

THE MILLION ACRE BLUEPRINT



DGA
Dairy Grazing Alliance

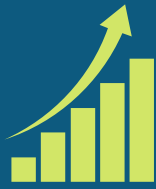


EXECUTIVE SUMMARY

Consumer demand for grassbased dairy is expanding at a rapid 6-7% annually to nearly 7 billion dollars by 2033, driven by consumer desire for more nutrient-dense products that are better for the environment. This growth trajectory is currently being captured almost entirely by overseas producers, with grassbased butter imports from Ireland surging nearly 50% from 2023-2024.

6-7%

Annual Growth in Domestic Demand for Grassfed Dairy



This blueprint presents a strategic and quantifiable path to leverage domestic milk production to serve this high-value market by converting one million acres of U.S. farmland to managed grazing dairy. This transition would support an additional 500,000 cows—a herd equivalent in scale to the U.S. Organic dairy sector—allowing the domestic industry to intercept future growth, enhance food security, and redirect hundreds of millions of consumer dollars back into the American economy without displacing existing conventional dairy production. This domestic grassbased dairy would represent 5% of total domestic dairy production while capturing 10% of the value of domestic production.

This One Million Acre Blueprint is more than just a market opportunity; it is a strategic alignment of national priorities. The stimulation of a decentralized, grassbased model delivers a demonstrably more nutrient-dense product that meets modern consumer demands for health and wellness, provides profound environmental cobenefits, including carbon sequestration, improved water quality, and enhanced biodiversity, and revitalizes rural communities through a powerful local economic multiplier

effect. This document outlines a tangible plan to build a more resilient, profitable, and sustainable American dairy industry for the 21st century, contingent on establishing clear market standards and fair incentives to empower farmers to make this vital transition.

500K

Additional Cows Supported on 1,000,000 Acres



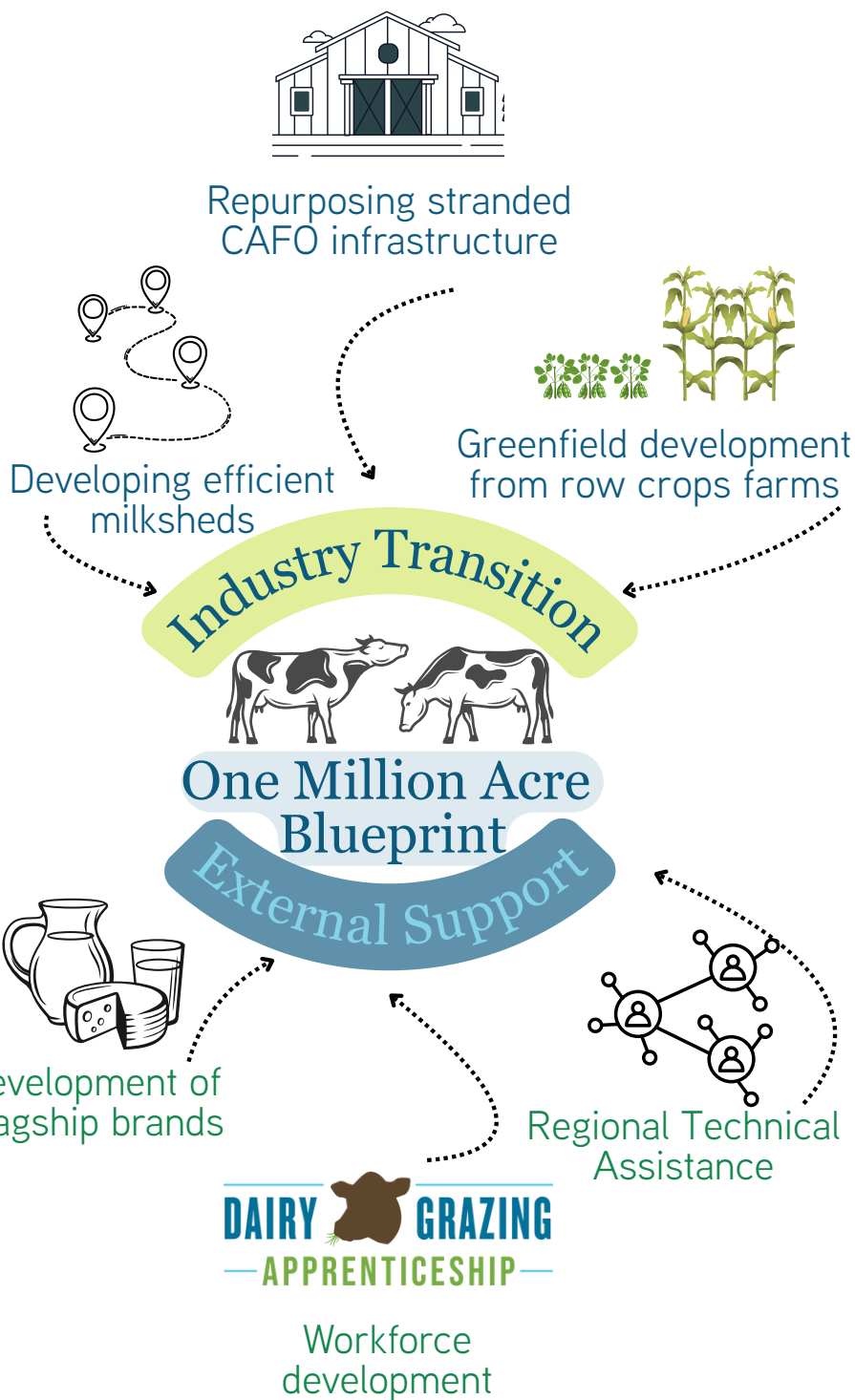
Drawing on lessons learned from across the food system, the One Million Acre Blueprint offers a bold yet practical path forward for scaling a domestic grassbased dairy sector. It is ambitious enough to intercept the growing demand currently met by imports, while remaining grounded in production realities and regionally tailored strategies. The Blueprint recognizes that no single model will serve all geographies and instead outlines a flexible set of farm development pathways that can be adapted to local context.

