The application of logos should be verified by the NPMi team before it is printed on labels or in packages.	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Appendix 1 – List of substances allowed for pest control

Certain products are allowed for use in NPM farming for the control of pests and diseases in plant production. Many of these products are restricted for use in NPM production. Such products should only be used when absolutely necessary and should be chosen taking the environmental impact into consideration.

In this appendix "restricted" means that the conditions and the procedure for use shall be set by the certification programme.

I. Substances from plant and animal origin

x_ *Azadirachta indica* [neem preparations (neem oil)]	Restricted
x_ Preparation of rotenone from *Derris elliptica,*	
Lonchocarpus, Thephrosia spp.	Restricted
x_ Gelatine	Permitted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_ Propolis	Restricted
x_ Plant based extracts (e.g. neem, garlic, pongamia, etc.)	Permitted
x_ Preparation on basis of pyrethrins extracted from	
Chrysanthemum cinerariaefolium, containing possibly a	
synergist pyrethrum cinerafolium	Restricted
x_ Preparation from Quassia amara	Restricted
x_ Release of parasite predators of insect pests	Restricted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_ Preparation from Ryania species	Restricted	
x_	Tobacco tea	Not allowed

x_ Lecithin	Restricted
x_ Casein	Permitted
x_ Sea weeds, sea weed meal, sea weed extracts, sea salt and salty water	Restricted
x_ Extract from mushroom (Shiitake fungus)	Permitted
x_ Extract from Chlorella	Permitted
x_ Fermented product from Aspergillus	Restricted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_ Natural acids (vinegar)	Restricted

II. Minerals

x_ Chloride of lime/soda	Restricted
x_ Clay (e.g. bentonite, perlite, vermiculite, zeolite)	Permitted
x_ Copper salts / inorganic salts (Bordeaux mix, copper hydroxide, copper oxychloride) used as a fungicide, maximum 8 kg per ha per year depending upon the crop and under the supervision of inspection and certification agency	Restricted
x_ Mineral powders (stone meal, silicates)	Not allowed
x_ Diatomaceous earth	Restricted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_	Light mineral oils	Restricted
x_	Permanganate of potash	Restricted
x_	Lime sulphur (calcium polysulphide	Restricted
x_	Silicates (sodium silicate, quartz)	Restricted
x_	Sodium bicarbonate	Permitted
x_	Sulphur (as a fungicide, acaricide, repellent)	Restricted

III. Microorganisms / Biocontrol agents

x_	Viral preparations (e.g., Granulosis viruses, Nuclear polyhydrosis, viruses etc.).	Permitted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_	Fungal preparations (e.g., Trichoderma species etc.)	Permitted
x_	Bacterial preparations (e.g., Bacillus species etc.)	Permitted
x_	Parasites, predators and sterilized insects.”	Permitted

IV. Others

x_ Carbon dioxide and nitrogen gas	Restricted	
x_ Soft soap (potassium soap)	Permitted	
x_	Ethyl alcohol	Not allowed

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_ Homeopathic and Ayurvedic preparations	Permitted	
x_	Herbal and biodynamic preparations	Permitted
V.	**Traps**	
x_	Physical methods (e.g., chromatic traps, mechanical traps, light traps, sticky traps and pheromones)	Permitted
x_	Mulches, nets	Permitted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Appendix 2 - List of Approved Ingredients as Additives and Processing Aids Used in Processing of NPM Foods

Food Additives and Carriers

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
		Additive	Proc. Aid			
INS 170	Calcium Carbonate	*	*	GA		
INS 220	Sulphur dioxide	*	*	W	Preservative, stabiliser	Max. 0.3mg/l
INS 224	Potassium metabisulphite	*	*	W	Preservative, stabiliser	
INS 270	Lactic acid	*	*	FV, W, MP	Acidity regulator	
INS 290	Carbon-Dioxide	*	*	GA	Carbonating agent,	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					packing gas	
INS 296	Malic acid	*	-	FV, MP	Acidulent	
INS 300	Ascorbic acid	*	-	GA	Antioxidant ,	
INS 306	Tocopherol es, mixed natural Concentrat es	*	-	GA	Antioxidant	
INS 322	Lecithin	*	*	GA	Antioxidant , emulsifier, stabiliser	
INS 330	Citric acid	*	-	FV, MP W	Acidity regulator, Antioxidant ,	Restricted 1 gm/l

