

Practical Pathways for Empowering Modern Large-Scale Agriculture through Regional Public Brand Building: A Research Analysis Based on ‘Black Soil Premium Products’

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Abstract: This study examines Black Soil Premium, a regional public brand in Heilongjiang, and its role in empowering modern large-scale agriculture. Unified standards, platform operation, and collaborative co-construction have turned black soil resources into organized assets, promoted the shift from selling raw materials to selling brands, and produced clear market results. However, the brand still faces limited categories, uneven regional participation, leading-enterprise dominance, weak premium transmission, and shallow digital application. It should improve governance, regional compensation, stakeholder empowerment, premium transmission, and digital governance to achieve sustainable value growth.

Keywords: Regional public brand; Modern large-scale agriculture; Black soil premium; Governance mechanism; Digital empowerment

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1. Introduction

Regional public brands modernize agriculture by integrating resources, improving standards, strengthening market recognition, and raising industrial-chain value. In Heilongjiang, rare black soil resources and strong grain capacity have not fully become stable market value because many products are still sold as raw materials. Black Soil Premium is therefore a useful case of brand empowerment.

2. Background and problem statement

2.1. Research background

As global agricultural competition moves toward the high end of the value chain and rural revitalization deepens, agricultural modernization is shifting from “scale expansion” to brand-led high-quality development. Regional public brands have become important tools for integrating local resources, increasing industrial value, enhancing market

competitiveness, and promoting sustainable agricultural transformation^[1].

General Secretary Xi Jinping has stressed that high-quality development is the primary task. For local governments, the key is to turn resource advantages into real economic value. Agricultural regional public brands can also help increase farmers' income and reduce the urban-rural income gap^[2].

Heilongjiang is an important grain-producing province and has valuable black soil resources. However, it still faces problems such as weak brand influence, incomplete standards, and poor coordination, which often lead to "good quality but low prices." In this context, regional public brands have become an important way to organize scattered production, improve industrial-chain value, and promote digital governance^[3]. To advance agricultural branding, Heilongjiang created Black Soil Premium. By using unified logos, standards, and management, the brand integrates green, organic, and geographical indication products, and supports the shift from selling raw materials to selling branded products^[4].

2.2. Research purpose

This study examines how Black Soil Premium supports modern large-scale agriculture and responds to the problem of rich resources but weak brand premiums. It analyzes the role of brand empowerment, identifies problems in governance, market operation, benefit sharing, and digital development, and then proposes improvement paths, including better government-market coordination, stronger quality control, fairer premium distribution, and digital governance.

2.3. Research design

This study adopts a mixed-method approach. The data come from authorized product lists, policy documents, surveys, interviews, e-commerce records, social media comments, and industry reports. Based on the IAD framework, collective action theory, and public brand governance theory, it builds a Resources–Institutions–Behaviors–Performance framework. Python and machine learning are used for data cleaning and visualization, while SNA, DID, SEM, and QCA help analyze brand structure, policy effects, and development paths.

3. Black Soil Premium: Practices and mechanisms

To promote modern large-scale and branded agriculture, Heilongjiang has used Black Soil Premium to address fragmented brands, inconsistent standards, and weak bargaining power, forming a model of government guidance, platform support, and market-oriented operation.

3.1. Top-level design and coordination of Black Soil Premium

Heilongjiang has incorporated Black Soil Premium into its provincial agricultural brand system and strengthened top-level design. By integrating scattered resources and unifying visual identity, it has improved recognition and market influence. It also issued the Administrative Measures for the Use of the Black Soil Premium Agricultural Brand Logo (Trial), establishing an access system based on national standards, green and organic certification, and supplementary EU standards. The system covers 121 standards and 8,875 indicators.

Applicants must be Heilongjiang-registered enterprises or cooperatives with certification and traceability systems. This mechanism standardizes brand management and turns scattered black soil resources into organized brand assets.

