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TRENDS IN FEED CONSUMPTION PATTERNS IN BULGARIA'S LIVESTOCK SECTOR: A DECADE OF CHANGE

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Abstract
The manufacturing of animal feed is an essential component for maintaining livestock husbandry and it has a long tradition in Bulgaria. A sizable amount of the feed used in Bulgarian farms is produced locally, allowing for some self-sufficiency and lowering reliance on outside sources. Nonetheless, premium, industrially produced feed that has been enhanced with vital vitamins, minerals, and amino acids makes up the majority of feed used in commercial livestock operations. The main aim of the paper is to propose a trends in the feed consumtion pattern in livestock. The tasks are to 1) categorize the main kinds of animal feed that are sold in Bulgaria and assess their unique uses for different kinds of animals; 2) to track the shifts in feed supply distribution routes and analyze the evolution of market access, supply chain logistics, and retail behaviors over the last ten years; 3) to evaluate changes in feed preferences, demand trends, and buying habits depending on farm size, production intensity, and economic considerations by conducting a field-based study of livestock farms. The study integrates primary empirical insights obtained from livestock farmers via structured surveys and interviews with secondary data analysis.

Key words: Animal feed consumption, distribution channels, supply chains
JEL: Q 12, Q13

Introduction

Animal husbandry is one of the most important and historic areas of Bulgarian agriculture, and our nation has traditions in both the variety of animals farmed and the types of feed produced for both domestic and commercial use (Yarkov, Stankov, & Stankov, 2022). A assessment of Bulgarian agriculture's history divides it into two periods: before and after 1989 (Bashev, 2008). The following findings, which have an effect on feed production and consumption, are emphasized from his research. Prior to 1989, the development of livestock breeding was closely linked to the production of crops; the growth of alfalfa, maize, and sunflower acreage supplied a substantial feed basis.The widespread use of complex feeds and concentrates made possible by industrialization and mechanization raised the milk production of goats, sheep, and cows. Intense animal husbandry was supported by the coordinated production and delivery of feed from state farms and the Agricultural and Industrial Complex. After 1989 the feed production and delivery

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system was destroyed as a result of the breakdown of governmental structures and a lack of investment. Primitive animal feeding techniques and personal resources are the primary sources of income for small and semi-market farms. The potential to sustain high productivity is constrained by the loss of purchasing power and the restricted availability of industrial compound feeds. As a result, the production of meat and milk drops precipitously, and animal husbandry no longer plays a major part in agricultural output. In table one are summarized the finings related with the development of livestock sector and how it reflects in feeding the anaimlas, which is strongly linked with the type of fodders which are produces and used by the farms.
Based on agri-statistical data for the years 2000–2017, Marinov, Mitev, Miteva, Uzunova, and Stoianova (2024) describe a significant discrepancy between Bulgaria's production of main fodder crops and the geographical distribution of ruminant cattle. The bulky forages (alfalfa, silage maize) and important cereals are concentrated in Northern Bulgaria, according to the authors, whereas the highest numbers of cattle are reared in the South. This disparity makes it necessary to carry heavy feeds, which raises production costs and degrades the nutritional value of the feeds. The conclusion is that Bulgarian cattle farming's competitiveness and sustainability are hampered by these regional disparities.

Table 1. Historical background of Bulgarian livestock

Period	Livestock Production	Feed & Nutrition	Farm Structure & Policy
1948–1970	Strong growth in milk, meat, eggs, wool; pig and poultry numbers rise; productivity improves	Expansion of fodder crops (alfalfa, maize, sunflower); beginning of industrial feed use; irrigation supports forage	Collectivization (TKZS); state control; introduction of machinery; incentives through cooperatives
1970–1989	Livestock dominates GAP; intensive production; high growth but later stagnation in 1980s	Widespread use of industrial feed, chemical fertilizers, and mechanized feeding systems; high reliance on centralized feed supply	Agro-Industrial Complexes (APK); over-concentration; wage-worker system; central planning dominates
Post-1989 (1990s)	Sharp decline in livestock numbers and outputs; pig, cattle, sheep meat down by 70–80%; milk and wool production collapse	Collapse of feed industry; loss of irrigation; small farms rely on self-produced feed; limited access to industrial feed	Restitution and privatization; rise of small-scale, semi-subsistence farms; collapse of state feed and veterinary services
2000s–Present	Partial recovery in some outputs (wheat, maize, poultry, goat milk), but most remain below pre-1989 levels	Gradual modernization; increased role of functional additives; EU regulations influence feed quality and safety	Emergence of commercial farms; EU accession support; uneven competitiveness; focus on sustainability and compliance with EU rules

Source: based on Bachev, H. (2008). Production and productivity of Bulgarian agriculture in post war years. University Library of Munich, Germany

Data&methods

A comprehensive understanding of feed consumption patterns is ensured by the methodological framework, which integrates quantitative and qualitative data. The study draws findings and offers useful suggestions based on the processed data about the evolution of supply channels, the implications for the sustainability and competitiveness of livestock farming in Bulgaria, and the balance between self-sufficiency and reliance on industrial feed.