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
INS 335	Sodium citrate	*	-	ME, MP	Acidity regulator, Antioxidant	
INS 336	Potassium citrate	*	-	ME, MP	Acidity	
					regulator, Antioxidant	
INS 400	Aliginic acid	*	-	FV	Emulsifier, stabiliser, thickener	
INS 401	Sodium Alginate	*	-	FV	Emulsifier, stabiliser, thickener	
INS 402	Potassium alginate	*	-	FV	Emulsifier, stabiliser, thickener	
INS 333	Calcium citrate	*	-	ME, MP	Acidity regulator,	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					Antioxidant	
INS 334	Tartaric acid	*	*	W, MP	Flour treatment,	
INS 407 INS 335	Sodium tartrate	*	*	CO, CB	raising agent, emulsifier, antioxidant, preservative	
INS 336	Potassium tartrate	*	*	C, CO, CB		
INS 341	Mono calcium phosphate	*	_	C		Only for raising flour
INS 342	Ammonium phosphate	*	_	W		-
INS 406	Agar	*	-	MP, F		Emulsifier, Stabiliser, Thickner

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
INS407	Carrageenan	*	-	MP, F		
INS 410	Locust bean gum	*	-	MP, F		
INS 412	Guar gum	*	-	MP, F		
INS 413	Tragacanth gum	*	-	GA		Emulsifier, Stabiliser, Thickner
INS 414	Arabic gum	*	-	MP, F		
INS 415	Xanthan gum	*	-	F, FV, CB		
INS 416	Karaya gum	*	-	MP, F		

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
INS 440	Pectin(Unmodified form)	*	-	FV, F,		
INS 500	Sodium carbonate	*	*	CO, CB	Acidity regulator, Stabiliser, Anticaking , agent, Raising agent	
INS 501	Potassium carbonate	*	*	C, CO, CB	Acidity regulator Stabiliser. For drying	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					grapes	
INS 503	Ammonium carbonate	*	-	C, CO, CB	Acidity regulator, Stabiliser, Raising agent	
INS 504	Magnesium carbonate	*	-	C, CO, CB	Acidity regulator Stabiliser	
INS 508	Potassium chloride	*	-	FV	Stabiliser, Thickner	
INS 509	Calcium chloride	*	-	ME, F, FV, SO	Coagulation, firming agent	
INS 516	Calcium	*	*	CB, SO	Acidity	Restricted

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
	sulphate				regulator, Stabiliser , Flour treatment, coagulation agent.	Only in baker's' yeast
INS 517	Ammonium sulphate	*		W	Encourage the growth of yeasts	Restricted to 0.3 gm/1
INS 524	Sodium hydroxide	*	*	C, S, Flours & Starches	Acidity regulator, Surface treatment of traditional	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					bakery products. Processing aid for sugar	
INS 526	Calcium hydroxide	*	*	S, C	Additive	
					for maize tortilla flour. Proces. aid for sugar	
INS 938	Argon	*	-	GA		
INS 941	Nitrogen	*	*	GA		
INS 948	Oxygen	*	*	GA		
INS153	Wood ash	-	*	MP	Coating	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					agent	
INS 181	Tannin	_	*	W	Clarifying	
					agent	
INS 184	Tannic Acid	-	*	W	Filtration aid	
INS 513	Sulphuric acid	-	*	S	pH adjustment of water in sugar production.	
INS 551	Silicon dioxide	-	*	W, Dehydr-ated FV Herbs &	Gel or colloidal solution Anticaking	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
				Spices	agent	
INS 553	Talc	-	*	GA	Lubricant	0.5% -PFA
INS 901	Beeswax	-	*	GA	Releasing agent	
INS 903	Carnauba wax	-	*	GA	Releasing agent	
	Activated carbon	-	*	GA	Decolorizer	
	Bentonite	-	*	FV, W	Filter aid, clarifying agent	
	Casein	-	*	W	Clarifying agent	
	Diatomaceous	-	*	S, FV, W	Filter aid	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
	earth					
	Egg white albumen	-	*	W	Clarifying agent	
	Ethanol	-	*	GA	Solvent	
	Gelatine	-	*	MP, FV, W	Emulsifier , Clarifying agent	
	Isinglass	-	*	W	Clarifying agent	
	Kaolin	-	*	GA	Filter aid , Extraction of propolis	
	Perlite	-	*	GA	Clarifying	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
					agent	
	Preparations of bark	-	*	S		
	Vegetable oils	-	*	GA	Greasing, releasing agent	
	Glycerol	-	*	Plant Extracts	Restricted	
	Beet sugar	-	*		Restricted	
	Natural Colors Carotenoids	*	-	GA	Coloring agent	