The transition of one million acres to managed grazing dairy represents a strategic alignment of economic opportunity, community revitalization, and environmental stewardship. It is a tangible plan to build a more resilient, profitable, and sustainable American dairy industry for the 21st century

In some regions, the most promising strategy is the transformation of stranded or distressed CAFO infrastructure into grazing-compatible operations. These sites, which are often built with family equity but facing succession challenges, can be repurposed into satellite pasture dairies, where cows graze at offsite dairy hubs for most of the year and return to the CAFO for winter milking. This model extends the useful life of existing infrastructure while reducing capital strain.

Elsewhere, growth will come from building out efficient grassbased milksheds: regional networks of pasture-based farms that coordinate supply to serve differentiated processors and emerging national brands. These hubs support a mosaic of small, mid-size, and larger grazing dairies that together meet scale requirements while preserving local control and community value.

In other areas, the opportunity lies in converting historically row-cropped land into managed perennial pasture. These greenfield transitions create entirely new grazing enterprises, often with strong environmental co-benefits and new career pathways.





What unites these approaches is not the specific farm structure, but the shared vision of a decentralized, resilient dairy sector rooted in stewardship and transparency. This flexibility allows diverse farming communities across the Northern Tier of the U.S. to engage with the opportunity, contribute to a growing domestic market, and shape the future of American dairy from the ground up. There is precedent in this approach with two possible routes for development – a business venture build-out that focuses on developing a flagship product and then replicating it across the dairy industry or a production systems infrastructure build-out that focuses on providing dairy farmers with the technical assistance and price premium necessary to be successful as grassbased dairy farmers.



The Dairy Grazing Alliance is uniquely positioned to spearhead the development of the grassbased dairy industry. In 2024, DGA convened thought leaders across the industry to identify key steps to build out the grassbased sector. At this Convening, four key actions were identified to catalyze the growth of the industry:

- Develop, refine, and improve the (data-driven) business case for managed grazing dairy (MGD) that shows MGD is viable outside of organic.
- Create an industry-wide standard for managed grazing dairy that people can have confidence in.
- Lead an alliance to create a regenerative, planet-and-people-positive world through managed grazing dairy.
- Build a vibrant and skilled workforce in managed grazing dairy and technical service provision through the creation of a centralized education hub.

Teams of thought leaders have continued to meet quarterly since the Convening to move these goals forward.



HIGH GROWTH MARKET DOMINATED BY IMPORTS

U.S. demand for grassbased dairy products is experiencing robust and sustained growth. Market research organizations consistently project a 6-7% compound annual growth rate (CAGR) for the grassbased dairy sector through 2033 with an anticipated value of nearly 7 billion dollars. This expansion is driven by strong consumer demand for premium, nutrient-dense, and sustainably and ethically produced dairy products. The current demand for grassbased dairy products is predominantly served by overseas producers. For example, butter imports from Ireland more than doubled between 2019 and 2023 and increased again by an additional 48% from 2023 to 2024; future trends indicate the continued massive growth of this segment. Strategic expansion of domestic grassbased dairy production can effectively displace this projected import growth over the next decade. By expanding the domestic grassbased dairy herd by approximately 450,000-500,000 cows - a size equivalent to the current Organic dairy sector - and converting approximately 1,000,000 acres of farmland to support managed grazing dairy and perennial forage production, the US dairy sector can capture this premium market, thus enhancing domestic food security, bolstering rural communities, and protecting critical environmental services.

