



उत्पाद मानुयल
पशुओ के लिए मिश्रित आहार
IS 2052: 2023 के अनुसार

**PRODUCT MANUAL FOR
COMPOUNDED FEEDS FOR CATTLE–SPECIFICATION
ACCORDING TO IS 2052: 2023**

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम 2018 की स्कीम-I के तहत यह उत्पाद मानुयल प्रमाणीकरणके प्रचलन मे रीति और पारदर्शिता के सुसंगता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेन्स धारियों द्वारा संदर्भ सामग्री के रूप मे उपयोग किया जाएगा। बीआईएस लाइसेन्स/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	उत्पाद Product	:	IS 2052: 2023
	शीर्षक Title	:	पशुओ के लिए मिश्रित आहार Compounded Feeds for Cattle
	संशोधन संख्या No. of Amendments	:	Nil
2.	नमुनाकरण दिशा निर्देश Sampling Guidelines:		
a)	कच्चा माल Raw material	:	i) Manufacturer to submit declaration/ undertaking in compliance to Clause 4.2.1, Annex-B of IS 2052:2023 ii) For compliance to clause 4.2.2 (regarding proportion of urea, when incorporated and percent of easily digestible carbohydrates) and clause 4.2.3, declaration shall be obtained from the manufacturer.
b)	समूहिकरण दिशा निर्देश Grouping guidelines	:	कृपया Annex-A देखें Please refer ANNEX <u>A</u>
c)	नमूने का परमाण Sample Size	:	500g
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-B देखें Please refer ANNEX <u>B</u>
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-C देखें Please refer ANNEX <u>C</u>

5.	एक दिन में संभावित परीक्षण Possible tests in a day :	
	i. Description ii. Total Nitrogen iii. Sulphur iv. Moisture v. Crude Protein vi. Crude Fat vii. Crude Fibre viii. Acid-insoluble ash. ix. Salt x. Urea	
6.	लाइसेन्स का कार्यक्षेत्र / Scope of the Licence:	
	IS 2052: 2023 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है Licence is granted for use of the Standard Mark as per IS 2052: 2023 with the following scope:	
	उत्पाद का नाम Name of the product	Compounded Feeds for Cattle
	Type	-Type I (high yielding animals); and/or -Type II (low to medium yielding animals)

BUREAU OF INDIAN STANDARDS
Manak Bhawan,
9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX A
PRODUCT MANUAL FOR
COMPOUNDED FEEDS FOR CATTLE–SPECIFICATION
ACCORDING TO IS 2052: 2023

GROUPING GUIDELINES

1. Compounded Feeds for Cattle have been classified into following 2 types (clause 3.1):

(i)	Type I (high yielding animals)
(ii)	Type II (low to medium yielding animals)

2. The manufacturer shall declare the type of Compounded Feeds for Cattle, they intend to cover in the scope of licence. The sample of each type to be drawn and shall be subjected to testing for considering grant of licence/inclusion of that type.
3. It shall be ensured that the firm is having all the necessary manufacturing and testing facilities for the manufacture and testing of the types to be included in the licence.
4. During the operation of licence, BO shall ensure that all the types of Compounded Feeds for Cattle, covered in the license are drawn for independent testing on rotation over a period of time.

