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Indian Standard

IS 16550 (Part 2) : 2021

जैविक उत्पादन प्रणाली एवं जैविक रूप से उत्पादित उत्पादों की लेबलिंग

भाग 2 पशु आधारित

Organic Production System and Labelling of Organically Produced Products

Part 2 Animal Based

ICS 65.020.01

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FOREWORD

This Indian Standard (Part 2) was adopted by the Bureau of Indian Standards, after the draft finalized by the Agricultural Systems and Management Sectional Committee had been approved by the Food and Agriculture Division Council.

Organic livestock and poultry production may be defined as a system of livestock production that promotes the use of organic and biodegradable inputs from the ecosystem in terms of animal nutrition, health, animal housing, breeding and animal welfare. It deliberately avoids use of synthetic inputs such as drugs, feed additives and genetically engineered breeding inputs, while ensuring the welfare of animals. Under organic production management, animals are raised in a system that takes into consideration the wider issues of environmental pollution, human health on consumption of animal products and allowing animals to meet their basic behavioural needs and reduce stress.

Under organic livestock production systems, it is expected that all products of animal origin including milk, meat, poultry, egg and products thereof, come from farms that have been inspected to verify that they meet standards developed for organic production and processing. These standards mandate among others the use of organic feed, prohibit the use of antibiotics, give animals access to outdoor, fresh air and sunlight. The production methods are selected based on criteria that meet all health regulations, work in harmony with the environment, build biological diversity and foster healthy soil and growing conditions and animals are raised without or under certain conditions with very limited use of toxic persistent pesticides, antibiotics and parasiticides. Under this system, animal health, well being, better living conditions, welfare measures, feeding practices are to be ensured through a set of standards and maintenance of written records by the organic livestock farmers. Better management practices and prevention are emphasized over treatment. Thus, the primary characteristics of organic livestock production system are: a defined standard; greater attention to animal welfare; no routine use of growth promoters, animal offal or any other additives; at least 80 percent of feed grown and fed to animals according to organic standards, without the use of artificial fertilizers or pesticides.

To be precise, organic meat, milk, eggs, products thereof means that are produced, harvested, preserved and processed as per organic standards. The organic standard as provided in this document ensure and help attain good animal health and well-being through better living conditions, improved welfare measures and good feeding practices and the maintenance of written records by organic livestock producers/farmers. Better management practices and prevention of illness are emphasized over treatment. Thus, the primary characteristics of organic livestock production systems are: a well-defined standards and practices which can be verified; greater attention to animal welfare; no routine use of growth promoters, animal offal, prophylactic antibiotics or any other additives and at least 80 percent of the animal feed grown according to organic standards, without the use of artificial fertilisers or pesticides on crops or grass.

India has some natural advantages in switching over to organic livestock production for domestic as well as export markets. The traditional animal husbandry practices followed by majority of livestock farmers, indigenous technical knowledge possessed by them, indigenous cattle breeds being hardy and tolerant to many diseases, limited or no antibiotic use, limited chemical fertilizers application, less dependence on market for inputs, etc. make India an ideally suited country for organic livestock farming.

National Standard for Organic Production (NSOP) under the National Programme for Organic production (NPOP) is being implemented by Ministry of Commerce and Industry, Government of India for the export market. Organic products are gaining importance in the domestic market and their demand is on continuous increase. To meet the domestic requirements, Ministry of Agriculture, Cooperation and Farmers Welfare (DAC&FW) has launched a Participatory Guarantee System (PGS).

In view of the above, this standard is being formulated to prescribe the requirements for organically produced crop based and animal based products. Part 1of this Standard covers the requirements for crop based organic production system and labelling of organically produced products and Part 2 of this standard covers the requirements for Animal based organic production system & labelling of organically produced products.

In the formulation of this Standard, considerable assistance has been derived from NSOP of the Ministry of Commerce and Industry.

Indian Standard

ORGANIC PRODUCTION SYSTEM AND LABELLING OF ORGANICALLY PRODUCED PRODUCTS

PART 2 ANIMAL BASED

1 SCOPE

1.1 The standard (Part 2) covers the requirements for organic production system and labelling of products that are livestock based, through the process of livestock rearing up to packaging and transport of the final product.

1.2 Organic livestock based products shall cover livestock, poultry and their products.

2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

IS No.	*Title*
920 : 1972	Specification for common salt and cattle licks for animal consumption (*first revision*)
1664 : 2002	Mineral mixtures for supplementing cattle feeds — specification (*fourth revision*)
1712 : 1982	Cottonseed oilcake as livestock feed ingredient (*second revision*)
1932 : 1986	Mustard and rape seed oilcake as livestock feed ingredient (*second revision*)
1934 : 2016	Sesamum oilcake as livestock feed ingredient (*second revision*)
1982 : 2015	Ante-mortem and post-mortem inspection of meat animals — Code of Practice (*second revision*)
2239 : 1971	Specification for wheat bran (*first revision*)
2152 : 2013	Specification for maize bran as livestock feed ingredient (*second revision*)
2153 : 1985	Specification for maize bran as livestock feed ingredient (*first revision*)
2732 : 1985	Code of practice for poultry housing (*second revision*)
2733 : 1985	Code of practice for sheep and goats housing (*first revision*)
3441 : 1982	Specification for solvent extracted groundnut oilcake (meal) as livestock feed ingredient (*first revision*)
4307 : 1983	Fish meal as livestock feed ingredient (*second revision*)
5238 : 2001	Transport of poultry — Code of practice (*second revision*)
5470 : 2002	Dicalcium phosphate, animal feed grade — Specification (*first revision*)
6242 : 1985	Specification for solvent extracted undecorticated safflower oilcake as livestock feed ingredient *(first revision)*
6559 : 1972	Code of practice for ante-mortem and post-mortem inspection of poultry
7049 : 1973	Code for handling, processing, quality evaluation and storage of poultry
8895 : 2015	Handling, storage and transport of slaughterhouse by products— guidelines (*first revision*)
10500 : 2012	Drinking water — Specification (*second revision*)
12829 : 1989	Mango seed kernel (solvent extracted) as livestock feed ingredient—Specification
14702 : 2014	Undecorticated sunflower oilcake as livestock feed ingredient — Specification (*first revision*)
14904 : 2007	Transport of livestock — Code of Practice (*first revision)*

3 DEFINITION

For the purpose of this standard the following definitions shall apply.

3.1 Conventional Farming — Conventional Farming shall mean the farming systems dependent on synthetic inputs which are not in conformity with the basic standards of organic production.

3.2 Conversion — Conversion is the process of changing an agricultural farm from conventional to organic farm. This is also called transition.

3.3 Conversion Period — The transition from non-organic to organic farming within a given period of time, during which the provisions concerning organic production have been applied.

3.4 Farm Unit — A farm unit is the livestock and poultry farm area managed organically, by a farmer or a group of farmers or a business enterprise.

3.5 Inspection — Inspection shall include the site visit to verify that the performance of an operation is in accordance with the production or processing standards.

3.6 Labelling — Labelling shall mean any written, printed or graphic matter that is present on the label, accompanies the food, or is displayed near the product, including that for the purpose of promoting its sale or disposal.

3.7 Producer — producer shall mean an individual farmer or a group of farmers or a business enterprise practicing organic farming or organic processing.

3.8 Operator — A Farmer, processor, trader, handler or exporter, who is under Organic Certification.

3.9 Organic — Organic refers to a particular farming system as described in this standard.

3.10 Organic Agriculture — Organic agriculture is a system of farm design and management to create an eco system, which can achieve sustainable productivity without the use of synthetic external inputs such as chemical fertilizers, pesticides and synthetic hormones.

3.11 Part Conversion — Part conversion is when part of a conventional farm or unit has already been converted to organic production and a part is still under conventional system.

3.12 Risk Assessment — Risk assessment is process to identify potential risk in production and handling systems of organic products in order to check the infringement in the entire process for maintaining organic integrity of the produce/product.

3.13 Certification — Certification shall refer to the procedure which demonstrates that the production system of the operator has been methodically assessed and conforms to the requirements as specified in this standard.

3.14 Certification Body — Body that is responsible for certification of the operators as per this standard.

4 REQUIREMENTS

4.1 Organic Management Plan

The producer shall establish an organic management plan, which shall be updated annually.

4.2 Choice of Breeds/Strains

The choice of livestock and poultry, breeds, strains and breeding methods shall be consistent with the principles of organic farming, taking into account, in particular, the following:

a) Their adaptation to the local climatic and socio-economic conditions and also consistent with the breeding policies of the state government; and
b) Their vitality and relative resistance to diseases.

4.3 Sources/Origin

4.3.1 Animals must have been born or hatched from production units complying with this standard, or must be the offspring of parents raised under the conditions set down in this standard.

4.3.2 Transfer of livestock and poultry between organic and non organic units shall not be permitted. It shall be ensured that livestock and poultry inducted from other units comply with this standard.