In 2024, Heilongjiang launched the "1141" agricultural brand framework, giving Black Soil Premium a clearer position in the provincial brand system. By December 2025, the brand had authorized 348 enterprises and 910 products in ten categories. In the 2024 China Brand Value Evaluation, 11 Heilongjiang geographical indication brands were listed, with a total value of over 180 billion yuan, up 37.5% year on year.

In practice, Black Soil Premium depends on government coordination, platform services, and enterprise participation. Government departments handle planning, access review, and standards, while operating companies manage promotion and daily operation. Through unified standards, authorization, monitoring, and traceability, the brand links production,

processing, circulation, and sales. By the end of 2025, it had held 66 city tours, 395 “N-entry” promotions, and entered 235 offline stores and 121 online shops^[5].

3.2. Enhancing platform-based brand management and services

Black Soil Premium has used platforms and digital tools to support promotion. Beidahuang Group built a live-streaming base, and Harbin launched a Digital Supply and Marketing Platform with full-chain traceability and nearly 9,000 safety indicators. The brand promotes products through city tours, “N-entry” campaigns, online marketing, live streaming, counters, and display windows. Its products have entered China Post’s Youle Wang platform and 235 stores in 63 cities. The “one product, one code” system also improves traceability and consumer trust.

3.3. Multi-stakeholder collaboration and shared benefits

Black Soil Premium is forming a model that combines one regional public brand with multiple enterprise brands. Under government guidance, enterprises, cooperatives, family farms, specialized producers, and smallholders are encouraged to join^[6]. This platform model helps reduce separate market operations and lowers promotion and channel costs. It also supports enterprise-farmer cooperation. For example, Youle Wang has helped Gannan rice enter Shenzhen through contract purchasing and live-streaming sales.

3.4. Preliminary outcomes and operational characteristics

As shown in **Figure 1**, Black Soil Premium logo applications were active after 2022. The third batch ranked first with 129 brands, followed by the second batch with 125 and the fourth with 90. This shows strong enterprise participation in the early and middle authorization stages.

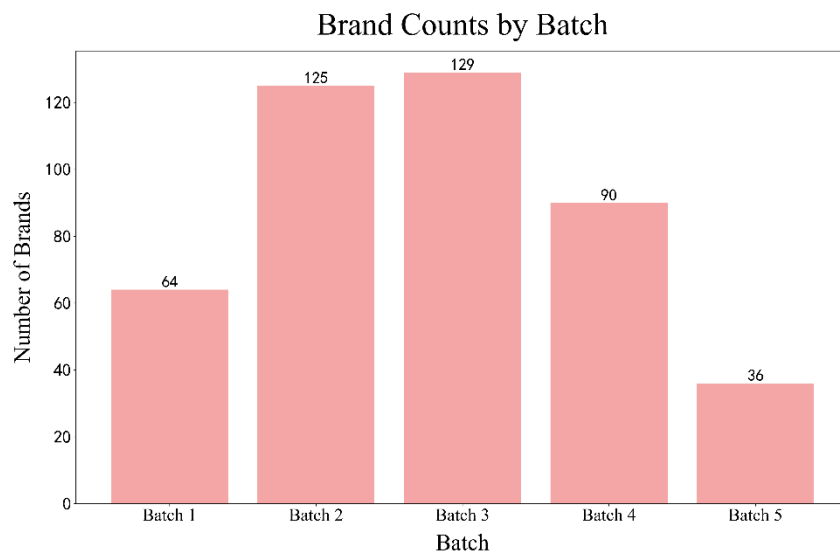


Figure 1. Brands counts by batch.

As shown in **Figure 2**, Harbin leads with 98 brand types, followed by Suihua and Jiamusi. Qiqihar, Mudanjiang, Jixi, and Daqing show moderate diversity, while Yichun and Daxing’anling still have potential in specialty agricultural products.

