STRENGTHENING SCIENCE AND TECHNOLOGY ACTIVITIES IN THE ANIMAL FEED INDUSTRY IN ALIGNMENT WITH RESOLUTION NO. 57-NQ/TW

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Abstract: ***Developing the livestock feed industry associated with science and technology (S&T) in the spirit of Resolution No. 57-NQ/TW dated December 22, 2024 of the Politburo on breakthrough development of science, technology, innovation and national digital transformation is shifting from extensive production to intensive production, increasing productivity, quality, added value, towards smart agriculture and high technology. The article outlines the current situation of developing the livestock feed industry associated with science and technology in the spirit of Resolution No. 57-NQ/TW, thereby proposing a number of related solutions.***

• Keywords: *animal feed industry, science and technology, resolution No. 57-NQ/TW.*

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Current status of the animal feed industry development

In 2025, Vietnam's livestock feed industry recorded positive growth in output in the context of declining and gradually stabilizing global raw material prices. The output of compound feed increased by nearly 3% compared to the previous year, while raw material import activities remained at a high level to meet domestic production demand. According to aggregated data from reports of the Department of Livestock Production and Veterinary Medicine (Ministry of Agriculture and Environment) shown in Table 1, in 2025, the country's compound feed output reached 22.12 million tons, an increase of 2.9% compared to 2024. The production structure continues to clearly reflect the demand of key livestock groups. Among them, compound feed for pigs reached 11.59 million tons, accounting for 52.3% of total compound feed output. This continues to be the product group with the largest share, consistent with the scale of the pig herd and the demand for recovery and production development after periods of market fluctuations. Compound feed for poultry reached 9.82 million tons, accounting for 44.4%, showing that the poultry sector still maintains an important role in the livestock structure and industrial feed consumption. Meanwhile, feed for cattle and other livestock reached 707 thousand tons, accounting for 3.3%, reflecting the stable but not yet breakthrough development trend of large livestock farming.

In general, the growth rate of compound feed output in 2025 shows that livestock feed production activities have maintained a stable pace, basically meeting the demand of the domestic livestock industry.

Table 1: Animal Feed Production 2024-2025

Description	Year 2024	Year 2025
Total production (thousand tons)	21,500	22,120
Compound pig feed (thousand tons)	11,202	11,597
Compound poultry feed (thousand tons)	9,546	9,815
Feed for cattle & others (thousand tons)	753	707
Pig feed (Percentage %)	52.10	52.34
Poultry feed (%)	44.40	44.43
Other feed (%)	3.50	3.23

Source: Department of Livestock Production and Veterinary Medicine

Table 2: Import of Animal Feed by Raw Material Group and Value in 2025

No.	Item Category	Volume (Tons)	Item Value (USD)
1	Soybeans	461,479.58	206,882,520.64
2	Soybean meal	5,442,081.95	2,156,472,326.80
3	Palm kernel meal	529,921.49	77,226,901.59
4	Rapeseed meal	290,972.91	67,441,488.97
5	Other oilseed meals	49,150.0	11,220,165.0
6	Wheat	2,371,064.1	597,619,641.8
7	DDGS	1,543,851.4	369,457,118.4
8	Various wheat brans	621,204.1	107,653,373.2
9	Corn (kernels)	10,911,598.5	2,720,852,456.8
10	Supplementary feed	940,829.0	1,044,040,071.7
11	Complete compound feed	30,030.5	46,336,962.2
12	Hay	65,531.9	24,020,476.6
13	Animal-derived products	826,241.5	516,090,537.4
14	Other types	704,348.1	283,434,340.6
	Total	**24,788,305.0**	**8,228,748,381.5**

Source: Department of Livestock Production and Veterinary Medicine

Along with domestic production, the activity of importing livestock feed raw materials continues to play an important role. Table 2 shows that the total volume of livestock feed raw materials imported in 2025 reached 24.78 million tons, equivalent to 8.22 billion USD. Specifically, the high-protein feed group reached 9.43 million tons, worth about 3.38 billion USD, mainly soybean meal and equivalent products. High-energy feed reached 14.32 million tons, worth 3.6 billion USD, in which corn and wheat remained the main imported

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items. In addition, feed additives reached nearly 940.8 thousand tons, worth about 1.04 billion USD; complete compound feed reached 30 thousand tons and hay reached 65.53 thousand tons.

