FINAL DRAFT

INTERNATIONAL STANDARD

ISO/FDIS 24378

ISO/TC **293**

Secretariat: **SAC**

Voting begins on:
2021-10-22

Voting terminates on:
2021-12-17

Feed machinery — Vocabulary

Reference number
ISO/FDIS 24378:2021(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 293, *Feed machinery*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Feed machinery — Vocabulary

1 Scope

This document defines terms related to feed processing technology, machines and equipment widely used in feed mills.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1 Terms related to feed processing technology

3.1.1
air-assisting
using the forced air to enhance working efficiency, control dust, particle size, temperature, pressure and/or moisture

3.1.2
batching
dosing and weighing ingredients to combine them to meet the formulation requirements

3.1.3
coating
covering the surface of an intermediate product uniformly with a predetermined amount of liquid, and/or powder

3.1.4
destoning
removing stones from raw materials by specific gravity differences, using airflow and screening surfaces

3.1.5
dry mixing
mixing dry, solid ingredients without the addition of liquid ingredients

3.1.6
extruding
pressing or pushing feed through constrictions to continuously shape a feed

EXAMPLE Using a machine with one or more rotating screws and die.

3.1.7
flushing
passing a predetermined amount of a specified material through a machine or a closed feed production system to clean it and reduce contamination of next feed production cycle

3.1.8
grading
sorting materials by different physical properties, such as size, density, colour, and often according to existing standards, either mechanically or manually

3.1.9
hygienizing
reducing micro-organisms in feedstuffs

3.1.10
liquid addition
inclusion of ingredients in a fluid state to the intermediate product

3.1.11
micro dosing
adding micro-ingredients to the major mixture

3.1.12
post-cooking
holding feed in a container after shaping operations for a specified time prior to cooling or drying

3.1.13
post-grinding
performing the particle size reduction after *batching* (3.1.2) in a feed production line

3.1.14
pre-grinding
performing the particle size reduction before *batching* (3.1.2) in a feed production line

3.1.15
vacuum coating
coating (3.1.3) intermediate products in a pressure environment below the atmospheric pressure to encourage absorption of the liquid through the release of pressure

3.2 Terms related to feed machines and equipment

3.2.1
conditioner
machine for achieving predetermined moisture levels and/or temperature of ingredients or a mixture of ingredients prior to further processing

3.2.2
cooler
machine for reducing temperature and moisture by forced ambient or conditioned air through an intermediate product

3.2.3
crumbler
machine with rolls specially designed for breaking up pellets into smaller granular pieces

3.2.4
dry flow meter
device that detects and measures the flow rate of a dry intermediate product, usually operating on a continuous flow process

3.2.5
dryer
machine that is used to reduce the moisture content of material by use of airflow and energy transfer

3.2.6
expander
machine that uses a rotating screw to continuously push feedstuff through an annular gap, active disc system or crown

3.2.7
extruder
machine that heats up the product and propels it through the die to create the desired shape, using a system of barrels and cylinders that create increased pressure and sudden depressurization

3.2.8
extruder die
perforated plate installed at the discharge end of the *extruder* (3.2.7) barrel for shaping the feed product

3.2.9
feeder
machine that regulates flow and conveys material

3.2.10
hammer mill
machine that reduces particle size by impact from rotating plates (hammers) in a chamber

Note 1 to entry: A *screen* (3.2.23) is used to regulate the particle size.

3.2.11
helical ribbon
spiral component attached to the main shaft in a *mixer* (3.2.16) used to agitate ingredients

3.2.12
high temperature and short time conditioner
HTST conditioner
machine used for the pre-treatment and conditioning of animal feed that involves high temperature and high pressure for a short period of time

EXAMPLE An *expander* (3.2.6).

3.2.13
liquid homogenizer
machine used to reduce particle size of liquid components and mix them uniformly

3.2.14
lump breaker
machine that breaks up large materials or conglomerates

3.2.15
magnetic separator
equipment that removes ferrous materials by magnetic attraction

3.2.16
mixer
machine that blends ingredients to homogeneous product

3.2.17
paddle
tool attached to the shaft to mix and/or convey material

3.2.18
pellet die
part used in a *pellet mill* (3.2.19) with hole openings through which the mixed mash feed is pressed to form pellets

Note 1 to entry: It may be mounted in different orientations and be a ring or flat.

3.2.19
pellet mill
pelletizer
pellet press
machine used to agglomerate feed by compacting and forcing it through die openings to be formed into pellets

3.2.20
pulverizer
machine used to grind small particulate with air assist

Note 1 to entry: It is typically vertical in orientation and capable of grinding up to 100 µm.

3.2.21
retentioner
machine for retaining the preconditioned mash feed for a length of time at a predetermined temperature and moisture setting

3.2.22
roller mill
grinding machine mainly comprising one or more pairs of parallel corrugated rolls rotating in opposite directions

3.2.23
screen
equipment used to separate particles by size and shape

3.2.24
working tank
tank that holds pre-adding or pre-coating liquids before the mixing or *coating* (3.1.2) process

Note 1 to entry: The amount held in a working tank is predetermined by operations.

Bibliography

[1] ISO 20588:2019, *Animal feeding stuffs — Vocabulary*

[2] GB/T 25698-2010, *Feed processing technology terms*

[3] GB/T 10647-2008, *Feed industry terms*

[4] Feed Manufacturing Technology (V), AFIA

[5] Mian N., Riaz. Extruders and expanders in pet food, aquatic and livestock feeds. Agrimedia, 2007 [M]

[6] Kersten J., Rohde H.R., Nef E., Principles of mixed feed production. Agrimedia, 2005 [M]

[7] FAO and IFIF, 2010. Feed industry terms of Good practices for the feed industry – Implementing the Codex Alimentarius Code of Practice on Good Animal Feeding. FAO Animal Production and Health Manual No. 9. Rome.

Alphabetical index of terms