There were two types of data used. First, the macro-level trends were established using official national statistics and annual reports on compound feed production. Second, to get firsthand knowledge about farm-level procedures, a field survey was conducted. In 2025, 50 livestock farms in the Pleven region – a region heavily focused on animal husbandry – were the subject of the survey. Farms of various sizes raising cattle, pigs, poultry, sheep, and goats were included in the sample. Ten closed-ended questions addressing feed origin, self-produced feed share, industrial compound feed use, feed kinds utilized, purchase criteria, and supply routes were included in a structured questionnaire. Qualitative depth was added through more semi-structured interviews with farm managers.

Trends in feed consumption patterns in Bulgaria's livestock sector: a decade of change

According to FEFAC – Feed & Food 2024, factors such as inflation/war/animal diseases result in lower demand for animal products and a decline in certain feed segments (e.g. pigs), while poultry farming grows – i.e. the change in consumption is reflected in feed sales by species.

The total amount of produced fodder in Bulgaria is represented in figure 1.

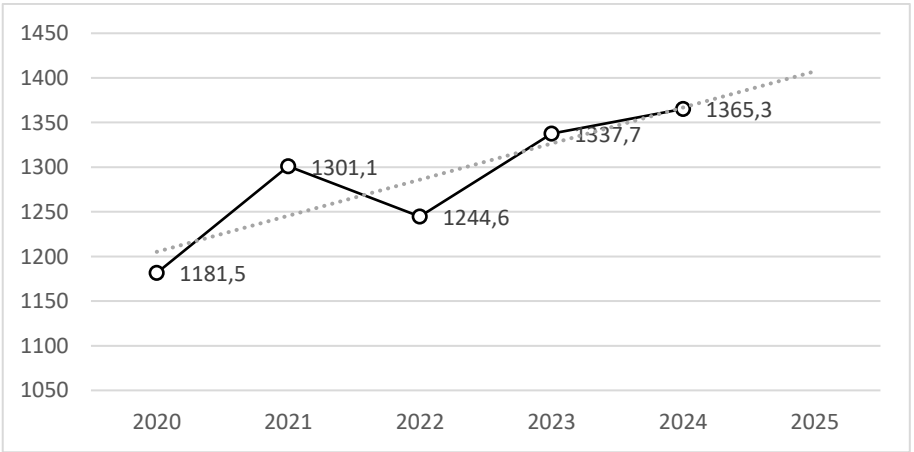

Figure 1. Trends in fodder produce in Bulgaria (thousand tonnes)

Source: own visualization based on Summary data on the quantities of compound feed produced, Bulgarian Food Safety Agency, reports 2020, 2021,2022, 2023, 2024

For deeper analysis of the produced fodder in next figure is presented the different direction of the produced fodders in Bulgaria during the same period.

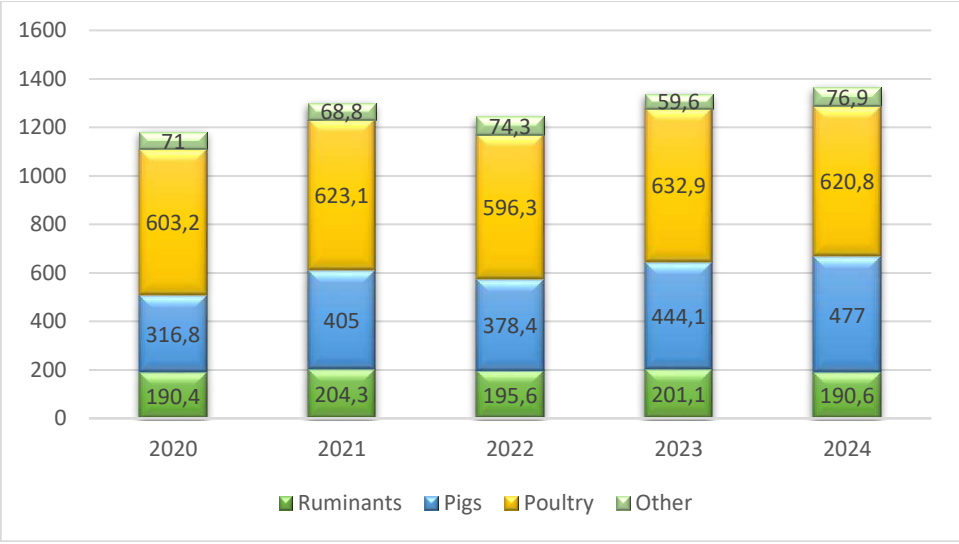

Figure 2. Structure and trends in fodders by direction of usage

Bulgaria's output of compound feed increased by a moderate 15.6% between 2020 and 2024, from 1.18 to 1.37 million tons. This increased tendency is consistent with regional dynamics; whereas feed output declined over much of the EU as a result of disease outbreaks and economic constraints, FEFAC reports modest gains or stabilization in nations like Bulgaria (pig333.com, 2024). A thorough revival of the swine industry supported by growing commercialization and advantageous disease conditions is shown by the notable growth in pig feed, which increased by about 50%, according to sector-level study (All About Feed, 2024). In line with market saturation tendencies also seen at the EU level, poultry feed continued to dominate but started to plateau after 2023 (Agindustries, 2024).