4.3.3 Livestock and poultry raised on non organic production units shall be converted into organic unit as per this standard.

4.3.4 When a producer demonstrates that the organic source, breed and required management are not available, such livestock and poultry may be allowed under the following circumstances:

a) When the producer is establishing an organic livestock and poultry operation for the first time;
b) When a farmer wants to change the livestock and poultry breed/ strain or when new livestock and poultry specialization is developed;
c) For the renewal of a herd, for example, high mortality of animals caused by catastrophic circumstances;
d) When the farmer wishes to introduce breeding males into the farm. In such cases the young animals that are introduced to the organic farm shall be as young as possible, preferably as soon as they are weaned.

4.4 Record Keeping and Animal Identification

The animals shall bear unique identification numbers in accordance with this standard. The producer shall maintain detailed and up-to-date records as set out in Annex A.

4.5 Housing and Management

4.5.1 Livestock and poultry shall be maintained under natural conditions as far as possible. This shall include utilizing natural breeding methods, housing and management conditions to minimize stress, health management system to prevent diseases, with the ultimate aim to progressively limit use of chemicals, allopathic veterinary drugs (including antibiotics and hormones) reduce feeding of animals with products of animal origin (for example meat meal, blood meal), and ensure animal comfort and welfare.

4.5.2 The housing and day-to-day management of the animal, maintenance of sanitation, hygiene and environment shall be planned to suit the specific behavioural needs of the livestock and poultry.

4.5.2.1 Sufficient space shall be provided to ensure free movement and opportunity to express normal patterns of animal behaviour.

4.5.2.2 The animals should not be tied unless required for specific reasons, such as, at the time of milking or for some medical procedures.

4.5.2.3 Where the livestock and poultry normal behaviour demands group living, animals shall not be kept in isolation, but shall have company of like kind except for breeding males.

4.5.2.4 As far as possible two different kinds of animals shall not be kept together, unless for specific purposes, such as, free range poultry birds in cow/buffalo shed for scavenging on ticks and other insects.

4.5.2.5 The housing system shall ensure prevention of abnormal behaviour, injury and disease.

4.5.2.6 Appropriate facilities to cover emergencies such as fire, breakdown of essential mechanical services and disruption of supplies, shall be available.

4.5.2.7 Housing for livestock and poultry shall not be mandatory in areas where appropriate climatic conditions exist to enable animals to live outdoors without compromising their comfort, health and welfare.

4.5.2.8 Housing conditions shall meet the biological and behavioural needs of the livestock and poultry by providing easy access to feeding and watering all the time.

4.5.2.9 Insulation, heating, cooling and ventilation of the building to ensure that air circulation, dust level, temperature, relative air humidity and gas concentrations are kept within limits which are not harmful to the livestock and poultry.

4.5.2.10 Adequate natural ventilation and light to be available.

4.5.2.11 Appropriate fencing not harmful to the animals.

4.5.2.12 Confinement shall be permitted under the following conditions:

a) Inclement weather to protect animals from injury;
b) To ensure health, safety or welfare; and
c) To protect plant, soil and water quality.

4.5.2.13 The stocking density shall provide comfort and well being of the livestock and poultry with regard to the species, the breed and the age; behavioural needs with respect to the size of the group and the sex of the livestock and poultry; sufficient space to stand naturally, lie down easily, turn round, groom themselves, and assume all natural postures and movements such as stretching, lying and rumination and wing flapping in case of birds (Annex-B).

4.5.2.14 The sanitation and hygiene in the livestock and poultry farm shall be as per the advisory issued by the Central/ State Government. The standard operating protocols to keep the house, pens, equipment and utensils clean and free from microbial contamination shall be followed.

4.5.2.15 Free-range, open-air exercise areas, or open-air runs should, if necessary, provide adequate protection against rain, wind, sun and extreme temperatures, depending on the local weather conditions and the breed concerned.

4.5.2.16 The outdoor stocking density of livestock and poultry kept on pasture, grassland, or other *natural or semi-natural* habitats shall be low enough to prevent degradation of the soil and over-grazing of vegetation (Annex C).

4.6 Mammals

4.6.1 All mammals shall have access to open-air exercise or resting area, paddock or run which may be partially covered or shall have space for protection from heavy rains. The animals must be able to use those areas whenever the physiological condition of the animal or the weather conditions and the state of the ground, permit.

4.6.2 Exceptions may be made for the access of males or bulls to open areas, to avoid mixing with female animals for controlled breeding. The other animals may also not have access to open-air exercise area or run during the winter period or the final fattening phase.

4.6.3 Livestock shed shall have properly laid and smooth floor, although not slippery. The floor shall not be entirely of slatted or grid construction.

4.6.4 The housing shall be in accordance with the standards laid down and shall aim at providing comfortable, clean and dry laying/rest area of sufficient

size, consisting of a solid construction. Wherever possible, straw bedding shall be provided.

4.6.5 The calves of different age groups shall be housed separately and never in the adult animal shed tethering of livestock and poultry is prohibited.

4.6.6 Pigs shall be kept in groups, except in the last stages of pregnancy and during the suckling period. Piglets shall not be kept on flat decks or in piglet cages. Exercise areas must permit laying of dung and rooting by the animals.

4.6.7 Rabbits shall not be kept in cages.

4.6.8 Housing for sheep and goat shall be as per IS 2733.

4.7 Poultry

4.7.1 Poultry for organic products shall be reared in open-range conditions and shall have free access to open-air run whenever the weather conditions permit.

4.7.2 Housing of poultry in cages shall not be permitted.

4.7.3 Water fowl/duck shall have access to a stream, pond or lake whenever the weather conditions permit.

4.7.4 Poultry house floor if of solid construction, shall be covered with litter material such as straw, wood shavings, sand or turf. In case of layers, the floor area shall be large enough to permit dropping collection. Perches/ higher sleeping areas of a size and number commensurate with the species and size of the group and of the birds and exit/entry holes of an adequate size shall be provided.

4.7.5 In the case of laying hens, manipulation of day length may be permitted through the use of artificial lights. The maximum day length shall be 16 hrs with minimum of 8 hrs of natural light (Annex D).

4.7.6 The producer shall follow the all-in all-out system of rearing and shall avoid mixing of different age group of birds, species and breeds. Mixed farming of poultry and pigs shall not be permitted. Between each batch, the house shall be emptied, and runs shall be left to allow the vegetation to grow.

4.7.7 Poultry Housing shall be as per IS 2732.

4.7.8 Each Poultry house shall not contain more than,

a) 4 800 chickens,
b) 3 000 laying hens,
c) 5 200 guinea fowl,
d) 4 000 female ducks and 3 200 male ducks, and
e) 2 500 turkeys.

4.7.9 Poultry shall have access to an open area for at-least one third of their life.

4.7.10 Livestock and poultry not reared in accordance with these provisions may also be maintained on the production unit, provided that they are segregated and reared separately from the organically maintained animals.

4.7.11 All animals shall have access to proper ventilation and open-air runs. Exceptions may be permitted in case of inclement weather conditions or physiological conditions or under certain 'traditional' farming systems that restrict access of animals to paddock. But in these cases, it should be ensured that the welfare of the animals is not compromised.

4.7.12 Stocking rates for livestock and poultry should be appropriate for the region in question taking into consideration, general climatic conditions, fodder production capacity, stock health, nutrient balance, and environmental impact (Annex C).

4.8 Conversion Period for Animal Production

4.8.1 The establishment of organic animal husbandry requires an interim period, the conversion period. The conversion period shall be for three years. The conversion period can be reduced up to one year in the following cases:

a) Open-air runs and exercise areas used by non-herbivore species;
b) For dairy herds converted for the first time and for bovine, ovine, pig and caprine coming from extensive husbandry system during an implementation period.

4.8.2 Simultaneous conversion of livestock and poultry and land used for raising feed/fodder within the same unit should be a preferred approach. In such cases wherein the existing livestock and poultry and their offspring are fed mainly with products from the unit, the conversion period for the livestock and poultry, pasture and /or land used for animal feed, may be reduced to two years.

4.8.3 The conversion period shall be accounted from the day of implementation of organic management.

4.8.4 In cases, where the land and livestock and poultry conversion to organic status is not simultaneous and the land alone has reached organic status and the livestock and poultry from a non-organic source is introduced, these must be reared according to this standard for at least the following compliance periods before their products are to be sold as organic.

4.8.4.1 *Bovine including buffalo*

a) *Meat products* — 12 months and /or at least 3/4th of their life span is spent in the organic management system.
b) *Calves for meat production* — 6 months when

brought in as soon as they are weaned and less than 6 months old.

c) *Milk Products* — 90 days during the implementation period established, after that six months.

4.8.4.2 *Ovine and Caprine (Sheep and Goat)*

a) *Meat products*— six months; and

b) *Milk products* — 90 days during the implementation period established, after that six months.

4.8.4.3 *Pig*

Meat products — Six months.