ANNEX – B
PRODUCT MANUAL FOR
COMPOUNDED FEEDS FOR CATTLE–SPECIFICATION
ACCORDING TO IS 2052: 2023

LIST OF TEST EQUIPMENTS

Major test equipment required to test as per requirements of Indian Standard

S. No.	Tests used in with Clause Reference	Test Equipment
1.	Preparation of test sample	Grinding arrangement to grind sample, 1.00 mm IS sieve or ASTM sieve 18 or BS sieve 16or Tyler sieve 16, Well stoppered glass bottle
2	Total Nitrogen Cl. 4.2.2	<u>Method as per IS/ISO 5983 (Part 1)</u> <u>Kjeldahl method</u> Potassium sulfate, Copper (II) oxide or Copper (II) sulfate pentahydrate, Sulfuric acid, Paraffin wax., Saccharose, Acetanilide or Tryptophan, Sodium hydroxide solution, Sulfuric acid or Boric acid, Sodium hydroxide, Mixed indicator (methyl red and methylene blue), pH indicator paper, Boiling aids such as granulated pumice stone, or glass beads, Analytical balance, Digestion, distillation and titration apparatus. OR <u>Method as per IS/ISO 5983 (Part 2)</u> <u>Block Digestion and Steam Distillation Method</u> Kjeldahl catalyst tablets, Sulfuric acid, Hydrogen peroxide solution, Antifoaming agent, Sodium hydroxide, methyl red solution, Bromocresol green solution, Boric acid, Hydrochloric acid, Ammonium sulfate, Ammonium iron (II) sulfate, Acetanilide, Tryptophan, Sucrose, Analytical balance, Digestion block, Digestion tubes, Exhaust manifold, Centrifugal scrubber apparatus (filter pump or aspirator) OR <u>Method as per ISO 16634- 1</u> Carrier Gases(Carbon dioxide or Helium), Oxygen, Sulfur dioxide and halogen absorbent, Copper oxide platinum catalyst, Silver or copper wool, Silica (quartz) or glass wool or cotton wool, Copper (wire, cuttings, turnings or powder), or tungsten, Diphosphorus pentoxide or granulated magnesium perchlorate, Hollow corundum spheres or aluminium oxide pellets, Copper oxide, Aspartic acid or ethylenediaminetetraacetic acid or glutamic acid or hippuric acid, Light petroleum or acetone or ethanol, Analytical balance, Grinding device, sieve, crucibles or tin capsules or nitrogen-free filter paper for pressing pellets, Dumas apparatus
3	Sulphur Cl. 4.2.2	<u>Method as per IS 1664(Annex-B)</u> Magnetic Stirrer, Spectrophotometer, Measuring Spoon (0.2 to 0.3 ml), Barium Chloride (AR grade crystals), potassium sulphate OR <u>Method as per EN 15621</u> Nitric acid(concentrated), Hydrogen peroxide, Element stock

		solutions(S), Laboratory grinder, Analytical balance, Pressure digestion apparatus, One-mark volumetric flasks, Inductively coupled plasma –Atomic Emission Spectrometer, Freeze drying equipment, Oven for pre-drying, Beaker, Electric hot plate
4	Aflatoxin B ₁ in materials of plant origin Cl. 4.2.4	<u>Method as per IS/ISO 14718</u> Sulfuric acid, Acid-washed Celite 545 or product of equivalent quality, Florisil Sep-Pak style cartridge, Waters No. 51960, or product of equivalent, Acetone. Methanol. Acetonitrile, Chloroform, Acetone, Methanol, Concentrated nitric acid, Potassium bromide, Iodine, Sodium hypochlorite solution, Inert Gas, Aflatoxin B₁ standard, HPLC Or <u>Method as per ISO 17375</u> Phosphate buffer saline (PBS), Pyridinium hydrobromide perbromide (PBPB), Potassium bromide, HPLC-grade acetonitrile, HPLC-grade methanol, Acetone(pure), HPLC grade water, Extraction solvent, Nitric acid, Immunoaffinity column, Toluene/acetonitrile, HPLC, Aflatoxin B₁ standard material Or <u>Method as per AOAC 2003.02 (Immunoaffinity Column Liquid Chromatography method)</u> Vertical or horizontal shaker, Filter paper, Erlenmeyer flask, Glass microfiber filter paper(retention 1.6µm, Reservoir(75 ml with Luer tip connector for affinity column), Hand pump(20 ml syringe with Luer lock or rubber stopper), LC pump, Injection system, Reversed phase LC column, Fluorescence detector, Disposable filter unit, Pipet, Analytical balance, microliter syringe, Immunoaffinity columns, PBS, Pyridinium hydrobromide perbromide(PBPB), Potassium bromide, Acetonitrile-LC Grade, Methanol-LC Grade, Acetone, LC Grade water, extraction system
5	Moisture Cl 4.3 & 7.1, Table 1	Weighing balance, LC 1 g, Aluminium dish with cover, at least 50 mm diameter and about 40 mm depth, Air oven, LC 2 ⁰ C, Desiccator.
6	Crude protein Cl 4.3 & 7.1, Table 1	<u>Method as per IS/ISO 5983 (Part 1)</u> <u>Kjeldahl method</u> Potassium sulfate, Copper (II) oxide or Copper (II) sulfate pentahydrate, Sulfuric acid, Paraffin wax., Saccharose, Acetanilide or Tryptophan, Sodium hydroxide solution, Sulfuric acid or Boric acid, Sodium hydroxide, Mixed indicator (methyl red and methylene blue), pH indicator paper, Boiling aids such as granulated pumice stone, or glass beads, Analytical balance, Digestion, distillation and titration apparatus. OR <u>Method as per IS/ISO 5983 (Part 2)</u> <u>Block Digestion and Steam Distillation Method</u> Kjeldahl catalyst tablets, Sulfuric acid, Hydrogen peroxide solution, Antifoaming agent, Sodium hydroxide, methyl red solution, Bromocresol green solution, Boric acid, Hydrochloric acid, Ammonium sulfate, Ammonium iron (II) sulfate, Acetanilide, Tryptophan, Sucrose, Analytical balance, Digestion block, Digestion tubes, Exhaust manifold, Centrifugal scrubber