Ruminant feed, on the other hand, stayed steady between 190 and 204 thousand tons, indicating that the dairy and cattle industries are still largely unchanged, either as a result of structural limitations or a move toward forages that are generated internally. All things considered, these trends highlight a structural reorganization in Bulgaria's livestock feeding system, with the pig and poultry industries driving feed demand and ruminant feeding remaining restricted against a backdrop of steady but modest overall feed output.

These dynamics are supported by national reports, which demonstrate steady domination of poultry, notable growth in pig feed, and stagnation in ruminant feed (Ministry of Agriculture, 2020, 2021, 2022, 2023, 2024). All things considered, these trends highlight a structural reorganization in Bulgaria's livestock feeding system, with the pig and poultry industries driving feed demand and ruminant feeding remaining restricted against a backdrop of steady but modest overall feed output. According to the Ministry of Agriculture's official data from 2020, 2021, 2022, 2023, and 2024, animal feeding in Bulgaria shifted mainly to two sectors between 2020 and 2024: pigs and poultry. Poultry feed stabilized at high levels, ruminant feed stayed static within a limited range, and pig feed exhibits a noticeable acceleration of growth. This arrangement is in line with trends toward economies of scale, increased supply chain integration in the production of pigs and poultry, and ruminants' ongoing need on large, farm-produced forages.

Some results of survey related with feed consumption of Bulgarian livestock

A feeding method that combines a high degree of self-sufficiency with a selective reliance on industrial feed is shown by the study of 50 livestock farms in the Pleven region(table 2).

Table 2. Survey results

Question	Answer 1	Answer 2	Answer 3	Answer 4
Do you produce feed on your farm?	Yes – 35 (70%)	No – 5 (10%)	Partially – 10 (20%)	
What share of the total feed is produced on-farm?	< 25% – 2 (4%)	25–50% – 3 (6%)	51–75% – 40 (80%)	> 75% – 5 (10%)
Do you use industrial (compound) feed?	Yes, regularly – 2 (4%)	Only when needed – 48 (96%)	No – 0 (0%)	
What types of industrial feed do you use?	Starter/finisher – 5 (10%)	Enriched with vitamins & minerals – 32 (64%)	With additives (amino acids, probiotics, etc.) – 13 (26%)	Other – 0 (0%)
What are the main criteria for choosing industrial feed?	Price – 50 (100%)	Quality – 38 (76%)	Composition & additives – 25 (50%)	Producer/brand – 2 (4%)
How do you supply feed beyond your own production?	From trader/shop – 40 (80%)	Directly from producer – 10 (20%)	–	Other – 0 (0%)

In the past 10 years, has the way of feed supply changed?	Yes – 5 (10%)	No – 45 (90%)	Cannot decide – 0 (0%)	(If “Yes” – please specify)

Source: own survey, 2025

The vast majority of farms (70%) make their own feed, and in 80% of cases, on-farm production meets 51–75% of overall requirements. This suggests that home-grown bulky forages (hay, silage, and alfalfa) are still a major source of feed for ruminant farms in particular. However, nearly all responders utilize industrial compound feeds, but mostly seldom (96% use them "only when needed"). Only 4% of animals regularly rely on compound feed, indicating that commercial feed is viewed as a supplement rather than a mainstay.

With an emphasis on increased nutritional efficiency, the most often utilized industrial feed types are vitamin- and mineral-enriched combinations (64%), feeds with functional additives (26%), and starter/finisher rations (10%). The first consideration for selecting industrial feeds is price (100%), followed by quality (76%), and composition/additives (50%). Only 4% of consumers recognize the brand, indicating a price-sensitive market with little brand loyalty. Only 20% of supply channels buy directly from feed producers, meaning that dealers and stores control 80% of the market. This suggests higher distribution costs and a reliance on middlemen. Ninety percent of farms say that their feed supply techniques have not changed in the past ten years, highlighting the structural stability of procurement procedures.

Conclution

Both structural change and continuity can be seen in the feed consumption trends in Bulgaria's livestock industry during the last ten years. The output of complex feed rose by 15.6% on a macro level between 2020 and 2024, however this rise varied per species. While poultry feed continued to dominate but plateaued after 2023, pig feed had the most dramatic expansion, reflecting the modernization and regeneration of swine farming. Ruminant feed, on the other hand, stagnated, which was indicative of the dairy and cattle industries' structural constraints as well as their ongoing reliance on on-farm fodder.These trends are supported by the Pleven region's farm-level study. Industrial compound feed is mostly utilized as a supplemental input compared to a primary source, with the majority of farms producing the majority of their feed needs on-site. Farmers are very sensitive to pricing, with composition and quality coming in second and brand loyalty being little. Intermediaries are crucial to supply, and distribution routes haven't changed much in the last ten years.All things considered, the findings point to the consolidation of Bulgaria's feed system on two industrial pillars: pigs and poultry,

while ruminants continue to be fed mostly pasture. Sustainability, competitiveness, and the conformity of domestic practices with changing EU regulations are all significantly impacted by this dual framework.

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