“THE CHALLENGE AND OPPORTUNITY FOR THE DOMESTIC INDUSTRY IS TO INTERCEPT THIS GROWTH TRAJECTORY.”

Domestic Production: Quantifying Market Capture

A strategic expansion of domestic production can absorb the projected market growth currently being filled by imports. Based on conservative growth estimates and established production metrics from peer-reviewed research, the path to displacing this import growth is both real and achievable.

- Calculating the Required Herd Size: Well-managed dairy cows on a high-forage diet can produce approximately 16,000 lbs of milk per year. Assuming a conservative 6% CAGR and using 2024 grassbased imports, the domestic market would need to increase by 500,000 cows by 2033 to intercept the projected growth in grassbased imports.
- Calculating the Required Land Base: Supporting this expanded herd requires improved management of currently underutilized pastures as well as conversion of cropland to pasture. High-production grazing herds require approximately 1.5 acres of pastureland per cow, plus an additional 0.5 to 1.0 acres per cow for producing stored perennial forage (hay and silage) for the non-grazing season. Approximately 1,000,000 acres of land would be required to support 500,000 grassbased cows



$$\begin{array}{r} 1.5 \text{ acres of pasture/cow} \\ + \\ 0.5-1 \text{ acre stored feed/cow} \\ = \\ 1,000,000 \text{ acres} \end{array}$$

Considerations for Domestic Market Build-out

To effectively compete in the rapidly expanding international grassbased dairy market, the US dairy industry needs to establish its own non-organic grass-fed standard. This is crucial because the majority of certified grass-fed milk in the US currently adheres to Organic standards, which increases costs and reduces competitiveness against global benchmarks. Additionally, the Organic standard only mandates a 30% grass-fed component, falling short of international norms. Foundational market development steps must include:

- A clear and defensible standard - the primary function of such standards is to solve the problem of "asymmetric information" between producers and consumers, which is essential for any differentiated agricultural market to thrive. Without a common definition for "grassbased," the market is vulnerable to a flood of ambiguous claims that dilute the value of high-integrity products, erode consumer trust, and ultimately undermine the price premium that producers rely on.
- Reliable and sufficient market incentive - a stable, premium milk price will de-risk and encourage the transition to grassbased production which involves significant changes to land management, herd genetics, and operational systems. Farmers will only undertake this complex conversion if they have confidence in a profitable and secure market.



Consensus emerged at the Convening that a more competitive US standard would require approximately 70% of the daily dry matter intake to come from forage sources, with the remaining 30% allowed from starches or grain. During the growing season, a minimum of 50% of the daily forage intake should be sourced from fresh pasture. This approach would align the US dairy industry with global standards and enhance its competitiveness in domestic and international markets.



THE GOLD STANDARD FOR ECOSYSTEM SERVICES

Well-managed perennial pasture is the single most effective agricultural practice for delivering a wide array of ecosystem services that benefit all of society. The conversion of one million acres from annual row crops to permanent pasture would have a transformative environmental impact.

- Soil Carbon: Managed pasture is a carbon sink, storing an estimated 5.3 tons of CO₂ equivalent per acre per year, in stark contrast to conventional corn-soy systems which result in a net loss of carbon.
- Water Quality: Perennial pasture virtually eliminates soil erosion and dramatically reduces nutrient runoff. Compared to a tilled corn-soy system, managed pasture reduces phosphorus runoff by 90% and nitrate loss by 70%.
- Flood Reduction: The healthy, porous soils under managed pasture are far more effective at absorbing water, reducing storm runoff from a 5-inch rain event by over 35% compared to conventional cropland.
- Enhanced Biodiversity: This transition would also create one million acres of vital habitat for wildlife. Managed pastures support 10 times more nesting pairs of grassland birds and provide significantly better habitat for essential pollinators compared to row-crop system



Grasslands 2.0, a project of the University of Wisconsin completed a study of the environmental impacts of different agricultural systems. The table below includes highlights from the study. Most notably, managed grazing out performed conventional corn/soy rotations in every environmental metric while still maintaining the land in active agricultural production. The environmental scorecard analyzed the changes on a per acre basis. When those changes are multiplied over 1,000,000 acres as envisioned in this Blueprint, the whole systems impact is profound.

