



PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY	
Circulation date: Closing date for voting:	Reference number (to be given by Central Secretariat)
Proposer SAC	<b>ISO/TS/P</b>

A proposal for a new field of technical activity shall be submitted to the Central Secretariat, which will assign it a reference number and process the proposal in accordance with the ISO/IEC Directives (part 1, subclause 1.5). The proposer may be a member body of ISO, a technical committee or subcommittee, the Technical Management Board or a General Assembly committee, the Secretary-General, a body responsible for managing a certification system operating under the auspices of ISO, or another international organization with national body membership. Guidelines for proposing and justifying a new field of technical activity are given in the ISO/IEC Directives (part 1, Annex C).

**The proposal** (to be completed by the proposer)

<p><b>Title of the proposed new committee (The title shall indicate clearly yet concisely the new field of technical activity which the proposal is intended to cover.)</b></p> <p>Feed Machinery</p>
<p><b>Scope statement of the proposed new committee (The scope shall precisely define the limits of the field of activity. Scopes shall not repeat general aims and principles governing the work of the organization but shall indicate the specific area concerned.)</b></p> <p>Standardization of single feed machine, processing systems and complete production line which process various raw materials to produce feed for livestock, poultry, aquatic animals, and pets according to the requirement of recipes includes feed machinery safety, hygienic requirements and environmental protection requirements in feed processing.</p> <p>Feed machinery, which is used for pre-processing, quantitative batching, conditioning and pelletizing of feed raw materials, includes main feed processing machines, auxiliary equipments and complete feed processing projects that process compound feed, additive premix feed, and concentrated feed.</p> <p>It includes neither machinery for animal husbandry nor forages grass processing equipment.</p> <p>Please be advised that the "feed machinery" referenced in the proposal is the mechanical equipment used for industrial production of formulated feed in feed mills. Formula feed ingredients consist of dozens of species to meet all of the nutrients needed for the growth and development of animals. Formula feed production requires specialized techniques and equipment. It is produced by feed processing equipment, literally produced by specialized feed mills to complete automatic production line. "Standardized object" in this proposal means the machinery and equipment for modern feed mills as special-designed industrial equipment.</p> <p>The "Feed Machinery" in this proposal does not belong to agricultural machinery. It</p>

has nothing to do with agricultural machinery, animal husbandry machinery, forage processing machinery. Agricultural machinery not only includes tillage and cultivation, crop protection, irrigation, harvesting, storage and such machinery, tools and equipment that has been directly related to agricultural production, but also includes livestock and poultry husbandry and breeding, animal-poultry products collection and pre-processing machinery and animal husbandry facilities and equipment for construction of grassland, forage harvesting and processing, etc. "Feed machinery" referenced in this proposal is entirely different from agricultural machinery in terms of not only the working principle, structure, performance, but also the design, manufacture, testing techniques. Each is in different area of expertise. Therefore, overlap and conflict would not exist in the standardized object of the proposal or with the scope of work for ISO/TC23 for now and in the future.

**Proposed initial programme of work (The proposed programme of work shall correspond to and clearly reflect the aims of the standardization activities and shall, therefore, show the relationship between the subjects proposed. Each item on the programme of work shall be defined by both the subject aspect(s) to be standardized (for products, for example, the items would be the types of products, characteristics, other requirements, data to be supplied, test methods, etc.). Supplementary justification may be combined with particular items in the programme of work. The proposed programme of work shall also suggest priorities and target dates.**

Initial work programme in the proposal:

1. Terminology and graphical symbols of feed processing equipment;
2. Feed machinery hygienic requirements;
3. Feed machinery safety requirements( including general rules and safety requirements for main feed processing machinery);
4. Technical requirements of main feed machinery;
5. Technical requirements of complete feed processing line (including complete feed processing line for livestock, poultry, aquatic animals and pets, but excluding complete feed processing line for additive premix);
6. Technical requirements of complete feed processing production line for additive premix.

The terminology and graphical symbols of feed processing equipment are the fundamental standard for feed machinery, which are used by the standards of all the other feed machinery projects. Feed machinery hygienic requirements can be used by various single feed machines, processing systems and complete production lines. In these standard projects, there is no need to duplicate the general hygienic requirements in order to control the length of the standard and to reduce the costs of developing the standard, except for additive premix processing technique which demands the special hygienic requirements such as residual control and cross-contamination. The general rules of

feed machinery safety needs to meet the common and general requirements of complete feed processing production line and main feed processing machinery standards. Main feed processing machinery technical requirements can be shared by complete feed processing projects.

The standards are drafted according to the serial number listed in the proposed initial work programme. It will take about 3 years to make each standard.

**Indication(s) of the preferred type or types of deliverable(s) to be produced under the proposal (This may be combined with the "Proposed initial programme of work" if more convenient.)**

The deliverables of this proposal shall be international standards.