4.8.4.4 *Poultry*

a) Meat products — from the second day to the entire life span, and

b) Eggs —six weeks.

4.9 Feed

4.9.1 Livestock and poultry farms shall provide maximum diet from feedstuffs (*including 'in conversion' feedstuff*) produced as organic as per the requirements of this standard. Agricultural processed residues of organic origin, such as from grain fermentation, fruit processing, vegetable processing, etc, shall be permitted for purpose of feeding, provided that the overall feeding practices satisfy the daily energy and nutrient requirements of the concerned animals.

4.9.2 The agriculture land committed to cultivation of feed / fodder crops intended to be used as feed for livestock and poultry shall be organically grown.

4.9.3 During the operations, the products shall maintain their organic status, provided that ruminants are fed with at least 85 percent and non-ruminants as well as poultry with 80 percent , feed obtained from organic sources, calculated on a dry matter basis

4.9.4 Notwithstanding the above requirements, in the event of unforeseen severe natural or man-made events or extreme climatic weather conditions, drought, crop failure, etc, a producer may use up to an additional 5 percent of feedstuffs (not grown organically) for a limited time, provided that it does not contain genetically engineered/modified organisms or products thereof.

4.9.5 Specific livestock and poultry rations shall take into account the following :

a) The need of young animals for natural feed, such as, feeding of maternal milk, milk from other mammal or milk replacer of organic origin that has maximum similarity with maternal milk, provided that it does not contain any genetically modified ingredient, antibiotics, hormone, etc.

b) That in herbivores, substantial proportion of the dry matter and energy in the daily rations should consist of roughage, fresh or dried fodder, or silage; need for inclusion of cereals in the fattening phase of poultry; livestock and poultry must have ample, free access to water appropriate to maintain full health and productivity.

4.9.6 Due to reasons of animal welfare, health and productivity, if supplements are to be added, the same shall be permitted on the written advice of a qualified veterinarian. The permitted list of such supplements, feed materials (probiotics, and biologicals, immunologicals and procuring aids etc.) and processing aids that comply the following criteria are at (Annex E).

4.9.7 *General Criteria for Feedstuff and Nutritional Criteria*

4.9.7.1 Substances shall be permitted as per Annex E

4.9.7.2 Such substances should significantly satisfy feeding requirements of the livestock and poultry fulfilling the physiological, behavioural and welfare needs of the concerned species.

4.9.7.3 Such substances should not contain genetically engineered/modified organisms and products thereof.

4.9.7.4 Such substances are non-synthetic and are primarily of plant, mineral or animal origin.

4.9.8 *Specific Criteria for Feedstuffs and Nutritional Elements*

4.9.8.1 The feedstuffs should not be prepared by using chemical solvents and chemical treatment. All the ingredients of the feed including supplements, fed to organic animals should be from organic sources. In case of shortage of these substances, or in exceptional circumstances, well-defined analogic substances may also be used (Annex F).

4.9.8.2 Feedstuffs of animal origin, with the exception of milk and milk products, fish, other marine animals and products derived thereof, shall not be used. The feeding of mammalian material to ruminants shall not be permitted with the exception of milk and milk products.

4.9.8.3 Synthetic nitrogen or non-protein nitrogen compounds shall not be used.

4.9.9 *Specific Criteria for Additives and Processing Aids.*

4.9.9.1 The supplements should be from natural sources.

4.9.9.2 Feed processing aiding supplements like binders, anti-caking agents, emulsifiers, stabilizers, thickeners, surfactants, coagulants if used should be from natural sources.

4.9.9.3 *Antioxidants* — Only from natural sources shall be permitted.

4.9.9.4 *Preservatives* — Only natural acids are allowed.

4.9.9.5 Colouring agents (including pigments), flavours, odour masking agents and appetite stimulants: only natural sources are allowed.

4.9.9.6 Probiotics, enzymes and microorganisms are allowed; but shall not be from genetically modified sources.

4.9.9.7 Any synthetic chemicals, such as, antibiotics, coccidiostat, medicine, growth promoters or any other substance supplemented for the purpose to stimulate growth or production shall not be fed to the organic livestock and poultry.

4.9.9.8 Silage additives, additives for enriching crop residues and processing aids may not be derived from genetically engineered/modified organisms or products thereof, and may be comprised of only:

a) Sea salt;
b) Coarse rock salt;
c) Yeasts;
d) Enzymes;
e) Whey;
f) Sugar; or sugar products such as molasses, jaggery, grain bran;
g) Honey; and
h) Lactic, acetic, formic and propionic bacteria, or their natural acid product when the weather conditions or the fodder harvesting conditions could be perceived as a constraint to adequate fermentation (only, if approved).

4.10 Health Care

4.10.1 The organic livestock and poultry, in general, should follow the basic principles of preventive health and productivity management where in, the focus would be on preventing diseases, detecting underlying fertility and production problems and its correction - primarily on correcting management, nutrition and sanitation.

4.10.2 The producer in consultation with the veterinarian should draw a program of health management of animals and carry out testing of the herd as per the common diseases of herd/ flock **(**Annex G**).** The health care shall be based on the following broad principles:

a) Choice of appropriate breeds or strains of animals that can acclimatize, adapt to environment as per 4.2.
b) Setting up of the animal husbandry practices should be appropriate to the requirements of each species and should focus on encouraging strong resistance to disease and prevention of infections;
c) Use of good quality organic feed, together with regular exercise and access to fodder/roughages, and/or open-air runs, so as to have positive effects on natural immunological defence of the animal;
d) Appropriate stocking density of livestock and poultry so as to avoid overcrowding and spread of infections or competition to feeding.

4.10.3 The farm should have an established system of detection of sub-clinical, sick or injured animals and if, so detected, must be treated immediately. In cases where isolation is necessary it will be so carried out in suitable housing areas. The paramount interest in case of sickness would be animal welfare and mitigating pain and suffering, and hence the producer shall not withhold medication even if the use of such medication will cause the animal to lose its organic status.

4.10.4 The use of veterinary medicinal products in organic farming shall comply with the following principles:

a) All vaccinations required by law of the land shall be permitted. Where specific disease or health problems occur, or is predicted to occur, and no alternative permitted treatment or management practices exist, use of parasiticides, or therapeutic use of veterinary drugs are permitted under prescription and supervision of a registered veterinarian, provided that the mandatory withdrawal periods as provided under this standard (Annex H) are observed. In drugs where withdrawal period is not prescribed in this standard, a minimum of 48 h for milk and one week for meat of withdrawal period shall be observed.
b) For the purpose of treatment and prevention of diseases and under-performances, herbal/phyto-therapeutic (excluding antibiotics), homeopathic or ayurvedic products shall be preferred to allopathic veterinary drugs or antibiotics, provided that their therapeutic effect is effective for the species of animal and the condition for which the treatment is intended.
c) In case alternative therapeutic or preventive measures are unlikely to be effective in combating illness or injury, allopathic veterinary drugs or antibiotics may be used under the responsibility and supervision of a veterinarian.

4.10.5 The use of allopathic veterinary drugs or antibiotics or drugs derived from genetically modified source for preventative treatments and for enhancing productivity or fertility is prohibited.

4.10.6 Hormonal treatment may only be used for therapeutic reasons and under veterinary supervision.

4.10.7 Growth stimulants agents or substances used for the purpose of stimulating growth or production shall not be permitted.

4.11 Breeding and management

4.11.1 The major focus of livestock and poultry management shall be to provide care, comfort, and respect to the animals and ensure their welfare in the farming system.

4.11.2 Livestock and poultry breeding methods shall be in accordance with and in compliance with the principles of organic farming and shall take into account,

a) The breeds and strains most suited to local conditions;
b) The preference for reproduction through natural methods, although artificial insemination may be used ;

4.11.2.1 Embryo transfer techniques and the use of hormonal reproductive treatment shall not be used unless prescribed therapeutic directed towards correcting the physiological problem.

4.11.2.2 That breeding techniques employing genetic engineering shall not be used.

4.11.3 Mutilation, such as, tail docking, cutting of teeth, trimming of beaks and dehorning are not permitted. In exceptional cases, some of these may be permitted for reasons of safety (*for example dehorning in young animals*) or if they are intended to improve the health and welfare of the livestock and poultry. Such surgical procedures shall be carried out by a registered veterinarian at the most appropriate age; and any suffering to and pain shall be reduced to a minimum. Wherever possible, anaesthetic and analgesics shall be used. Physical castration is allowed only in order to maintain the quality of products and traditional production practices (*meat-type pigs, bullocks, capons, etc*).

4.12 Manure and Urine Excreta Management

4.12.1 Excreta collection and management practices in the organic livestock and poultry farm are a critical component. The collection, handling and disposal of the dung and urine from shed, paddock, open run or grazing areas shall be implemented in a manner that,

a) Minimizes soil and water degradation;
b) Does not significantly contribute to contamination of water by nitrates, phosphates, and pathogenic bacteria;
c) Optimizes recycling of nutrients; and
d) Does not include burning or any practice inconsistent with organic practices.