		apparatus (filter pump or aspirator) OR <u>Method as per ISO 16634- 1</u> Carrier Gases(Carbon dioxide or Helium), Oxygen, Sulfur dioxide and halogen absorbent, Copper oxide platinum catalyst, Silver or copper wool, Silica (quartz) or glass wool or cotton wool, Copper (wire, cuttings, turnings or powder), or tungsten, Diphosphorus pentoxide or granulated magnesium perchlorate, Hollow corundum spheres or aluminium oxide pellets, Copper oxide, Aspartic acid or ethylenediaminetetraacetic acid or glutamic acid or hippuric acid, Light petroleum or acetone or ethanol, Analytical balance, Grinding device, sieve, crucibles or tin capsules or nitrogen-free filter paper for pressing pellets, Dumas apparatus
7	Crude Fat Cl 4.3 & 7.1, Table 1	<u>Method as per IS/ISO 6492</u> Sodium sulfate(anhydrous), Light petroleum, Silicon carbide chips or glass beads, Acetone, Hydrochloric acid, Filtration aid for example diatomaceous earth (Kieselguhr), Extraction thimbles, Soxhlet-type extractor, Heating apparatus with temperature control, Drying oven, Electrically heated vacuum oven, Desiccator
8	Crude fibre Cl 4.3 & 7.1, Table 1	<u>Method as per IS/ISO 6865</u> Hydrochloric acid, Sulfuric acid, Potassium hydroxide solution, Acetone, Filter aid eg. Sea sand or Celite 545, Antifoam agent eg. n-octanol, Light Petroleum, Grinding device, Analytical Balance, Filter crucibles of quartz/porcelain/hard glass with fused sintered filter plate, Porcelain sieve Plates, Incineration dishes, Drying oven, Desiccator, Muffle furnace, Cold-extraction device, Heating device
9	Acid-insoluble ash Cl 4.3 & 7.1, Table 1	<u>Method as per IS 1712(Annex A)</u> Dilute Hydrochloric Acid- approximately 5 N, Porcelain, silica or platinum dish, Meker burner, Muffle furnace at $(550 \pm 20^{\circ}\text{C})$, Weighing balance (LC- 1mg), Desiccator, Whatman filter paper No. 42 or its equivalent, Air-oven $(135 \pm 2^{\circ}\text{C})$, Silver nitrate solution OR <u>Method as per IS 14826</u> Dilute hydrochloric acid, Trichloroacetic acid solution, Analytical balance, Muffle furnace, Drying oven, Hot-plate or gas burner, Boiling water bath, Incineration dishes, of platinum or platinum-gold alloy (e.g. 10 % Pt, 90 % Au) or of other material unaffected by the conditions of the test, Desiccator
10	Salt Cl 4.3 & 7.1, Table 1	<u>Method as per IS 7874(Part-2)</u> Ferric Sulphate, Ammonium Hydroxide, Nitric acid(Conc.), Standard Silver Nitrate Solution, Standard Potassium Thiocyanate Solution, 11 cm Whatman filter paper No. 41
11	Calcium Cl 4.3 & 7.1, Table 1	<u>Method as per IS 13433(Pt-1)</u> Electric Muffle Furnace, Incineration Dish made of platinum, silica or porcelain, Sintered Glass Filter Crucible of porosity P 16, Boiling Water-Bath, Analytical Balance, Hydrochloric Acid, Nitric Acid, Sulphuric Acid, Ammonia Solution, Ammonium Oxalate, Citric Acid Monohydrate, Ammonium Chloride, Bromocresol Green, Potassium Permanganate