**A listing of relevant existing documents at the international, regional and national levels. (Any known relevant document (such as standards and regulations) shall be listed, regardless of their source and should be accompanied by an indication of their significance.)**

The relevant existing documents of ISO, national levels are as follows:

ISO: ISO 14159:2002, ISO 12100:2010

China: GB/T 18695-2012, GB/T 24352-2009, GB/T 25698-2010, GB/T 25699-2010, GB/T 24445-2009, GB/T 24351-2009, GB/T 6971-2007, GB/T 20192-2006.

America: ANSI/ASAE S303.4 SEP2007 (2012) .

The documents listed above can be referred in drafting relevant feed machinery international standard.

**A statement from the proposer as to how the proposed work may relate to or impact on existing work, especially existing ISO and IEC deliverables. (The proposer should explain how the work differs from apparently similar work, or explain how duplication and conflict will be minimized. If seemingly similar or related work is already in the scope of other committees of the organization or in other organizations, the proposed scope shall distinguish between the proposed work and the other work. The proposer shall indicate whether his or her proposal could be dealt with by widening the scope of an existing committee or by establishing a new committee.)**

There will be no work scope and deliverables overlap or conflict between the proposal and other technical committees or sub-committees of ISO and IEC.

**A listing of relevant countries where the subject of the proposal is important to their national commercial interests.**

This proposal will be commercially beneficial to all of the countries that manufacture or use feed machinery, especially to those countries that import large numbers of feed machines, such as China, America, German, Britain, France, Netherland, Japan, Belarus, Canada, Switzerland, and etc. And those countries that export large numbers of feed machines, such as China, Netherland, German, Italy, America, Spain, Ireland, Canada, Denmark, France, and etc.

**A listing of relevant external international organizations or internal parties (other ISO and/or IEC committees) to be engaged as liaisons in the development of the deliverable(s). (In order to avoid conflict with, or duplication of efforts of, other bodies, it is important to indicate all points of possible conflict or overlap. The result of any communication with other interested bodies shall also be included.)**

As the scope of this proposal is special to industrial processing of compound feed, additive premix feed, concentrated feed, it does not overlap or conflict with any work scope or deliverable of any technical committee of ISO.

However, Feed machinery is used in the production of animal feed. Feed machinery also requires development of special safety standards, thus the proposal would seek contact with the following technical committee or subcommittee for communication in the study of standardization:

ISO/TC34/SC 10 Animal feeding stuffs

ISO/TC 199 Safety of machinery

**A simple and concise statement identifying and describing relevant affected stakeholder categories (including small and medium sized enterprises) and how they will each benefit from or be impacted by the proposed deliverable(s).**

Nowadays, the international market is indispensable to each country in the world. Like all the other international standards, an international feed machinery standard will create conditions and provide technical support in breaking technical barriers, facilitating the uniform of global market, and prospering global economy.

The deliverables of this proposal will affect global feed machinery industry and feed industry, and will benefit feed machinery manufacturers, sales agencies, feed processing enterprises, feed machinery operators, human health and national economies.

High-performance feed processing machinery and production lines are the guarantee of feed recipe quality and feed hygiene. High-quality feed which passes certain hygienic standard could ensure fast and healthy growth of animals. Therefore, the deliverables of this proposal also affect farming industry indirectly.

In recent years, feed machinery international expositions and technical exchange activities have been hosted in different countries almost every quarter and feed machinery international trade has been expanding. However, as the feed processing equipment terminology and graphical symbols used by different manufacturers are not consistent, there are obstacles in the exchange of international feed processing machinery technical documents, technical seminars and video records, and in compiling of international trade contracts and their attached technical files. Developing an international standard of feed processing equipment terminology and graphical symbols will facilitate international trade and technical communications between manufactures and customers.

In feed processing, many factors could affect feed hygiene, working place hygiene and environment, such as feed machinery structures, materials that contact feed, processing design of feed machine production line, arrangement of equipments, dust

emission and etc. A feed hygienic standard of feed machinery will minimize the risks of deterioration of feed hygiene, working place hygiene and environmental pollution. It can also ensure feed hygiene and operator occupational health; protect the benefits of feed processing and farming industry; and guarantee healthy farming, human food hygiene and environmental protection.

In feed machinery, there are many potential risks, such as electrical and mechanical faults, dust explosion and high temperature steam burns. To avoid these risks, each feed machinery manufacturers is relying on their own standards made based on their knowledge, technical levels and costs. Large multinational feed manufacturers have their own purchasing standards, but these standards have different requirements on safety protection. Small companies do not have their own purchasing standards. An international standard is desirable for those small companies to reduce their risks. The feed machinery safety standard should coordinate rules among manufacturers and customers through abundant tests and assessments and offer an optimal solution for feed machinery safety. The feed machinery standard will lower safety risks of feed machinery products, reduce economic losses caused by product safety problems, protect assets and operator's safety, and lower the cost of customized products in order to meet different customers.