4.12.2 All manure storage and handling facilities, including composting facilities shall be designed, constructed and operated to prevent contamination of ground and/or surface water.

4.12.3 Manure application rates shall be at levels that do not contribute to ground and/or surface water contamination. The timing of application and application methods shall not increase the potential for run-off into ponds, rivers and streams.

4.13 Transport

4.13.1 During transport, the producer shall prevent stress, injury, hunger, thirst, malnutrition, fear, distress, physical and thermal discomfort, pain, disease during the transport.

4.13.2 All necessary arrangement be made in advance to minimize length of the journey and meet the animal's need during the journey.

4.13.3 Animals must be fit for the intended journey.

4.13.4 Means of transport as well as the loading and unloading facilities must be designed, constructed, maintained and operated so as to avoid injury and suffering and ensure the safety of the animals;

4.13.5 Personnel that handle animals must be skilled and competent as appropriate for this purpose and must carry out their tasks without using violence or any other method likely to cause unnecessary fear, injury or suffering.

4.13.6 Transportation must be carried out without delay to the place of destination and the welfare conditions of the animals must be regularly checked and appropriately maintained.

4.13.7 Sufficient floor area, height and other spacing requirements must be provided for the animals, appropriate to their size and intended journey.

4.13.8 Water, feed and rest must be offered to the animals at suitable intervals and should be appropriate in quality and quantity to their species, size and age.

4.13.9 Efforts should be made to avoid or reduce following stress factors:

a) Stress due to gathering and handling;
b) Stress due to deprivation of, or changes in quantity or quality of feed and water;
c) Stress due to extremes of temperature or change in climatic conditions
d) Stress due to the groupings of animals strange to each other both within and between species;
e) Stress due to separation from others of the animals' own kind;
f) Stress due to unfamiliar surroundings, noises and sensations;
g) Stress due to overcrowding and isolations;
h) Stress due to fatigue; and
j) Stress due to exposure to disease;

4.13.10 The use of electric stimulation or allopathic tranquilizers shall not be permitted during loading and unloading of animals.

4.13.11 IS 14904 and IS 5238 shall be followed.

4.14 Slaughter of the Animals

4.14.1 The slaughter of livestock and poultry shall be undertaken in a manner, which minimizes stress and suffering, and shall be in accordance with the following national rules framed for the purpose.

4.14.1.1 In the case of livestock, the by-products shall be from animals subjected to proper ante-mortem and post-mortem inspection. IS 1982 shall be followed.

4.14.1.2 Guidelines for handling, storage and transport of slaughter-house by-products as per IS 8895 shall be followed.

4.14.2 For handling, processing, quality evaluation and storage of poultry, following shall be maintained. Approved products for cleaning and disinfection of the buildings and installations are at Annex J.

4.14.2.1 The slaughter, evisceration and packing of poultry shall be conducted in such a manner as will result in hygienic processing, proper inspection and preservation for the production of clean and wholesome poultry and poultry products.

4.14.2.2 Separate rooms shall be provided for the following:

a) Live poultry receiving and holding
b) Washing and disinfection of coops.
c) Slaughter and bleeding
d) Feather removal
e) Evisceration, chilling and packing
f) Inedible products room

4.14.2.3 The quality of water shall conform to IS 10500.

4.14.2.4 Particular attention shall be given to ventilation.

4.14.2.5 Illumination should be sufficiently strong, properly situated and should not cause glare.

4.14.2.6 Personnel shall wear protective clothes of washable material.

4.14.2.7 Proper training shall be given regarding hygiene, frequent hand washing, disinfection etc.

4.14.2.8 Ante-mortem and Post-mortem inspection of poultry shall be done in accordance with IS 6559.

4.14.2.9 Activities such as stunning, bleeding, scalding, plucking, feet removal, evisceration and chilling, draining, grading etc, shall be done in accordance with IS 7049.

4.14.2.10 The minimum age for slaughter shall be as follows

a) 81 days for chickens,
b) 150 days for capons,
c) 140 days for male turkeys,
d) 100 days for female turkeys,
e) 94 days for guinea fowls,
f) 70 days for female ducks, and
g) 84 days for male ducks.

4.15 Processing and Handling

4.15.1 Any handling and processing of organic products should be carried out in a manner so as to maintain the organic integrity of the product. The operator shall develop an organic processing and handling plan. An organic processing and handling plan must include,

a) description of practices and procedures to be performed.
b) list of each substance/input used during production, processing, storage and handling indicating its composition, source, locations where it will be used and documentation of commercial availability as applicable. The approved ingredients and additives used in food processing of animal based organic products is at Annex K and Annex L.
c) description of the monitoring mechanism followed and maintained to verify that the plan is effectively implemented.
d) description of the record keeping system implemented to comply with the requirements of this Standard.
e) description of the management practices and segregation measures established to prevent co-mingling of organic and non organic products during parallel processing and handling.
f) identification of pollution sources and methods adopted to avoid contamination.
g) procedure followed for processing and handling of organic products separately in time or place from the handling and processing of non-organic products.
h) the means and measures followed for identification of all products through the whole process.
j) method followed for decontamination, cleaning or disinfection of all facilities where organic products are kept, handled, processed or stored.

4.15.2 *Pest Control During Processing*

4.15.2.1 Pests should be avoided by good manufacturing practices. This includes general cleanliness and hygiene.

4.15.2.2 A plan for pest prevention and pest control should be developed.

4.15.2.3 For pest management and control the following measures shall be used in order of priority:

a) Preventive methods such as disruption, elimination of habitat and access to facilities ,
b) Mechanical, physical and biological methods, and
c) Other substances used in traps.

4.15.2.4 Irradiation shall not be permitted.

4.15.2.5 There shall be no direct or indirect contact between organic products and prohibited substances. (for example pesticides). In case of doubt, it shall be ensured that no residues are present in the organic product.

4.15.3 *Ingredients*

4.15.3.1 Ingredients used in processing shall be organic except where an organic ingredient is not available in sufficient quality or quantity, non-organic ingredients may be used to an extent of 5 percent only in case of technological necessity or for particular nutritional purpose. Such non organic raw material shall not be genetically engineered.

4.15.3.2 The same ingredient within one product shall not be derived both from an organic and non-organic origin.

4.15.3.3 Preparations of micro-organisms and enzymes commonly used in food processing may be used, with the exception of genetically engineered micro-organisms and their products. For the production of enzymes and other micro-biological products, the medium shall be composed of organic ingredients.

4.15.3.4 Water and common salt may be used in organic products.

4.15.3.5 Minerals (including trace elements), vitamins and similar isolated ingredients shall not be used except where use is legally required or where severe dietary, or nutritional deficiency can be demonstrated.

4.15.4 *Processing Methods*

4.15.4.1 Processing methods should be based on mechanical, physical and biological processes.

4.15.4.2 The vital quality of an organic 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. The following kinds of processes are approved:

a) Mechanical and physical,
b) Biological,
c) Smoking ,
d) Extraction,
e) Precipitation , and
f) Filtration.

4.15.4.3 Extraction shall be 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.

4.15.4.4 Filters shall neither be made of asbestos nor be permeated with substances which may negatively affect the product.

4.15.4.5 Irradiation shall not be permitted.

4.16 Packaging

4.16.1 Biodegradable, recyclable, reusable systems and eco-friendly packaging materials shall be used wherever possible.

4.16.2 Material used for packaging shall not contaminate food. Certain additives for use in manufacturing of packaging films for packaging of organic food stuffs are allowed for restricted use as given in Annex M.

4.16.3 The product shall be packed in a manner to prevent the substitution or manipulation of the content.

4.16.4 Only approved packaging material shall be used.

4.17 Labelling

4.17.1 *General Requirements*

4.17.1.1 Labelling shall convey clear and accurate information on the organic status of the product.

4.17.1.2 When all the requirements of this standard are complied with, products shall be sold as ‘organic products’.

4.17.1.3 The label for conversion products shall be clearly distinguishable from the label for organic products by mentioning the year of conversion.

4.17.1.4 The name and address of the person or company legally responsible for the production of the product shall be mentioned on the label.