		Or <u>Method as per IS 15121</u> Hydrochloric Acid, Lanthanum nitrate solution. Caesium chloride solution. Stock solution of Cu, Fe, Mn and Zn. Standard solution of Cu, Fe, Mn and Zn. Stock solution of Ca, K, Mg and Na, Standard solution of Ca, K, Mg and Na, Analytical Balance, hot plate or gas burner. water bath, Muffle Furnace, Atomic absorption spectrometer, Filter paper Or <u>Method as per EN 15621</u> Nitric acid(concentrated), Hydrogen peroxide, Element stock solutions (Ca), Laboratory grinder, Analytical balance, Pressure digestion apparatus, One-mark volumetric flasks, Inductively coupled plasma –Atomic Emission Spectrometer, Freeze drying equipment, Oven for pre-drying, Beaker, Electric hot plate
12	Total Phosphorus Cl 4.3 & 7.1, Table 1	<u>Method as per IS 14828</u> Calcium carbonate, Hydrochloric acid, Nitric acid, Sulfuric acid, Ammonium heptamolybdate solution, Ammonium monovanadate solution, potassium dihydrogen phosphate, Ashing crucibles of silica or porcelain, Electric muffle-furnace, Kjeldahl flask, Spectrometer, Sand bath Or <u>Method as per EN 15621</u> Nitric acid(concentrated), Hydrogen peroxide, Element stock solutions(P), Laboratory grinder, Analytical balance, Pressure digestion apparatus, One-mark volumetric flasks, Inductively coupled plasma –Atomic Emission Spectrometer, Freeze drying equipment, Oven for pre-drying, Beaker, Electric hot plate
13	Available Phosphorus Cl 4.3 & 7.1, Table 1	<u>Method as per IS 1374(Annex-F)</u> Aminonaphtholsulphonic Acid, Sodium Bisulphite solution, Sodium Sulphite solution, Calcium Chloride Solution, Hydrochloric Acid(dilute), ammonium molybdate, Phenolphthalein Indicator, Sodium Hydroxide Solution, Standard Phosphate Solution, Sulphuric Acid, Trichloroacetic Acid, Colorimeter
14	Urea Cl 4.3 & 7.1, Table 1	<u>Method as per IS 7874(Part-1)</u> Weighing balance LC 1 g ,Kjeldahl Flask, Distillation Assembly, Defoaming (diglycol stearate, benzene, alcohol, dibutyl phthalate), Urease, hydrochloric acid, methyl red indicator, Calcium Chloride, Sulphuric Acid, Sodium Hydroxide, Magnesium Oxide OR <u>Method as per AOAC 967.07</u> p-Dimethylaminobenzaldehyde (DMAB) solution, Zinc acetate solution, Potassium ferrocyanide solution, Vegetable charcoal (Dargo G-60), Phosphate buffer solution, Urea standard solution