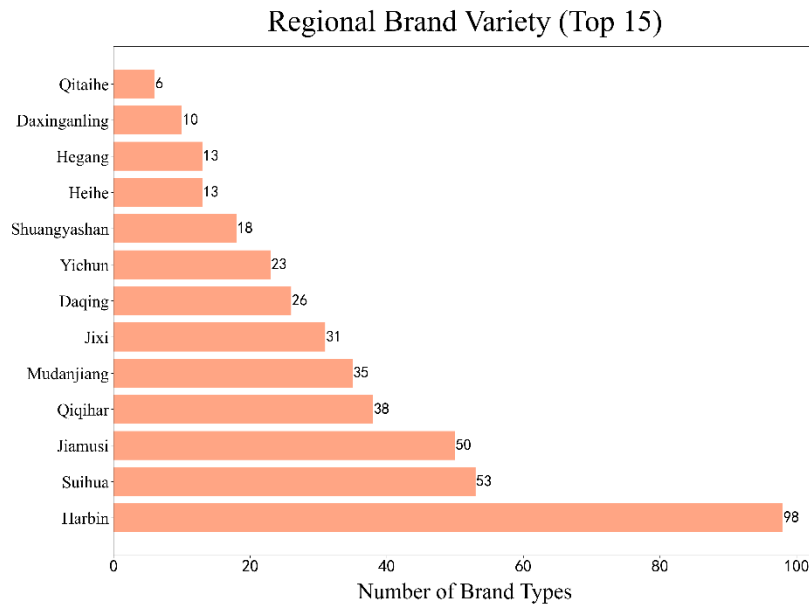


Figure 2. Regional brand variety (Top 15).

As shown in **Figure 3**, authorized products are mainly held by leading enterprises. Heilongjiang Heliang Agriculture ranks first with 44 products, followed by Heilongjiang Beiyu Fishery Group with 33. Heilongjiang Tianjin Edible Fungi and Heilongjiang Xigu Rice each have 18, showing the key role of leading firms in supply and brand promotion.

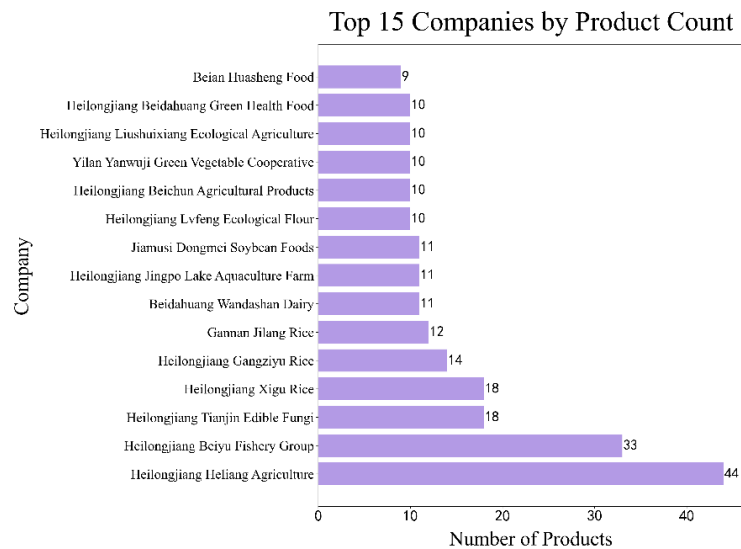


Figure 3. Top 15 companies by product count.

As shown in **Figure 4**, product numbers are concentrated among the leading brands. Yitian ranks first with 44 products, followed by Longjiang Fish with 33 and Wandashan with 21. This indicates that several major brands have built relatively broad product coverage.