Also according to the Department of Livestock Production and Veterinary Medicine, regarding market developments, compared to 2023, most raw materials for livestock feed production in 2025 recorded strong price decreases. Notably, soybean meal decreased by 26.5%, DDGS decreased by 24.1%, and corn decreased by 11.6%. Compared to 2024, the overall raw material price level was more stable, in which corn increased slightly by 4.8%, while soybean meal continued to decrease sharply by 17.8% and DDGS decreased by 7.2%. The decrease in raw material prices has led to a decrease in the price of compound livestock feed compared to previous years. Specifically, the price of compound feed for meat pigs decreased by 2.5% compared to 2024 and decreased by 9.2% compared to 2023. Feed for colored-feather broilers remained stable compared to 2024 and decreased by 3.3% compared to 2023, while feed for white-feather broilers decreased by 3.5% compared to 2024 and decreased by 8.6% compared to 2023. The stable feed price level is evaluated as a favorable factor, contributing to reducing input costs and supporting farmers in maintaining and expanding production.

In 2025, the export of livestock feed and raw materials reached about 1.6 billion USD, an increase of 45% compared to 2024. In addition, Vietnam and China have upgraded the 2016 Memorandum of Understanding on rice bran export to a Protocol (signed on April 15, 2025), significantly expanding market access opportunities. Accordingly, in addition to the 8 enterprises that had been granted codes previously, 4 more new enterprises were approved by the Chinese side, bringing the total number to 12 qualified enterprises for export. The current rice bran export volume reaches about 100 thousand tons per month, estimated for the whole year of 2025 to reach 1.2 million tons, with a value of 400–500 million USD.

In the context of fluctuating global raw material prices, the Department of Livestock Production and Veterinary Medicine has advised the Ministry of Agriculture and Environment to propose that the Government issue financial support policies for livestock feed enterprises. Decree No. 73/2025/NĐ-CP on exemption and reduction of import tax on corn and soybean meal is considered an important solution to help reduce domestic livestock feed production costs. In addition, the implementation of Decree No. 106/2024/NĐ-CP on supporting the production, processing, preservation and consumption of domestic raw materials continues to be promoted, focusing on key crops and agricultural and industrial by-products such as rice bran, sugarcane bagasse, DDGS, as well as the production of feed additives.

Promoting science and technology activities in the livestock feed industry

In order to promote scientific and technological activities in the livestock feed industry, the Prime Minister of the Government has signed and promulgated Decision No. 1742/QĐ-TTg dated December 30, 2023, approving the Priority Project "Promoting Science and Technology Activities in the Livestock Industry to 2030" (the Project). The general objective of the Project is to enhance the quality and efficiency of scientific and technological activities in the livestock industry to meet the requirements of industrialization, modernization and international integration. The Project sets specific objectives to apply science and technology in the following fields: High-tech breeding of key livestock to meet 95% of the demand for pig breeds, 85 - 90% of the demand for poultry breeds, 100% of the demand for waterfowl breeds, 70% of beef cattle breeds; Livestock feed nutrition: Transfer technology for producing types of high-protein feed raw materials, feed supplements, additives, meeting about 20-35% of demand; Effectively exploit by-products from industry - agriculture - fisheries, biological products, medicinal herbs, safe and environmentally friendly natural compounds; Barns and livestock waste management: Transfer technology for producing barn equipment to meet 80% of demand, ensuring disease safety towards sustainable livestock farming; Processing of livestock products such as meat, eggs, milk, honey and slaughter products: Transfer technology to ensure 50-55% of industrial-scale meat processing facilities and 90% of industrial-scale egg processing facilities reach advanced technology level by 2030, diversify products to serve domestic consumption and aim for export. One of the tasks and solutions that the Project sets out is to upgrade material facilities, strengthen research capacity for a number of research facilities and high-tech laboratories in the livestock sector in a specialized, modern and synchronous direction at the level of the region and the world. Research and create key livestock breeds using high technology to transfer to domestic livestock breed production facilities.

In particular, the Politburo has signed and promulgated Resolution No. 57-NQ/TW dated December 22, 2024 on breakthrough development of science, technology, innovation and national digital transformation. In the context that digital transformation has become an inevitable trend and the agricultural sector in general, and the livestock feed industry in particular, is facing many urgent challenges, Resolution 57-NQ/TW of the Politburo is considered the "compass" for science, technology and innovation to truly become the key driving force for the sustainable development of this field.