4.17.1.5 Additional product information shall be made available on request.

4.17.1.6 Ingredients or products derived from wild production shall be declared as such.

4.17.2 *Processed Products*

4.17.2.1 Single ingredient products shall be labelled as ‘Organic’ when all requirements of this standard have been met.

4.17.2.2 Multi ingredient products where not all ingredients, including additives, are of organic origin

shall be labelled in the following way (raw material weight):

a) Where a minimum of 95 percent of the ingredients are of certified organic origin, products shall be labelled 'organic'.

b) Where less than 95 percent but not less than 70 percent of the ingredients are of certified organic origin, products shall not be labelled 'organic'. The word 'organic' may be used on the principal display in statements like 'made with organic ingredients' provided, there is a clear statement of the proportion of the organic ingredients.

c) Where less than 70 percent of the ingredients are of certified organic origin, the indication that an ingredient is organic may appear in the ingredients list. Such a product shall not be labelled 'organic'.

d) Added water and common salt shall not be included in the percentage calculations of organic ingredients.

e) 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 organic certified origin and which are not. All additives shall be listed with their full name.

f) If herbs and/or spices constitute less than 2 percent of the total weight of the product, they shall be listed as 'spices' or 'herbs' without stating the percentage.

g) Organic 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.

h) The label of a certified organic product shall depict the name and logo of the certification body and accreditation number.

j) In addition, the organic logo shall also be depicted for product categories as stated at a)and b) above.

4.18 Storage and Transport

4.18.1 Organic products shall be stored at ambient temperature. The following special conditions of storage are permitted

a) Controlled atmosphere,

b) Cooling,

c) Freezing,

d) Drying, and

e) Humidity regulation.

4.18.2 Product integrity shall be maintained during storage and transportation of organic products. Organic Products shall be protected at all times from co-mingling with non-organic products and from contact with materials and substances not permitted for use in organic farming/processing and handling.

4.18.3 Where only part of the unit is certified and other products are non-organic, the organic products shall be stored and handled separately to maintain their identity.

4.18.4 Bulk stores for organic products shall be separate from conventional product stores and clearly labelled to that effect.

4.18.5 Storage areas and transport containers for organic products shall be cleaned using methods and materials permitted in organic production. Measures should be taken to prevent possible contamination from any pesticide or other treatment not listed in Annex N.

4.19 Marking

4.19.1 In addition to the labelling requirements at 4.17, each package of the organic food product shall also be marked with the following details:

a) Name of the product,

b) Net Quantity,

c) Batch or Code Number (where ever applicable),

d) The words 'Best before ……..' (month and year to be indicated), and

e) Any other requirements as specified under the *Legal Metrology (Packaged Commodities) Rules, 2011* and *Food safety and standards (Food product standards and Food Additives) regulation, 2011* and the Rules framed there under.

ANNEX A

(*Clause* 4.4)

ANIMAL DATA RECORDING

A-0 The producer shall maintain management records of all animals in the farm. Each animal shall be identified with a unique identification number with ear tags as specified by International Committee on Animal Records (ICAR), as adopted by India.

A–1 ANIMAL IDENTIFICATION

In case of cattle / buffalo, sheep and goat identification device as prescribed by ICAR, shall be applied to each animal and could be two-way plastic ear tag (laser-printed numeric and in bar code) or three-way (additional RFID micro-chip) identification number of the animal. In case of birds, flock may be identified. The identification devices of the out-going animals shall not be recycled and used on other animals.

A–2 ANIMAL DATA RECORDING

The data of the animal should be recorded preferably in digital format so that data retrieval is convenient. The animal data should be accessible to the veterinarian and the inspection Authority. Following data for each animal shall be recorded in case of ruminants:

A-2.1 Parent Details

Identification numbers and details of dam and sire

The condition of details of sire in case of ruminants and pigs may be relaxed, during the initial period

A-2.2 *Source*: Whether in farm or purchased

A-2.3 *Purchase Details*: Date of purchase, date of introduction in the farm, details of the earlier owner

A-2.4 *Animal Details*: Date of birth, parity number, breed, Sex

A-2.5 *Breeding Details*: Details of dates of services, sire used, drying off, calving

A-2.6 *Feeding Details* : Feeds and fodder and their source

A-2.7 *Production Details*: Weight gain, milk produced (Minimum one record per month of lactation) in case of cow and buffalo

A-2.8 *Sale Details*: In case of sheep and goat, weight at the time of sale, reasons for sale, the purchaser details

A-2.9 *Health Details*: All sickness treatment, diagnostic tests results, vaccination, deworming, surgeries, etc.

ANNEX B

(*Clause* 4.5.2.13)

MINIMUM SURFACE AREA INDOORS AND OUTDOORS AND OTHER CHARACTERISTICS OF HOUSING IN DIFFERENT SPECIES AND TYPES OF PRODUCTION

B 1 BOVINES, EQUIDAE, OVINE, CAPRINE AND PIG

i) Livestock	Indoor Area (net area available to animals)		Outdoor Area (exercise area,excluding pasturage)
	Live Weight Minimum (kg)	M^2/Head	M^2/Head
ii) Breeding and fattening bovine and equidae	Up to 100	1.5	1.1
	Up to 200	2.5	1.9
	Up to 350	4.0	3
	Over 350	5 with a minimum of 1m^2/100 kg	3.7 with a minimum of 0.75m^2/100kg
iii) Dairy Cows		6	4.5
iv) Bulls for breeding		10	30
v) Sheep and Goats		1.5 sheep/goat	2.5
		0.35 lamb/kid	0.5
vi) Farrowing Pigs with piglets upto 40 days		7.5 sow	2.5
vii) Fattening pigs	Up to 50	0.8	0.6
	Up to 85	1.1	0.8
	Up to 110	1.3	1
viii) Piglets	Over 40 days and up to 30 kg	0.6	0.4
ix) Brood Pigs		2.5 female	1.9
		6 male (If pens are used for natural service: 10m^2/boar)	8.0

B 2 POULTRY

Poultry	Indoor Area (net area available to animals)			Outdoor Area (exercise area, excluding pasturage)
	No. animals/m^2	Cm perch/animal	Nest	
Laying hens	6	18	7 laying hens per nest or in case of common nest 120cm^2/bird	4, provided that the limit of 170 kg of N/hac/year is not exceeded
Fattening Poultry (in fixed housing)	10 with a maximum of 21 kg live weight/m^2	20 (for guinea fowl only)	-	4 broilers and guinea fowl 4.5 ducks 10 turkey In all the species mentioned above the limit of 170 kg of N/hac/year is not exceeded

ANNEX C

(*Clauses* 4.5.2.16 and 4.7.12)

MAXIMUM NUMBER OF ANIMALS PER HECTARE

Species/Class	Maximum no. per Ha
Equines over six months old	2
Calves	5
Other bovine animals less than one year old	5
Male bovine animals from one to less than two years old	4
Female bovine animals from one to less than two years old	4
Male bovine animals two years old or over	2
Dairy cows	2
Female breeding rabbits	100
Sheep	14
Goats	14
Piglets	74
Breeding pigs	7
Pigs for fattening	14
Chicken	580
Laying hens	230

ANNEX D

(*Clause* 4.7.5)

DAY LENGTH REQUIREMENTS FOR POULTRY

D-1 BROILERS

23 hours light and 1 hour darkness throughout the rearing period

D-2 LAYERS

Age	*Day length*
0 – 8 weeks	23 hours light and one hour darkness
0 – 19 week	Gradually decrease the light hours from 23 to 12 h or natural day length
20 – 60 weeks	Gradually increase the light hours from 12 to 16 h
60 – 72 weeks	Increase light to 18 h

D–3 OTHER BIRDS

Increase the light hours when the birds start laying eggs

ANNEX E

(*Clause*s 4.9.6 and 4.9.7.1)

PERMITTED LIST OF FEED MATERIALS, FEED ADDITIVES AND PROCESSING AIDS FOR ANIMAL NUTRITION

E- 1 FEED MATERIALS FROM PLANT ORIGIN

E-1.1 Cereals, Grains, Their Products and By-Products — The following substances are permitted:

a) Oats as grains, flakes, middlings, hulls and bran;
b) Wheat as grains, wheat as germ, middling, bran[*See* IS 2239] gluten feed, gluten and germ
c) Barley as grains, protein and middlings;
d) Maize as grains; bran [*See* IS 2153] middling; germ expeller and gluten [*See* IS 2152];
e) Sorghum as grains;
f) Rice germ expeller and bran;
g) Millet as grains;
h) Rye as grains and middlings;
j) Triticale as grains, bran, middlings, brewers' grains; and
k) Other cereals and grains

E-1.2 *Oil seeds, oil fruits, their products and by-products* - The following substances are permitted:

a) Rape seed and mustard as expeller and hulls [*See* IS 1932];
b) Soya bean as bean, toasted, expeller and hulls;
c) Sunflower seed as seed and expeller [*See* IS 14702];
d) Cotton as seed and seed expeller [*See* IS 1712];
e) Linseed as seed and expeller [*See* IS 1935];
f) Sesame seed as expeller [*See* IS 1934];
g) Groundnut seed as expeller [*See* IS 3441];
h) Palm kernels as expeller;
j) Safflower decorticated cake [*See* IS 6242]
k) Toria Cake
m) Taramira Cake
n) Pumpkin seed as expeller;
p) Other oilseeds
q) Vegetable oils (from physical extraction).