In international trade of feed machinery, feed production line orders usually consist of dozens, or even hundreds of machines and parts. Contracts of these orders usually involve complicated technical issues and are worth thousands or even millions of dollars. Customers neither design the feed machines nor know much about technical details. So they are not capable of presenting many requirements when signing a contract with manufacturers who of course are unwilling to include many commitments in the contract. When it comes to installation and acceptance stage, problems and controversies turn up. If suppliers do not make compromises, customers may suffer great losses; if customers are unwilling to compromise, the production line will not be accepted and payment will be delayed. Both cases happen frequently in real business cases. Even if providers eventually make concessions for the sake of future cooperation, the time and cost spent on on-site modification will be greater than in domestic. If planned production time is affected, providers will have to bear more economic compensations. Feed machinery plant equipment requirements will make rules on economic and technical indicators, specifications, processing design, equipment basic requirements, coating, safety, hygiene, equipment installation, commissioning and acceptance of production line. The standard will provide technical support to expensive international trade contracts on feed processing production line, help define providers' commitments and customers' demands clearly, reduce conflicts in signing and execution of contracts, protect the benefits of each side (manufacturers, providers and customers), and provide technical support for designing and manufacturing of feed processing production line.

Based on theoretical argument of animal growth nutrient requirements, additive premix is a core ingredient of compound feed and made by reasonable and uniform mixture of

various vitamins, microelement, amino acids and growth factors through carriers and diluents. For special requirements of raw materials pre-processing and additive premix quality and hygiene, the processing of additive premix needs high-accuracy equipment with high sealing quality and little (zero) residual, specific technical process, equipment arrangement and dust extraction. However, rules of manufacturers are quite different, and this affects the quality and hygiene of additive premix. To protect the benefits of feed industry and farming industry, an international standard is needed to coordinate additive premix production line technology.

Overall speaking, the proposal, along with its anticipated increasing number of deliverables, will bring great benefits to feed machinery manufacturing industry, feed industry, farming industry, national economy and human health.

**An expression of commitment from the proposer to provide the committee secretariat if the proposal succeeds.**

SAC is willingly to undertake Secretariat of new TC when the proposal is accepted by ISO.

**Purpose and justification for the proposal. (The purpose and justification of the standard to be prepared shall be made clear and the need for standardization of each aspect (such as characteristics) to be included in the standard shall be justified. Clause C.4.12.1 through C.4.12.10 of Annex C of the ISO/IEC Directives, Part 1 contains a menu of suggestions or ideas for possible documentation to support and purpose and justification of proposals. Proposers should consider these suggestions, but they are not limited to them, nor are they required to comply strictly with them. What is most important is that proposers develop and provide purpose and justification information that is most relevant to their proposals and that makes a substantial business case for the market relevance and the need for their proposals. Thorough, well-developed and robust purpose and justification documentation will lead to more informed consideration of proposals and ultimately their possible success in the ISO IEC system.)**

**Purpose**

Coordinate the standards or requirements among manufacturers and customers from different countries on feed machinery terminology, graphical symbols, hygiene, safety, complete production line specifications, main single machines, systems performance and important performance test methods.

**Justification**

There is an urgent need to develop an international standard and eliminate obstacles and barriers in international trade of feed machinery. Hygienic and environmental protections in feed machinery industry need the global society to pay attention as soon as possible. The variety of feed machineries and auxiliary parts, the large number of concepts concerning processing technique, and the inconsistency of feed machinery terminology and graphical symbols utilized in different countries become obstacles in international trade and technical exchanges. Orders of feed processing production line often involve a large number of technical details and lead to conflicts and controversies during negotiation and execution of contracts in international trade. All these will need the support and coordination from an

international standard. Once, a Chinese feed machinery manufacturer shipped its products to the importing country's port according to their contract, and the customs request the manufacturer to offer an international standard for commodity inspection. But there is no international standard for feed machinery and finally the trade fell into a dilemma. So it is obvious that product quality receives much attention and feed machinery international standard has become an urgent need for international trade.

There are many potential dangerous factors in the utilization of feed machines, especially feed machines utilized in potential explosive environment. Safety measures of each feed machinery manufacturers differ greatly. For feed machinery safety, some of the importing countries entrust their safety certification authorities for approval, and others entrust their safety certification companies for security evaluation. However the differences in the standards used for approval or evaluation become barriers for international trade, which needs coordination of an international standard on feed machinery safety to eliminate the barriers, coordinate and support international trade.