15	Vitamin A Cl 4.3 & 7.1, Table 1	<u>Method as per IS 15120</u> Potassium hydroxide solution, Ethanol, 2-Propanol, Light petroleum, All-trans-retinyl acetate, vitamin A acetate, All-trans-retinol, vitamin A alcohol, Methanol, HPLC grade, Sodium sulfate, Sodium ascorbate solution, Inert gas e.g. nitrogen, HPLC, UV (or UV-Visible) spectrometer, water bath, Rotary vacuum evaporator, Extraction Apparatus, Membrane filter(0.45 µm pore size)
16	Vitamin D Cl 4.3 & 7.1, Table 1	<u>Method as per IS 2052</u> amber colour vial, diethyl ether, acetone, freezer, methyl chloride, methanol, phosphate buffer, water bath, nitrogen gas, 0.22 µ filter paper, HPLC
17	Vitamin E Cl 4.3 & 7.1, Table 1	<u>Method as per IS 15948</u> Potassium hydroxide, Ethanol, Hexane(HPLC grade), Light Petroleum, Vitamin E standard substance(DL-a-tocopherol), 1,4-Dioxan(HPLC grade), Sodium sulfate, Sodium ascorbate solution, Inert Gas(Nitrogen), Vitamin E Standard substances, HPLC, ethanol, Methanol, water Bath, Rotary vacuum Evaporator, Membrane filter, 0.45 m pore size, Grinding apparatus, High-performance liquid chromatograph, Extraction apparatus, UV (or UV/Visible) spectrometer
18	Aflatoxin B ₁ Cl 4.3 & 7.1, Table 1	<u>Method as per IS/ISO 14718</u> Sulfuric acid, Acid-washed Celite 545 or product of equivalent quality, Florisil Sep-Pak style cartridge, Waters No. 51960, or product of equivalent, Acetone. Methanol. Acetonitrile, Chloroform, Acetone, Methanol, Concentrated nitric acid, Potassium bromide, Iodine, Sodium hypochlorite solution, Inert Gas, Aflatoxin B ₁ standard, HPLC Or <u>Method as per ISO 17375</u> Phosphate buffer saline (PBS), Pyridinium hydrobromide perbromide (PBPB), Potassium bromide, HPLC-grade acetonitrile, HPLC-grade methanol, Acetone(pure), HPLC grade water, Extraction solvent, Nitric acid, Immunoaffinity column, Toluene/acetonitrile, HPLC, Aflatoxin B ₁ standard material Or <u>Method as per AOAC 2003.02 (Immunoaffinity Column Liquid Chromatography method)</u> Vertical or horizontal shaker, Filter paper, Erlenmeyer flask, Glass microfiber filter paper(retention 1.6µm, Reservoir(75 ml with Luer tip connector for affinity column), Hand pump(20 ml syringe with Luer lock or rubber stopper), LC pump, Injection system, Reversed phase LC column, Fluorescence detector, Disposable filter unit, Pipet, Analytical balance, microliter syringe, Immunoaffinity columns, PBS, Pyridinium hydrobromide perbromide(PBPB), Potassium bromide, Acetonitrile-LC Grade, Methanol-LC Grade, Acetone, LC Grade water, extraction system
19	Cadmium Cl 4.3 & 7.1 and Table 1	<u>Method as per EN 17053</u> Nitric acid concentrated, Hydrochloric acid concentrated, Hydrogen peroxide, Single-element and multi-element stock solutions for ICP-MS, Internal standard stock and standard solution, Gold chloride stock solution, AuCl ₃ , Laboratory grinder, Analytical

		balance, Pressure digestion apparatus, Inductively Coupled Plasma Mass Spectrometer (ICP-MS), Freeze-drying equipment, Oven for pre-drying, Beaker, Electric hot plate with temperature control
--	--	---

The list above is indicative only and may not be taken as exhaustive.

ANNEX-C
PRODUCT MANUAL FOR
COMPOUNDED FEEDS FOR CATTLE–SPECIFICATION
ACCORDING TO IS 2052: 2023
SCHEME OF INSPECTION AND TESTING

1.LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare and implement a calibration plan for the test equipments.

2. TEST RECORDS –The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the licence, shall be stenciled/printed on each bag of Compounded Feeds for Cattle or printed on the label applied to it, as the case may be, provided always that the material in each bag to which this mark is thus applied, conform to every requirement of the specification.