E-1.3 *Legume seeds, their product and by-products* - The following substances are permitted:

a) Bengal gram as seeds, middlings and hulls
b) Black gram as seeds, middlings and hulls
c) Pigeon pea as middlings and hulls
d) Green gram as middlings and hulls
e) Horse beans as seeds middlings and bran
f) Lentil as middlings and hulls
g) Chickpeas as seeds, middlings and bran;
h) Ervil as seeds, middlings and bran as seeds submitted to heat treatment, middlings and bran,
j) Peas as seeds, middlings, and bran;
k) Broad beans as seeds middlings and bran; and
m) Lupin as seeds, middlings and bran.
n) Other legumes

E–1.4 *Tuber, roots, their products and by-products* - The following substances are included in this category:

a) Sugar beet pulp, potato
b) Sweet potato as tuber,
c) Potato pulp (by-product of the extraction of potato starch), potato starch, potato protein
d) Carrot
e) Turnip
f) Other tubers

E-1.5 *Other seeds and fruits, their products and by-products* - The following substances are permitted:

a) Fruits & Fruit Pulps of apple, citrus fruits, pears, peaches, grapes, figs, Pineapple, quinces, pumpkins;
b) Chestnuts, walnut expeller, hazelnut expeller; cocoa husks and expeller; acorns.
c) Mango seeds [*See* IS 12829], tamarind seeds meal.

E-1.6 *Forages and roughages*. The following substances are permitted:

a) Cultivated fodder crops. Only the following fodder crops are included in this category:
b) Sorghum (*Sorghum vulgare*)
c) Maize (*Zea Mays*)
d) Bajara (*Pennisetum typhoides*)
e) Teosinte (*Euchlaena Maxicana*)
f) Cow Pea (*Vigna ungui culata*)
g) Guar (*Cyamopsis tetragonoloba*)
h) Oats (*Avena sativa*)
j) Berseem (*Trifolium Alexadrinum*)
k) Lucerne (*Medicago Sativa*)
m) Senji (*Melilotus Parviflora*)
n) Hybrid Napier
p) Para Grass (*Brachiaria mutica*)

q) Rhodes Grass (*Chloris Gayana*)
r) Guinea Grass (*Panicom Maximum*)
s) Sudan Grass (*Soreghum Sudanenes*)
t) Mustard (*Brassica spp*)
u) Clover, Clover meal, Grass (obtained from forage plants), Grass meal,
v) Hay, Silage & Straw of ceral crops and Root vegetables for foraging.

E-1.7 *Pasture Grass & Legumes* - Following are included in this category:

a) Anjan (*Cenchrus ciliaris*)
b) Marvel (*Dichanthium Annulatum*)
c) Dinanath (*Penniactum pedicellatum*)
d) Kazungla (*Setaria Sphacelata*)
e) Sain (*Sehima nervosum*)
f) Siratro (*Macroptilum atropurpureum*)
g) Stylo (*Stylosanthes Humilis*)
h) Bankulthi (*Atylosia Scarabaeoides*)
j) Field bean (*Dolichos lablab*)
k) Butterfly Pea (*Clitoria termatea*)

E-1.8 *Leaves of common Indian trees* - Following tress are included in this category whose leaves can be fed to animals

a) *Acacia Arabica* (Babul)
b) *Acacia Senegal* (Kumat)
c) *Adina cordifolia* (Haldu)
d) *Ailanthus excelsa* (Ardu)
e) *Amaranthus spinosus* (Goja),
f) *Albizia lebbeck* (Siras)
g) *Azadirachta indica* (Neem)
h) *Banhinia variegate* (Kachnar)
j) *Cassia auriculata* (Tarwad)
k) *Dalbergia Sissoo* (Sissoo)
m) *Ficus benghalensis* (Bargad)
n) *Ficus relegiosa* (papal)
p) *Ficus Glomerata* (gular)
q) *Hardwickia binata* (Anjan)
r) *Leucaena leucocephala* (Subabul)
s) *Morus alba* (Tut)
t) *Marus indica* (Mulberry)
u) *Prosopis cineraria* (Khejri)

E- 2.0 *Other plants, their products and by-products* - The following substances are included in this category:

a) Molasses
b) Seaweed meal (obtained by drying and crushing seaweed and washed to reduce iodine content),
c) Powders and extracts of plants,
d) Plant protein extracts (solely provided to young animals),
e) Spices and herbs.

E-2 FEED MATERIALS FROM ANIMAL ORIGIN

E-2.1 Milk and Milk Products — The following substances are included in the category:

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

E-2.2 *Fish, other marine animals, their products and by-products* — Only the following substances are included in the category:

a) Fish, fish oil and cod-liver oil not refined;
b) Fish molluscan or crustacean autolysates, hydrolysate and proteolysates obtained by an enzyme action, whether or not in soluble form, solely provided to young animals.
c) Fish meal [*See* IS 4307]

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

E-3 Feed materials from mineral origin (See IS 1664) — The following substances are included in this category:

E-3.1 Sodium

a) unrefined sea salt
b) coarse rock salt
c) sodium sulphate
d) sodium carbonate
e) sodium bicarbonate
f) sodium chloride [*See* IS 920]

E-3.2 Potassium

a) Potassium chloride;

E-3.3 Calcium

a) lithotamnion and maerl
b) Shells of aquatic animals (including cuttlefish bones)
c) Calcium carbonate
d) Calcium lactate
e) Calcium gluconate

E-3.4 Phosphorus

a) Defluorinated dicalcium phosphate [*See* IS 5470]
b) Defluorinated monocalcium phosphate
c) Monosodium phosphate
d) Calcium-magnesium phosphate
e) Calcium-sodium phosphate

E-3.5 Magnesium

a) Magnesium oxide (anhydrous magnesia)
b) Magnesium sulphate
c) Magnesium chloride
d) Magnesium carbonate
e) Magnesium phosphate

E-3.6 Sulphur

a) Sodium sulphate

E-4 FEED ADDITIVES, CERTAIN SUBSTANCES USED IN ANIMAL NUTRITION AND PROCESSING AIDS USED IN FEEDING STUFFS

E-4.1 Feed Additives

E-4.1.1 *Trace elements* - The following substances are included in this category:

E-4.1.1.1 *Iron*

a) Ferrous (II) carbonate
b) Ferrous (II) sulphate monohydrate and/or heptahydrate
c) Ferric (III) oxide

E-4.1.1.2 *Iodine*

a) Calcium iodate, anhydrous
b) Calcium iodate, hexahydrate
c) Sodium iodide

E-4.1.1.3 *Cobalt*

a) Cobaltous (II) sulphate monohydrate and/or heptahydrate
b) Basic cobaltous (II) carbonate, monohydrate

E–4.1.1.4 *Copper*

a) Copper (II) oxide
b) Basic copper (II) carbonate, monohydrate
c) Copper (II) sulphate, pentahydrate

E-4.1.1.5 *Manganese*

a) Manganous (II) carbonate
b) Manganous oxide and manganic oxide
c) Manganous (II) sulfate, mono- and/or tetrahydrate

E -4.1.1.6 *Zinc*

a) Zinc carbonate
b) Zinc oxide
c) Zinc sulphate mono- and/or heptahydrate

E-4.1.1.7 *Molybdenum*

a) Ammonium molybdate
b) Sodium molybdate

E-4.1.1.8 *Selenium*

a) Sodium selenate
b) Sodium selenite

E-4.1.2 *Vitamins, Pro-Vitamins and Chemically Well Defined Substances Having A Similar Effect –*

The following substances are included in this category:

a) Preferably derived from raw materials occurring naturally in feeding stuffs
b) Synthetic vitamins identical to natural vitamins only for monogastric animals
c) During a transitional period synthetic vitamins of types A, D and E may be used for ruminants in so far as the following conditions are met:
   i) the synthetic vitamins are identical to the natural vitamins; and
   ii) the authorization issued is founded on precise criteria.

(Producers may benefit from this authorization only if they have demonstrated that the health and welfare of their animals cannot be guaranteed without the use of these synthetic vitamins) .

E-4.1.3 Microorganisms — The following microorganisms are included in this category:

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

E-4.1.4 *Preservatives* — The following substances are included in this category:

a) Sorbic acid
b) Formic acid
c) Acetic acid
d) Lactic acid
e) Propionic acid
f) Citric acid

(The use of lactic, formic, propionic and acetic acid in the production of silage shall be only permitted when weather conditions do not allow for adequate fermentation.)

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

a) Calcium stearate of natural origin
b) Colloidal silica
c) Kieselgur
d) Bentonite
e) Kaolinitic clays
f) Natural mixtures of stearites and chlorite
g) Venniculite
h) Sepiolite
j) Perlite

E-4.1.6 *Antioxidant substances* — The following substances are included in this category:

Tocopherol – rich extracts of natural origin

E-4.1.7 *Silage additives* - The following substances are included in this category:

enzymes, yeasts and microorganisms that are not genetically modified.