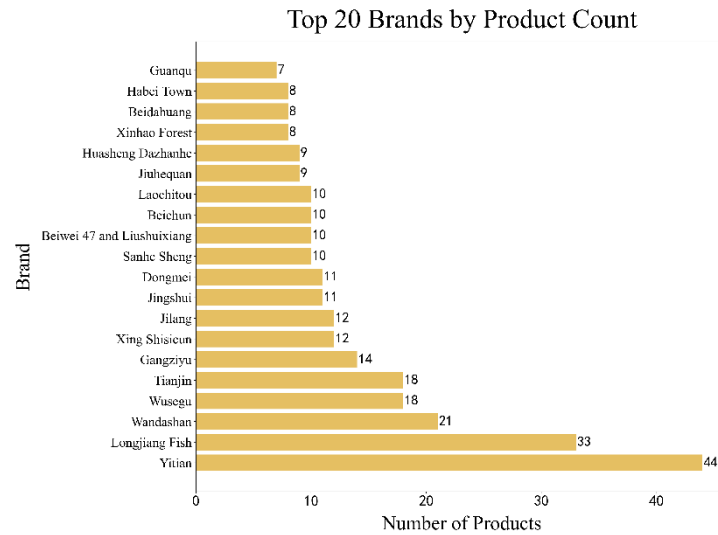


Figure 4. Number of products of top 20 brands.

As shown in **Figure 5**, rice takes the largest share of the product structure, followed by grains. Edible fungi, seafood, condiments, berries, bee products, and dairy products account for smaller proportions. Among regions, Harbin contributes the most across the main categories.

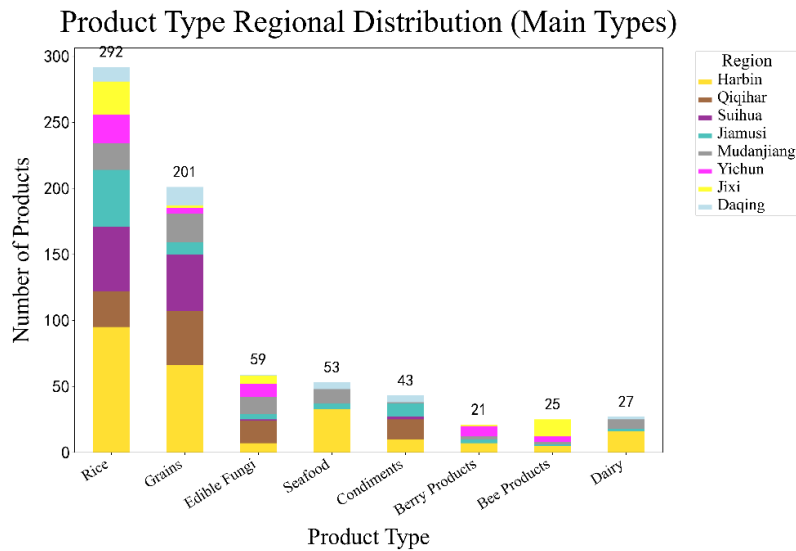


Figure 5. Product type regional distribution (main types).

As shown in **Figure 6**, rice remains the main product type, while grains, edible fungi, seafood, condiments, and berries have also grown across batches, showing a more diversified product structure.

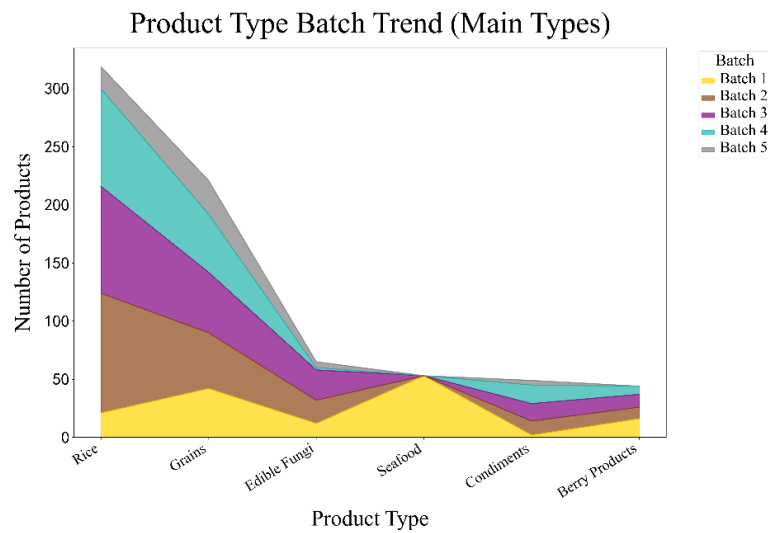


Figure 6. Product type trends by batch (main types).