3.1 Marking – Each bag shall be legibly marked or labelled to give the information as per clause 5.2 of IS 2052. In addition, the following details shall be mentioned on each container legibly and indelibly:

a) BIS Licence No. CM/L_____.

b) BIS website details i.e –“For details of BIS certification please visit www.bis.gov.in”.

3.2 Packing – Compounded cattle feeds shall be packed in clean and sound plain or polyethylene lined jute or laminated paper bags or HDPE or polypropylene bags. The mouth of each bag shall be machine stitched.

4. CONTROL UNIT –For the purpose of this Scheme, the entire quantity of material manufactured continuously in a day shall constitute a control unit.

5. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2.0 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5.2 On the basis of the test results, decision, regarding conformity or otherwise of a control unit shall be made as follows:

5.2.1 Representative samples of the material for ascertaining conformity to this standard shall be drawn according to the method prescribed in Annex D of IS 2052:2023.

6. REJECTIONS–Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1
LEVELS OF CONTROL

S. No.	(1)				(2)	(3)		
	Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Recommended Levels of Control		
	Cl.	Requirement	Test Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
1.	4.1	Description	4.1	IS 2052	R	Firm to have adequate in-process controls to check compliance of this parameter as per the requirements given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity		
2	4.2.2	Total Nitrogen	--	IS/ISO 5983 (Part 1) or IS/ISO 5983 (Part 2) or ISO 16634-1	R	One	Each control unit	
3.	4.2.2	Sulphur	Annex B	IS 1664 Or EN 15621	R	One	Each control unit	
4.	4.2.4	Aflatoxin B1 in materials of plant origin	- Annex G	IS/ISO 14718 Or ISO 17375 Or AOAC 2003.02	S	One	Once in 6 months or whenever there is change in raw material supplier	
5	4.3 & 7.1, Table 1	Moisture	4	IS 7874 (Pt 1)	R	One	Each control unit	
6	4.3 & 7.1, Table 1	Crude protein	--	IS/ISO 5983 (Part 1) or IS/ISO 5983 (Part 2) or ISO 16634-1	R	One	Each control unit	
7.	4.3 & 7.1, Table 1	Crude fat	--	IS/ISO 6492	R	One	Each control unit	
8.	4.3 & 7.1, Table 1	Crude fibre	--	IS/ISO 6865	R	One	Each control unit	

9.	4.3 & 7.1, Table 1	Acid-insoluble ash	Annex A	IS 1712 Or IS 14826	R	One	Each control unit	
10.	4.3 & 7.1, Table 1	Salt	4	IS 7874 (Pt 2)	R	One	Each control unit	
11.	4.3 & 7.1, Table 1	Calcium	-	IS 13433(Pt 1) Or IS 15121 Or EN 15621	S	One	Once in a month	
12.	4.3 & 7.1, Table 1	Total Phosphorus		IS 14828 Or EN 15621	S	One	Once in a month	
13.	4.3 & 7.1, Table 1	Available Phosphorus	Annex F	IS 1374	S	One	Once in a month	
14.	4.3 & 7.1, Table 1	Urea	-	IS 7874 (Pt 1) Or AOAC 967.07	R	One	Each control unit	
15.	4.3 & 7.1, Table 1	Vitamin A	-	IS 15120	S	One	Once in 6 months or whenever there is change in raw material supplier	
16.	4.3 & 7.1, Table 1	Vitamin D	Annex C	IS 2052 Or J. AOAC Int. 2012, Vol. 95, No. 5, Pages 1487–1494	S	One	Once in 6 months or whenever there is change in raw material supplier	
17.	4.3 & 7.1, Table 1	Vitamin E	--	IS 15948	S	One	Once in 6 months or whenever there is change in raw material supplier	
18	4.3 & 7.1, Table 1	Aflatoxin B1	--	IS/ISO 14718 Or ISO 17375 Or AOAC 2003.02	S	One	Once in 6 months or whenever there is change in raw material supplier	
19	4.3 & 7.1, Table 1	Cadmium	--	EN 17053	S	-do-	Once in a month	

Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empaneled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.