Feed machinery field does not pay enough attention to the risks that feed processing technology and complete production line affect feed hygiene and environment. Feed can be called indirect "food", so feed hygiene is connected with food hygiene. Feed hygiene depends on whether feed ingredients are hygienic and whether processing process and equipment used contaminate the feed. As for the latter one, analyses of feed processing hygienic risks have shown the following results: the material of feed machines that touches feed may bring toxic and harmful contamination to feed; if feed machinery structures are improperly designed, there will be "cross-contamination" among different feeds, and metamorphic residues will become micro organic source of contamination to feed; lack of accuracy in feed dosing, adding, coating and mixers may lead to over-dosing of microelement additive and develop toxic effect; contamination caused by leakage of lubricating oil is also a severe problem; if feed machines are not cleaned properly after installation, feed hygiene will be adversely affected; noise and dust emission of feed machinery will affect human health and surrounding environment. All these factors that have threatened feed hygiene and environmental protection for a long time need to be coordinated by an international standard as soon as possible.

An international standard is a summary of science and technology made by relevant experts on certain standardized objects. Therefore, development of an international feed machinery standard will contribute to the improvement of feed machinery quality and technology.

International applications of the international machinery standard will be very extensive. Meat, eggs, milk and aquatic products are common food for human, therefore farming industry, feed processing, feed machinery used for feed industry are all indispensable for each country. In 2011, more than 700 million tons of compound feed were produced by various feed machinery. Without considering the feed machines

produced domestically, according to incomplete statistics, 147 countries and regions imported feed machines while 83 countries exported feed machines. Feed machinery manufacturing industry and feed industry are important global industries. They should follow the same international standard for organization of manufacturing and purchase of feed machinery. Therefore, the feed machinery standard will have much more extensive international applications compared with those for other types of machinery products.

Take China as an example, in 2011, its annual feed capacity reached 181 million tones and there were more than 15,000 feed manufacturers. They purchased feed machines from all over the world to maintain, modify, expand or build their new feed production lines. There are 482 enterprises included in National Feed Production specialised Equipment Manufacturing industry, which produces 46715 feed machinery equipments annually. Among them, there are 1802 complete machinery systems and 44913 single machines. Many small enterprises are not included in those numbers. According to Food and Agriculture Organization's statistics, China possesses more than 20% of the total number of feed processing equipments in the world. China is one of the major feed machinery import-export countries, and China-made feed machines have been sold to more than 90 countries. The international feed machinery standard has a huge influence on China

Feed machinery technique has been well developed and now it is a good time to develop an international standard. Feed machinery manufacturing industry has been on rise and developed for decades. China established feed machinery manufacturing industry since 1970s, but European and American countries developed their feed machinery manufacturing industry much earlier than China. However, China's huge population generates huge demand for farming and feed industries and facilitates the development of feed machinery manufacturing industry. For decades, there had been globalized feed machinery international trade, annual international exhibitions and technical lectures delivered by various manufacturers and relevant universities, intercommunications between globally well-known enterprises. These contributed to the development and technical communication of feed machinery industry. Currently, different countries' feed processing techniques are basically the same in terms of usage and working principles. So are the feed machinery used in different countries in terms of the main structures. The design and manufacturing techniques of feed machinery are already mature. Thus the development of an international feed machinery standard has become a common need for feed machinery manufacturing industry and feed industry. Now it is a good time to develop an international standard for feed machinery.

Technical development in feed machinery will not make the proposed standard obsolete. Standards of feed machinery terminology and graphical symbols, hygiene, safety and test method are basic standards and will not be out of date. Fundamental techniques and equipment for feed processing are essential and stable. Feed machinery international standards will still be the basis for future technical development even

if feed machinery techniques will advance in the future.

Implementation of this proposed standard will bring great social and economic benefits. The benefited parties and how they will benefit from this proposal have been explained above, but it still has to be emphasized that, as feed industry and feed machinery manufacturing industry spread all over the world and feed machinery trade globalized, one important characteristic of feed machinery international standard is its extensive coverage. Generally, people only care about feed hygiene, feed raw material hygiene and recipe safety; because they know feed hygiene is connected with food hygiene. However, people do not know this is only part of the problem; another important part of the problem is, in the process of feed machinery, there are many factors of feed machinery (explained above) affecting feed hygiene, feed recipe quality and feed hygiene are dependent on feed machinery. The effect of feed machinery hygiene standard on protecting animal and human health cannot be expressed through data.

So far, no technical committee or sub-technical committee on feed processing machinery had been established in ISO and IEC. The work scope and deliverables of this proposal aim at specific work of industrial processing of compound feed, additive premix and concentrated feed in feed machinery industry, and do not overlap or conflict with any scope or deliverables of ISO and IEC.

Signature of the proposer **WANG Zongling**

*Further information to assist with understanding the requirements for the items above can be found in the Directives, Part 1, Annex C.*

**Comments of the Secretary-General** (to be completed by the Central Secretariat)

Signature