As shown in **Figure 7**, rice-related terms dominate product names, while “Corn,” “Soybean,” “Fungus,” “Oil,” and “Milk Powder” show category expansion. The brand cloud highlights “Yitian,” “Longjiang,” “Fish,” and “Wandashan” as major represented brands.



Figure 7. Product and brand name word clouds.

As shown in **Figure 8**, Yitian appears in several batches, especially Batch 2 and Batch 4. Longjiang Fish and Wandashan are mainly in Batch 1, suggesting earlier authorization.

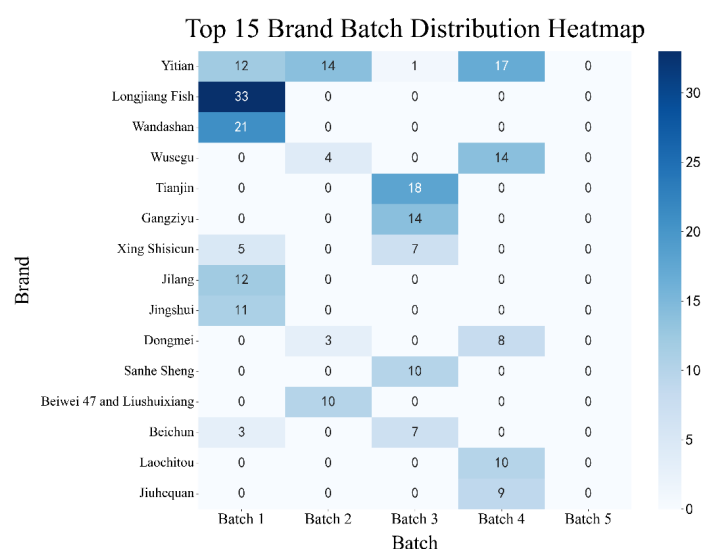


Figure 8. Top 15 brand batch distribution heatmap.

For market expansion, Black Soil Premium has relied on exhibitions, brand tours, and promotion events. Since 2022, it has joined major fairs and launched “First-tier City Brand Tour” campaigns. By January 2026, it had attended over 40 out-of-province promotions and supported nearly 1,000 signed projects worth more than 320 billion yuan.

4. Major issues and challenges of Black Soil Premium

Black Soil Premium has made progress in brand integration and scale expansion, but structural problems and governance gaps may still limit its sustainable development.

4.1. Homogeneous brand structure and limited category diversification

Although Black Soil Premium’s “1141” framework covers ten categories, its diversification is still mainly about wider coverage, not bigger structural change. Rice remains dominant across regions and batches, while coarse cereals, edible fungi, and aquatic products lag behind. This rice-centered pattern may limit quality control, market resilience, and category innovation.

4.2. Regional disparities and slow progress in late-developing areas

Black Soil Premium still shows a core-periphery imbalance. Harbin, Suihua, and Qiqihar account for over 65% of applications among the top 15 regions, while Yichun and Daxing’anling have only 24 and 17 products. Late-developing areas have under-forest and cold-region resources, but most applications remain primary products. High certification costs and few large-scale entities still limit wider participation.

4.3. Leading enterprise concentration and weak SME participation

Black Soil Premium’s participation is still led by major enterprises. The top 15 firms provide nearly 40% of products, and large firms also receive more promotion resources and channel access. SMEs often remain brand users rather than co-builders, with little voice in governance, standards, and rules. Since access review and standard setting are mainly led by government agencies and state-owned platforms, SMEs and cooperatives need steadier channels to join brand building.