E-4.2 Certain products used in animal nutrition — The following products are included in this category:

Brewer's yeasts

E-4.3 Processing aids used in feeding stuffs

E-4.3.1 *Processing aids for silage* — The following substances are included in this category:

a) Sea salt
b) Coarse rock salt,
c) Whey
d) Sugar
e) Sugar beet pulp
f) Cereal flour
g) molasses

E-4.4 Biologicals and Immunologicals in feed

a) Colostrum powder / whole colostrum (provided that it is preferably derived from animals that are reared under organic farming).
b) Ayurvedic and plant-derived products that are claimed to have immuno potentiating properties.

ANNEX F

(*Clause* 4.9.8.1)

ENZYMES AND THEIR SOURCES PERMITTED FOR USE IN LIVESTOCK/ POULTRY

Name of the Enzyme	Source
i) Alpha-Amylase	*Aspergillus niger,var.* *Aspergillus oryzae, var.* *Bacillus amyloliquefaciens* *Bacillus lentus* *Bacillus licheniformis* *Bacillus stearothermophilus* *Bacillus subtilis, var*. Barley malt *Rhizopus niveus* *Rhizopus oryzae, var.*
ii) Maltogenic alpha-Amylase	*Bacillus subtilis*
iii) beta-Amylase	Barley malt
iv) Cellulase	*Aspergillus niger, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
v) alpha-Galactosidase	*Aspergillus niger, var.* *Mortierella vinaceae var. raffinoseutilizer* *Saccharomyces sp.*
vi) beta-Glucanase	*Aspergillus niger, var.* *Bacillus lentus* *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
vii) ß-Glucosidase	*Aspergillus niger*
viii) Glucoamylase also known as amlyo - glucosidase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Rhizopus niveus* *Rhizopus oryzae, var.*
ix) Hemicellulase	*Aspergillus aculeatus* *Aspergillus niger, var.* *Bacillus lentus* *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
x) Invertase	*Aspergillus niger,* var. *Saccharomyces sp.*

Name of the Enzyme	Source
xi) Lactase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Candida pseudotropicalis* *Kluyveromyces marxianis var.lactis (formerly Saccharomyces sp.)*
xii) beta-Mannanase	*Aspergillus niger, var.* *Bacillus lentus* *Trichoderma longibrachiatum*
xiii) Pectinase	*Aspergillus aculeatus* *Aspergillus niger, var.* *Rhizopus oryzae*
xiv) Pullulanase	*Bacillus acidopullulyticus* *Bacillus licheniformis containing Bacillus* *deramificans gene for pullulanse*
xv) Xylanase	*Aspergillus niger, var.* *Bacillus lentus* *Bacillus subtilis, var.* *Humicola insolens* *Trichoderma longibrachiatum (formerly reesei)*
xvi) Lipase	*Aspergillus niger, var.* *Aspergillus oryzae, var.* *Candida rugosa (formerly cylindracea)* *Rhizomucor (mucor) miehei* *Rhizopus oryzae* *Rhizomucor (Mucor-) miehei* *Rhizopus oryzae*
xvii) Bromelain	Pineapples – stem fruit
xviii) Ficin	Figs
ix) Papain	Papaya
xx) Protease (general)	*Aspergillus niger, var. Aspergillus oryzae, var.* *Bacillus amyloliquefaciens* *Bacillus licheniformis* *Bacillus subtilis, var*
xxi) Catalase	*Aspergillus niger, var.* *Micrococcus lysodeikticus*
xxii) Phytase	*Aspergillus niger, var.* *Aspergillus oryzae, var.*

ANNEX G

(*Clause* 4.10.2)

LIST OF DISEASES FOR HERD / FLOCK DIAGNOSIS

G-0 In consultation with the veterinarian a program of health management of the animals shall be drawn up and testing of the herd shall be carried out for the following diseases:

G -1 CATTLE INCLUDING BUFFALOES

a) Brucellosis
b) Leptospirosis
c) Mastitis
d) Tuberculosis
e) Para-tuberculosis

G-2 SHEEP AND GOAT

a) Brucellosis
b) Leptospirosis
c) Tuberculosis
d) Para-tuberculosis

G-3 PIGS

a) Swine fever
b) Brucellosis

G-4 POULTRY

a) Mycoplasma gallinarum
b) Fowl Typhoid

ANNEX H

(*Clause* 4.10.4)

ANTIBIOTIC / ANTIBACTERIAL WITHDRAWAL PERIOD

Sl No.	Intramammary Preparations	Discard time for milk
i)	Benzathine cloxacillin	72 h (of milk discard)
ii)	Cloxacillin sodium	48 h (of milk discard)
iii)	Hetacillin potassium	72 h(of milk discard)
iv)	Procaine penicillin G (Peanut oil)	84 h (of milk discard)

WITHDRAWAL PERIODS (SHEEP AND GOATS)

Sl No.	Drug	Pre-Slaughter Withdrawal Time (days)
i)	Chlortetracycline (Oral)	2
ii)	Procaine penicillin-G	9
iii)	Procaine penicillin-G, dihydrostreptomycin sulphate	30
iv)	dihydrostreptomycin sulphate	30
v)	Erythromycin	3
vi)	Sulphamethazine	10
vii)	Sulphamethazine (Oral)	10
viii)	Sulphaquinoxaline (Oral)	10
ix)	Sulpfisoxazole (Oral)	10
x)	Tetracycline (Oral)	--
xi)	Thiabendazole (Oral)	30

WITHDRAWAL PERIODS (SWINE)

Sl No.	Drug	Pre-slaughter withdrawal time (days)
i)	Chlortetracycline (Oral)	2
ii)	Procaine penicillin-G	30
iii)	Procaine penicillin-G, dihydrostreptomycin sulphate	30
iv)	Dihydrostreptomycin sulphate	30
v)	Erythromycin	7
vi)	Ampicillin trihydrate	15
vii)	lincomycin hydrpchloride	2
viii)	Oxytetracycline HCl	26
ix)	Tylosin	4
x)	Amoxycillin trihydrate (oral)	15
xi)	Ampicillin trihydrate (oral)	15
xii)	Chlortetracycline, Sulphathiazole, Procaine penicillin (oral)	7
xiii)	Chlortetracycline, sulphamethazine, penicillin (oral)	15
xiv)	Chlortetracycline HCl (oral)	5
xv)	Dihydrostreptomycin (oral)	30
xvi)	Erythromycin (oral)	7
xvii)	Furazolidine (oral)	5
xviii)	Hygromycin B (oral)	2
xix)	Lincomycin (oral)	6
xx)	Nystatin (oral)	--
xxi)	Oxytetracycline (oral)	26
xxii)	Penicillin 50gm/900kg ffed (oral)	0
xxiii)	Spectinomycin dihydrochloride pentahydrate (oral)	21
xxiv)	Streptomycin, sulphathizole, phthalylsulphathiazole (oral)	10
xxv)	Sulphachloropyridazine sodium (oral)	4
xxvi)	Sulphaethoxypyridazine (oral)	10
xxvii)	Sulphamethazine (oral)	15
xxviii)	Sulphaquinoxaline (oral)	10

WITHDRAWAL PERIODS (POULTRY)

Sl No.	Drug	Pre-slaughter withdrawal time (days)
i)	Bacitracin	0
ii)	Carbomycin	1
iii)	Chlortetracycline	1
iv)	Erythromycin	2
v)	Gentamycin sulphate (inj)	35
vi)	Lincomycin	5
vii)	Monensin sodium	5
viii)	Nitrofurazone	5

Sl No.	Drug	Pre-slaughter withdrawal time (days)
ix)	Novobiocin	4
x)	Oleandamycin	--
xi)	Oxytetracycline (50-200gm/900kg feed)	0
xii)	Penicillin (2.4-125 gm/900kg)	0
xiii)	Spectinomycin	5
xiv)	Sulphadimethoxine	5
xv)	Sulphaquinoxaline	10
xvi)	Tylosin Phosphate	5

Reference : Jones Veterinary pharmacology and Therapeutics Vth edition. Toxicity of drug and chemical residues

ANNEX J

(*Clause* 4.14.2)

PRODUCTS AUTHORIZED FOR CLEANING AND DISINFECTION OF LIVESTOCK BUILDINGS AND INSTALLATIONS

a) Potassium and sodium soap,
b) Water and steam,
c) Milk of lime,
d) Lime,
e) Quicklime,
f) Sodium hypochlorite (for example as liquid bleach),
g) Caustic potash,
h) Hydrogen peroxide,
j) Natural essences of plants,
k) Citric, peracetic acid, formic, lactic, oxalic and acetic acid,
m) Alcohol,
n) Nitric acid (dairy equipment),
p) Phosphoric acid (dairy equipment),
q) Formaldehyde, and
r) Sodium carbonate.

