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*भारतीय मानक*

*Indian Standard*

**IS 18525 : 2023**

# पशु आहार घटक के रूप में *ग्वार कोरमा* — विशिष्टि

# *Guar Korma* as Livestock Feed Ingredient — Specification

ICS 65.120

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भारतीय मानक ब्यूरो
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Animal Feeds and Nutrition Sectional Committee, FAD 05

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Animal Feeds and Nutrition Sectional Committee had been approved by the Food and Agriculture Division Council.

*Guar Korma* is a by-product obtained during milling of *guar* (*Cyamopsis tetragonoloba*) seed and removal of guar gum. It primarily constitutes the germ part of the seed. It is one of the important feed ingredient being used by livestock feed manufacturers considering its high protein content with high protein solubility which significantly enhances the nutritional value of the feed.

The formulation of this standard has been undertaken to specify requirements for *Guar Korma* used as livestock feed ingredient. BIS has formulated a separate Indian Standard IS 4193 : 2022 for *Guar* meal meant as livestock feed ingredient.

The composition of the Committee responsible for the formulation of this standard is given in Annex B.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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*Indian Standard*

# *GUAR KORMA* AS LIVESTOCK FEED INGREDIENT — SPECIFICATION

## 1 SCOPE

**1.1** This standard prescribes the requirements and the methods of sampling and test for *Guar* (*Cyamopsis tetragonoloba*) *Korma* used as livestock feed ingredient.

**1.2** This standard does not cover the *Guar* meal meant as livestock feed ingredient.

## 2 REFERENCES

The standards listed in Annex A 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 these standards.

## 3 DESCRIPTION

*Guar korma* is the by-product of guar gum production. *Guar korma* shall be obtained after the removal of gum from guar seeds and shall largely consist of hulls and germs of the seeds. In addition to regular guar meal, some manufacturers sell a high-protein guar meal called *korma*.

## 4 REQUIREMENTS

### 4.1 General

The material shall be free from harmful constituents, rancidity, adulterants, insect or visible fungus infestation and from fermented, musty or other objectionable odour. It shall be free from extraneous matter including metallic pieces.

**4.2** The material shall also conform to the requirements prescribed in Table 1.

## 5 PACKING AND MARKING

### 5.1 Packing

Unless otherwise agreed to between the purchaser and the vendor, the material shall be packed in clean, dry and sound jute/HDPE bags. The mouth of each bag shall be both machine stitched or rolled over and hand stitched with strong jute twine.

### 5.2 Marking

**5.2.1** Each bag shall be legibly and indelibly marked to give the following information:

a) Name of the material;
b) Name and address of the manufacturer;
c) Batch or code number;
d) Net mass in kg;
e) Date of packing;
f) Best before date in month & year format; and
g) Any other requirements as specified under the *Legal Metrology* (*Packaged Commodities*) *Rules*, 2011.

**5.2.2** *BIS Certification Marking*

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the products may be marked with the Standard Mark.

## 6 SAMPLING

**6.1** 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.

## 7 TESTS

**7.1** Tests shall be carried out as prescribed in co1 (4) of Table 1.

### 7.2 Quality of Reagents

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the test results.

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**Table 1 Requirements for *Guar Korma* as Livestock Feed Ingredient**

(*Clause* 4.2 *and* 7.1)

| Sl No. | Characteristic | Requirements | Method of Test, Ref to |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| i) | Moisture, percent by mass, *Max* | 10.0 | **4** of IS 7874 (Part 1) |
| ii) | Crude protein (N×6.25), percent by mass, *Min* | 48.0 | IS/ISO 5983 (Part 1)* or IS 5983 (Part 2) |
| iii) | Crude fat, percent by mass, Min | 3.0 | IS 6492 |
| iv) | Crude fibre, percent by mass, Max | 7.0 | IS 6865 |
| v) | Acid insoluble ash, percent by mass, Max | 1.0 | Annex A of IS 1712 or IS 14826* |
| vi) | Castor husk or cake | - | **11** of IS 7874 (Part 1) |
| vii) | Mahua cake | - | **12** of IS 7874 (Part 1) |
| viii) | Aflatoxin $B_1$ (ppb), Max | 20.0 | IS/ISO 14718* or IS 18143 or AOAC 2003.02 |

NOTES

**1** The values specified for requirements at Sl. No. (ii) to (viii) are on moisture-free-basis.
**2** In case of dispute, the test methods given above and wherever indicated by '*' shall be the referee method.
**3** For crude fibre, the manual method given in IS 6865 shall be the referee method.

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## ANNEX A

(*Clause 2*)

## LIST OF REFERRED STANDARDS

| *IS No.* | *Title* |
|---|---|
| IS 1070 : 2023 | Reagent grade water — Specification (*fourth revision*) |
| IS 1712 : 2022 | Cottonseed oilcake as livestock feed ingredient — Specification (*third revision*) |
| IS 2052 : 2023 | Compounded feeds for cattle — Specification (*fifth revision*) |
| IS 7874 (Part 1) : 1975 | Methods of tests for animal feeds and feeding stuffs: Part 1 General methods |
| IS/ISO 5983 (Part 1) : 2005 | Animal feeding stuffs — Determination of nitrogen content and calculation of crude protein content: Part 1 Kjeldahl method |
| IS 5983 (Part 2) : 2021/ISO 5983-2 : 2009 | Animal feeding stuffs — Determination of nitrogen content and calculation of crude protein content: Part 2 Block digestion and steam distillation method (*first revision*) |
| IS/ISO 6492 : 1999 | Animal feeding stuffs — Determination of crude fat content |
| IS/ISO 6865 : 2000 | Animal feeding stuffs — Determination of crude fibre content — Method with intermediate filtration |
| IS 14826 : 2021/ISO 5985 : 2002 | Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid (*first revision*) |