For the field of agriculture and environment, Resolution No. 57-NQ/TW carries strategic significance in the context where Vietnam is facing urgent challenges such as increasingly harsh climate change, rapidly depleting resources, and heavy pressure from requirements for green growth and emission reduction. Accordingly, traditional agricultural production models, which depend on manual labor and high consumption of inputs, are no

longer suitable for the current situation. Instead, advanced trends such as circular agriculture, multi-value agriculture, green transformation, and digital transformation are becoming extremely urgent. To change the landscape, improve productivity, quality, and the added value of products while protecting the living environment for current and future generations, we must innovate our thinking and approach, placing science, technology, and digital transformation as the foundation for development. In recent times, the agriculture and environment sectors have proactively implemented many efforts and initiatives to apply technology, from high-tech agricultural models and smart livestock farming to environmental monitoring using sensors, and the construction of digital maps and databases on land, forests, and meteorology.

Despite positive changes, to achieve "breakthrough and development" in the spirit of Resolution No. 57-NQ/TW, the agricultural and environmental science and technology sector still faces many major challenges. Accordingly, the animal feed production system is still unsynchronized, lacking sustainable linkages, and the production scale remains at a small and medium level, making it difficult to apply modern technology. Many current scientific research projects have not yet truly met the development needs of the country. The situation where research is completed but is difficult or impossible to commercialize and apply to practical life is a significant challenge. One of the main bottlenecks is the stagnation in institutional innovation, especially in the mechanism for attracting and utilizing talent. Another inadequacy lies in the irrational allocation of resources. While local budgets can allocate up to 2% of total expenditures to science and technology but lack the human resources for implementation, at the Central level, where many leading experts are concentrated, there is a lack of research funding. Notably, a large portion of science and technology funding (about 54%) is "retained" for the administrative apparatus, salaries, and bonuses, instead of being invested directly into research activities. This seriously weakens the ability to create scientific products with practical and commercial value. In particular, cumbersome and prolonged administrative procedures are also a major barrier. Many scientific projects take 5-6 years from proposal to implementation, rendering the research results obsolete. This slows down the process of technology transfer into production and causes a waste of resources. Reality shows that the potential of the industry is not small, but "old wine in new bottles" management thinking and the lack of substantive autonomy regarding finance, tasks, and personnel of science and technology organizations are hindering development. While enterprises can proactively borrow capital to invest in research, scientific organizations are "tied down" by administrative regulations.

Proposed solutions

Currently, the animal feed industry is facing many major challenges that require technological innovation: Global food security: The world population will reach over 9.8 billion people by 2050, requiring increased food production compared to the present; Climate change and sustainability: The livestock industry contributes approximately 14.5% of human-induced greenhouse gas emissions, of which animal feed production is a significant part; High requirements for food safety and traceability: Consumers are increasingly concerned about food origins, requiring the livestock industry to be more transparent throughout the entire supply chain.

In general, the application of science and technology is one of the important solutions to improve productivity, quality, and competitiveness, promoting sustainable development for the animal feed industry. Accordingly, it is necessary to focus on research and development of breeds; quality management of animal feed through the management of micro-elements, energy, and protein. In particular, environmental issues in the livestock industry also require technologies and equipment to resolve.

Identify and focus investment on science and technology fields with great potential, such as biotechnology and gene technology, to improve product quality, save resources, and create added value for the animal feed industry. In addition, the system of public science and technology organizations will be rearranged towards being lean, efficient, competitive, and capable of spreading knowledge to the market. The mechanism for assigning scientific tasks will also shift to ordering and bidding, linking more closely with production reality and aiming for the commercialization of research results.

Furthermore, the development of high-quality human resources in the field of science, technology, and digital transformation is also specially emphasized, with a close link between training, research, and practical application. Mechanisms to attract domestic and foreign experts and scientists, especially from the private sector, to participate in important industry tasks need to be prioritized. Finally, promoting comprehensive digital transformation-from policy planning and management to production and consumption-is considered a key factor for digital data, digital technology, and the digital economy to truly become competitive advantages in the new stage of development.

In addition, attention should be paid to promoting: biotechnology in animal feed production; automation and robotics in animal feed production (automatic feed mixing and distribution systems; robots in packaging and quality control stages); the application of IoT and Big Data in animal feed management (IoT sensor systems for monitoring feed quality; big data analysis for optimizing dietary rations); alternative and sustainable raw materials in animal feed production; AI-based automatic ration calculation systems; regulations and certification in animal feed technology; and the future of technology in the animal feed industry.

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