ANNEX K

(*Clause* 4.15.1)

FOOD ADDITIVES INCLUDING CARRIERS FOR USE IN PRODUCTION OF PROCESSED ORGANIC FOOD

International Numbering System	Name of Additive/Carrier	Use in Preparation of Food Products	Conditions for Use
INS 170	Calcium carbonate	√	Not for use for colouring/ calcium enrichment of products
INS 220	Sulphur dioxide	√	
INS 270	Lactic acid	√	
INS 296	Malic acid		
INS 290	Carbon dioxide	√	
INS 300	Ascorbic acid	√	For meat products
INS 306	Tocopheroles, mixed, natural concentrates	√	Antioxidant for fats and oils

International Numbering System	Name of Additive/Carrier	Use in Preparation of Food Products	Conditions for Use
INS 322	Lecithin	√	For milk products (to be obtained without use of bleaches and organic solvents)
INS 325	Sodium lactate	√	For milk based and meat products
INS 330	Citric acid	√	
INS 331	Sodium citrate		
INS 333	Calcium citrate		
INS 334	Tartaric acid		
INS 335	Sodium tartarate		
INS 336	Potassium tartarate		
INS 341	Mono calcium phosphate		
INS 400	Alginic acid	√	For milk based products
INS 401	Sodium alginate	√	For milk based products
INS 402	Potassium alginate	√	For milk based products
INS 406	Agar	√	For milk based and meat products
INS 407	Carrageenan	√	For milk products
INS 410	Locust bean gum	√	
INS 412	Guar gum	√	
INS 414	Arabic gum	√	
INS 415	Xanthum gum	√	
INS 422	Glycerol		
INS 440	Pectin	√	For milk based products
INS 464	Hydroxy propyl methyl Cellulase		For encapsulation material for capsules
INS 500	Sodium carbonate	√	For milk product substances
INS 501	Potassium carbonate		
INS 503	Ammonium carbonate		
INS 504	Magnesium carbonate		
INS 509	Calcium chloride	√	For milk coagulation
INS 516	Calcium sulphate		Restricted; For use only as carrier
INS 524	Sodium hydroxide		
INS 551	Silicon dioxide		
INS 553	Talc		Coating agent for meat products
INS 938	Argon	√	
INS 939	Helium	√	
INS 941	Nitrogen	√	
INS 948	Oxygen	√	

ANNEX L

(*Clause* 4.15.1)

PROCESSING AIDS AND OTHER PRODUCTS FOR USE IN PROCESSING OF INGREDIENTS

Product	Use in Preparation of Food Products	Conditions for Use
Water	√	Potable water
Calcium chloride		Coagulation agent
Calcium carbonate		Coagulation agent
Calcium hydroxide		
Calcium sulphate		Coagulation agent
Magnesium chloride		Coagulation agent
Potassium carbonate		
Sodium carbonate		
Lactic acid	√	For regulation of pH of brine bath in cheese production
Citric acid	√	For regulation of pH of brine bath in cheese production; oil production and hydrolysis of starch
Sodium hydroxide		
Sulphuric acid	√	Gelatin production
Hydrochloric acid	√	Gelatin production
Ammonium hydroxide	√	Gelatin production
Hydrogen peroxide	√	Gelatin production
Carbon dioxide	√	
Nitrogen	√	
Ethanol	√	Solvent
Tannic acid		Filtration aid
Egg white albumin		
Casein		
Gelatin		
Isinglass		
Vegetable oils	√	Greasing, releasing or antifoaming agent
Silicon dioxide gel		
Activated carbon		
Talc		In compliance with the specific purity criteria for food additive
Kaoline	√	
Cellulose	√	Gelatin production
Diatomaceous earth	√	Gelatin production
Perlite	√	Gelatin production
Hazel nut shells		
Rice meal		
Bee wax		Releasing agent

Flavouring Agents

a) Volatile (essential) oils produced by means of solvents such as oil, water, ethanol, carbon dioxide and mechanical and physical processes
b) Natural smoke flavour
c) Use of approved natural flavouring preparations

Preparations of Micro-organisms

a) Preparations of micro-organisms accepted for use in food processing
b) Genetically modified microorganisms are excluded
c) Bakers yeast produced without bleaches and organic solvents

Ingredients

a) Drinking water
b) Salt
c) Minerals (including trace elements) and vitamins where their use is legally required or where severe dietary or nutritional deficiency can be demonstrated.

ANNEX M

(*Clause* 4.16.2)

APPROVED ADDITIVES FOR USE IN MANUFACTURING OF PACKAGING FILMS FOR PACKAGING OF ORGANIC FOODSTUFF

M.1 Certain additives for use in manufacturing of packaging films for packaging of organic food stuff are allowed for restricted use .In this annex "restricted" means that the use of these inputs shall be subject to conditions.

S. No.	Products	Limitation
i.	4,4'-Bis(2-benzoxazolyl)stilbene	Restricted
ii.	9,9-Bis(methoxymethyl)fluorine	Restricted
iii.	Carbonic acid, copper salt	
iv.	Diethyleneglycol	Restricted
v.	2-(4,6-Diphenyl-1,3,5-triazin-2-yl)-5-(hexyloxy)phenol	
vi.	Ethylenediaminetetraacetic acid, copper salt	Restricted
vii.	2-(2-Hydroxy-3,5-di-tert-butyl-phenyl-5-Chlorobenzotriazole	
viii.	2-Methyl-4-isothiazolin-3-one	Restricted
ix.	Phosphoric acid, trichlorocthylester	
x.	Polyesters of 1,2 propanediol and/or 1,3-and 1, 4 butanediol and/or polypropyleneglycol with adipic acid, also end-capped with acetic acid or fatty acids C10-C18 or n-octanol and/or n-decanol	Restricted
xi.	1,1,1-Trimethylolpropane	Restricted
xii.	3-hydroxybutanoic acid 3-hydro xypentanoic acid, Copolymer	Restricted

ANNEX N

(*Clause* 4.18.5)

PRODUCTS FOR PLANT PEST AND DISEASE CONTROL

N-1 ertain products are allowed for use in organic agriculture for the control of pests and diseases in plant production. Such products should only be used when absolutely necessary and should be chosen taking the environmental impact into consideration. Many of these products are restricted for use in organic production. In this annex "restricted" means that the use of these inputs shall be subject to conditions.

S.No	Inputs	Condition for use
	Substances from plant and animal origin	
i)	*Azadiracta indica*	Permitted
ii)	Neem oil	Restricted
iii)	Preparation of rotenone from *Derris elliptica Lonchocarpus, Thephrosia spp*	Restricted
iv)	Gelatin	Permitted
v)	Propolis	Restricted
vi)	Plant based extracts – garlic, pongamia etc.	Permitted
vii)	Preparation on basis of pyrethrins extracted from *Chrysanthemum*	Restricted
viii)	*Cinerariaefolium*, containing possibly a synergist P*yrethrum cinerafolium*	
ix)	Preparation from *Quassia amara*	Restricted
x)	Preparation from *Ryania species*	Restricted
xi)	Tobacco tea	Not permitted
xii)	Lecithin	Restricted
xiii)	Casein	Permitted
xiv)	Sea weeds, sea weed meal, sea weed extracts, sea salt and salty water	Permitted
xv)	Extract from mushroom (Shiitake fungus)	Permitted
xvi)	Extract from Chlorella	Permitted
xvii)	Natural acids (vinegar)	Restricted
xviii)	Minerals	
xix)	Chloride of lime/soda	Restricted
xx)	Clay (for example perlite, vermiculite, zeolite)	Permitted
xxi)	Copper salts / inorganic salts (Bordeaux mixture, copper hydroxide, copper oxychloride) used as a fungicide depending upon the crop and under the supervision of the Certification Body	Restricted
xxii)	Mineral powders (for example stone meal,)	Not allowed
xxiii)	Diatomaceous earth	Restricted
xxiv)	Light mineral oils	Restricted
xxv)	Permanganate of potash	Restricted
xxvi)	Lime sulphur (calcium polysulphide)	Restricted
xxvii)	Silicates, clay (Bentonite)	Restricted
xxviii)	Sodium bicarbonate	Permitted
xxix)	Sulphur (as a fungicide, acaricide, repellant)	Restricted
xxx)	Microorganism used for biological pest control	

S.No	Inputs	Condition for use
xxxi)	Fungal preparations *Trichoderma spp*, *Metarhizium, Bauveria, Verticillium, Noumeria*, etc)	Permitted
xxxii)	Bacterial preparations *Bacillus spp, Pseudomonas fluorescens)*	Permitted
xxxiii)	Release of parasites, predators, natural enemies of pest and sterilized Insects	Permitted
xxxiv)	Others	
xxxv)	Carbon dioxide and nitrogen gas	Restricted
xxxvi)	Soft soap (potassium soap)	Permitted
xxxvii)	Ethyl alcohol	Not allowed
xxxviii)	Homeopathic and ayurvedic preparations	Permitted
xxxix)	Herbal and biodynamic preparations	Permitted
xxxx)	Traps	
xxxxi)	Physical methods (chromatic traps, mechanical traps, sticky traps and pheromones	Permitted

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