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

International Numbering System	Additive/ Processing Aid	Used As	Food Category	Functions	Limitations/ Note	
	Chlorophyll Annatto Saffron Riboflavin (Lactoflavin) Curcumin Caramel Canthaxanthin					

Key - list of abbreviations used in above tables:

* Could be used as

- Not used as:

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

GA - Generally Unrestricted	MP - Milk Products	F - Fat products
ME - Meat Products	C - Cereal Products	FV - Fruit/ Vegetable
W - Wine	S - Sugar	Products
CO – Confectionery	CB - Cakes and Biscuits	SO - Soybean products

Flavouring Agents

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

x_ Natural smoke flavour

x_ Use of natural flavouring preparations should be approved

Preparations of Microorganisms

x_ Preparations of microorganisms accepted for use in food processing. Genetically modified organisms are excluded.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

x_ Bakers yeast produced without bleaches and organic solvents.

Preparations of Microorganisms and Enzymes

These may be used as processing aids with approval

Ingredients

x_ Drinking water

x_ Salts (with sodium chloride and potassium chloride as basic component generally used in food processing

x_ Minerals (including trace elements) and vitamins, fatty acids, amino acid and other nitrogenous compounds where their use is legally required or where severe dietary or nutritional deficiency can be demonstrated.

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Appendix 3 – Documentation Required by the Processing Units

1. Delivery Details of the NPM Products - Gate pass indicating the received NPM Products – with farmer's names, code numbers and village names
2. Weighing slips indicating the received NPM Products – with farmer's names, code numbers and village names
3. Separate product arrival register for NPM products
4. Separately marked storage space for NPM products
5. Documentation of processing practice of NPM products
6. Processing register for NPM products
7. Dispatch register of NPM products
8. Cleaning schedule
9. Preventive maintenance schedule
10. NPM product processing flow chart
11. NPM product purchase invoices from farmers
12. NPM product sales invoices
13. Pest control schedule and register

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075

Appendix 4 - Documentation Required for Group Approval

1. Field Map – Overall
    - Indicating location of farms with farm code numbers
2. Field register – Season wise –
    i. Farm Code Numbers
    ii. Farmer's name
    iii. Village
    iv. Total area under NPM production
    v. Crops produced area wise – plot wise (if possible)
    vi. Yield estimates of agro-produce (to be approved as NPM)
3. Application forms of farmers (to the group) who wish to included in the NPM farmers' group
4. Approval of the farmers (by the group) who have applied to be included in the NPM farmers' group – Approved Farmer's List (AFL)
5. List of staff and extension workers
6. Monthly activity plan and reports of the NPM project
7. Farmer's Pledge
8. Peer Review / Internal Assessment Reports
9. Training schedules along with

- Training reports with topics covered with dates
- Certificates of training – if possible
    i. For farmers
    ii. For extension workers

10. Farmer's dairy – a different for every season.
11. Farmers agreement with the group from NPM production which will be a part of the application
12. List of internal inspectors and the list of villages they inspect
13. Internal assessment schedules

Non Pesticidal Management Initiative (NPMi),
c/o Safe Harvest Pvt. Ltd.,
No. 448/A, 1st Floor, 9th Main, 2nd Cross,
HAL 3rd Stage, Bangalore - 560075