4.4. Weak premium transmission and farmer income verification

Black Soil Premium still lacks a clear way to pass brand premiums to farmers. Policies are broad, and verified rules or

income data remain limited. Contract purchasing does not specify premium ratios or enforcement, while profit-return models are still vague. Although the brand covers 348 enterprises, 910 products, and contracts worth over 3,200 billion yuan, farmers' real gains need stronger evidence. Premium sharing should be auditable and tied to evaluations.

4.5. Limited digital governance

Black Soil Premium's digital application is still limited to marketing and quality endorsement rather than core governance. Current tools focus on display and verification, including the one-product-one-code system, transaction matching platforms, and livestreaming. They improve visibility and trust, but have not enabled quality warning, violation detection, credit evaluation, risk pricing, or market forecasting. Data across production, inputs, processing, logistics, and sales remains scattered. The brand should build a multi-level digital governance system and make digitalization the core governance infrastructure^[7].

5. Countermeasures for Black Soil Premium's development

To address structural problems, efforts should improve brand governance, quality control, market competitiveness, and digital empowerment.

5.1. Improve brand governance and clarify government–market boundaries

Regional public brand governance should shift from administrative dominance to collaboration based on government guidance, market autonomy, and digital intelligence. The government should focus on public goods and institutional maintenance, such as trademark and geographical indication protection, access approval, and infrastructure coordination, rather than directly intervening in enterprise marketing.

5.2. Dynamic authorization and regional compensation

Applications are concentrated in Harbin, Suihua, and Qiqihar, while later-developing regions face high certification costs and limited large-scale producers. Differentiated access should be introduced through a three-year compliance commitment system, supported by subsidies, joint applications, and entrusted testing. Promotion funds, exhibition booths, and online traffic should be allocated through a performance-based brand growth pool. Incentives should support niche categories, non-grain products, deep processing, and R&D. Enclave collaboration should also be encouraged through model contracts and benefit sharing to promote polycentric governance.

5.3. Shift stakeholder participation from enabling to empowering

Stakeholder participation remains uneven. The top 15 enterprises provide nearly 40% of products and have better access to channels and policy discussion, while SMEs mainly act as brand users, with limited roles in governance, standards, and authorization. SMEs should be encouraged to join rule-making and become brand co-builders. At least one-third of council seats should be reserved for SMEs and cooperatives. A dual-track system for sub-brands and self-owned trademarks can help them build brand assets. Leading enterprises should also be assessed on joint procurement, technology transfer, and payment compliance.

5.4. Premium transmission and farmer income gains

Premium transmission should take farmer income growth as a key part of brand evaluation. Brand strength should reflect both market value and social contribution. A benefit-linkage model may combine guaranteed purchase, premium rebates, and equity dividends. Leading enterprises need long-term contracts with farmers, so short-term gains can become stable shared benefits. Cooperatives and industrial alliances should also improve farmers' organization, bargaining power, and position in the value chain. Smallholder support and per capita income growth should be included in assessments.

5.5. Deepen digital empowerment and brand governance

Black Soil Premium should move from experience-based management to digital governance. A full-chain data platform can connect production, sales, and traceability data, reduce data silos, and support early risk prevention. Digital tools can also improve credit scoring, infringement detection, smart sensing, AI decision-making, and intelligent agricultural machinery. These initial results authorize the technical viability of the proposed methodology and underscore its ability to boost water-use efficiency in precision agriculture^[8].

6. Conclusion

This study uses Black Soil Premium to examine how regional public brands support modern large-scale agriculture. The findings show that such brands can reorganize resources, connect industries, and link benefits. Through unified standards and platform operation, Black Soil Premium has turned black soil resources into brand assets and supported the move from raw materials to branded products.

Rapid expansion has exposed category homogeneity, regional imbalance, concentrated participation, weak premium transmission, and limited digital governance. The core issue lies in unclear rights and responsibilities and weak institutional adaptation to market-oriented development. This study proposes a resource endowment-institutional embeddedness-governance upgrading-value sharing framework, suggesting that institutional innovation and digital empowerment can support agricultural modernization and turn black soil advantages into a lasting driver.

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Disclosure statement

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