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## ANNEX B

(*Foreword*)

## COMMITTEE COMPOSITION

Animal Feeds and Nutrition Sectional Committee, FAD 05

| *Organization* | *Representative(s)* |
|---|---|
| In Personal Capacity (*81, North City, Opposite Air Force Station Gate, Pilibhit Road, Izatnagar, Bareilly - 243122*) | DR R. K. SINGH **(*Chairperson*)** |
| All India Poultry Breeders Association, New Delhi | DR A. K. RAJPUT |
| Animal Welfare Board of India, Faridabad | DR PRACHI JAIN<br>DR DEBALINA MITRA (*Alternate*) |
| Association of Indian Pet Food Manufacturers, New Delhi | DR AKANKSHA SINGH<br>SHRI GOVIND SURYAWANSHI (*Alternate*) |
| Centre for Science and Environment, New Delhi | SHRI AMIT KHURANA |
| Centre of Analysis and Learning in Livestock and Food, Anand | DR RAJESH NAIR<br>SHRI SHASHIKANT GUPTA (*Alternate*) |
| Compound Livestock Feed Manufacturers Association of India, Navi Mumbai | PROF (DR) A. S. RANADE<br>DR R.S. MASALI (*Alternate*) |
| CSIR - Central Drug Research Institute, Lucknow | DR RAJDEEP GUHA<br>DR DHANANJAY HANSDA (*Alternate*) |
| Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya, Anjora | DR SANJAY SHAKYA<br>DR MANOJ KUMAR GENDLEY (*Alternate*) |
| Department of Animal Husbandry and Dairying, New Delhi | DR H. R. KHANNA<br>DR SUJIT NAYAK (*Alternate* I)<br>DR ANI BENCY JACOB (*Alternate* II) |
| Department of Animal Husbandry and Dairying, Panchkula | DR BIRENDER SINGH LAURA<br>DR RAJIV BANGER (*Alternate)* |
| Federation of Indian Animal Protection Organizations, New Delhi | MS SIRJANA NIJJAR<br>MS VARNIKA SINGH (*Alternate*) |
| Food Safety and Standards Authority of India, New Delhi | DR K. ABIRAMI<br>MS MANPREET KOUR (*Alternate*) |
| Guru Angad Dev Veterinary and Animal Sciences, University, Ludhiana | DR J. S. LAMBA<br>DR JASMINE KAUR (*Alternate*) |
| ICAR - Directorate of Poultry Research, Hyderabad | DR R. N. CHATTERJEE<br>DR S. V. RAMA RAO (*Alternate* I)<br>DR M.V.L.N. RAJU (*Alternate* II) |
| ICAR - Indian Veterinary Research Institute, Izatnagar, Bareilly | DR L. C. CHAUDHARY<br>DR A. K. VERMA (*Alternate*) |
| ICAR-Central Avian Research Centre, Bareilly | DR ASHOK KUMAR TIWARI<br>DR JAYDEEP ROKADE (*Alternate*) |

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| *Organization* | *Representative(s)* |
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| ICAR - Central Institute for Research on Buffaloes, Hisar | DR P. C. LAILER<br>DR AVIJIT DEY (*Alternate*) |
| ICAR - Central Sheep and Wool Research Institute, Avikanagar | DR RANDHIR SINGH BHATT<br>DR SROBANA SARKAR (*Alternate*) |
| ICAR - National Institute of Animal Nutrition and Physiology, Bengaluru | DR RAGHAVENDRA BHATTA<br>DR D. T. PAL (*Alternate*) |
| ICAR - National Research Centre on Equines, Hisar | DR S. C. MEHTA<br>DR R. A. LEGHA (*Alternate*) |
| ICAR - National Research Centre on Pig, Guwahati | DR KESHAB BARMAN<br>DR SANTANU BANIK (*Alternate*) |
| Indian Council of Agricultural Research, New Delhi | DR A. K. TYAGI<br>DR V. K. SAXENA (*Alternate*) |
| Indian Federation of Animal Health Companies, Mumbai | DR SHIRISH NIGAM<br>DR VIJAY MAKHIJA (*Alternate*) |
| National Dairy Development Board, Anand | DR RAJESH SHARMA<br>DR PANKAJ L SHERASIA (*Alternate*) |
| National Dairy Research Institute, Karnal | DR NITIN TYAGI<br>DR SACHIN KUMAR (*Alternate*) |
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| People for Animals, New Delhi | MS GAURI MAULEKHI<br>MS SHREYA PAROPKARI (*Alternate*) |
| PETA India, Mumbai | DR KIRAN AHUJA<br>DR BANDHANPREET KAUR (*Alternate*) |
| Poultry Federation of India, Sonipat | SHRI RANPAL DHANDA<br>SHRI RAHUL KHATRI (*Alternate*) |
| Tamil Nadu Veterinary and Animal Sciences University, Chennai | DR A. NATRAJAN<br>DR R. RAJENDRAN (*Alternate*) |
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*Member Secretary*
SHRIMATI NITASHA DOGER
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