THE CONVERSION OF CONVENTIONAL FARMLAND TO MANAGED GRAZING REPRESENTS THE BEST OPPORTUNITY TO INCUR SIGNIFICANT ENVIRONMENTAL BENEFITS WHILE MAINTAINING THE INTEGRITY OF OUR WORKING LANDSCAPES AND IMPROVING THE VITALITY OF OUR RURAL COMMUNITIES.

Farming Systems Environmental Scorecard

	Units	Conventional Corn/Soy	Managed Grazing	Amount Conserved per acre	Conservation Value per acre
Soil Carbon Stored	tons CO2eq/ac/yr	-1.03	5.3	6.33	\$329.16
Soil Erosion	lbs soil/ac/yr	4200	0	4200	\$15,876.00
Phosphorus runoff	lb P/ac/yr	2	0.2	1.8	\$52.20
Nitrate Loss	lb N/ac/yr	28.6	8.9	19.7	\$7.09
Storm Runoff	in H2O from a 5 in rain in 24 hours	3.3	2.1	1.2	
Grassland Bird Habitat	nesting pairs/ac	0.04	2.6	2.56	
Pollinator Habitat	0-10(best)	1.5	5.0-6.0		

A Whole Systems Approach

Grazing systems producing milk from perennial pastures and hay fields shine when the entire farm ecosystem is considered. Soils under perennial pasture hold and accumulate carbon. Erosion and runoff of water pollutants is almost non-existent on perennial pastures. Manure excreted during the grazing season breaks down into fertilizer under aerobic conditions bypassing all of the emissions that result from the anaerobic storage of manure. Biodiversity thrives from the tiniest microbes to charismatic megafauna.

Discussions around carbon accounting and life cycle assessments of various livestock systems frequently miss these big picture environmental attributes of a grazing system. Metrics like carbon per hundredweight of milk skew towards very high production per cow while ignoring the broader impacts.



At the Convening, consensus emerged that the environmental cobenefits can be important byproducts of the Managed Dairy Grazing system. Both the External Enablers and Finance working groups are actively engaged in building consensus around how to build a standard that is readily deployable and verifiable and that is able to meet the benefits on

As the Working Groups established at the Convening have met quarterly since, consensus has emerged that any grassbased standard must be comparable to the standards of countries that export to the United States. In order to achieve participation with the standard at the farm level, verification must be simple and be integrated into current daily management practices; verification could look like a combination of bulk tank milk sampling coupled with pasture and feed management data already collected during routine farm management activities. Minimizing the burden of farm record keeping and expensive certification inspections will be key for farm adoption of this standard. Additionally, verification methods should be robust enough to provide a high level of assurance and integrity to consumers.



CONSUMER PREFERENCE: DRIVING DEMAND

The rapid growth of the grassbased dairy sector is not an industry-pushed phenomenon; it is a direct response to a powerful and sustained pull from an increasingly sophisticated consumer base. Modern consumers are making purchasing decisions based on a complex value stack that extends beyond simple price and availability to include nutritional benefits, ethical considerations, and a superior sensory experience. The preference for grassbased dairy is rooted in real, scientifically verifiable differences in the end product—differences that consumers can both understand through health claims and experience directly through taste, color, and texture. This alignment of tangible health benefits and a premium sensory experience creates a durable and defensible market niche that commands consumer loyalty.

A Difference Consumers Can Taste and See

Beyond the nutritional panel, the preference for grassbased dairy is reinforced by a distinct and superior sensory experience. The phytochemicals, fatty acids, and carotenes derived from a diverse pasture diet are not just beneficial for health; they are perceptible to consumers, creating a richer and more authentic product. **A More Complex and Desirable Flavor:** The varied diet of cows on pasture creates a more complex flavor profile in the milk, often described as "richer" or "grassier."

- **A Richer Color and Texture:** The higher beta-carotene content from fresh grass gives grass-fed butter and milk a distinctive golden hue, which consumers associate with natural, high-quality production. The different fatty acid profile also contributes to a creamier, more desirable mouthfeel.
- These sensory differences are critical because they provide immediate, tangible proof of the product's premium nature. Consumers who seek out grass-fed dairy for its health benefits have their choice validated by a product that looks, smells, and tastes better, reinforcing brand loyalty and justifying the premium price point.



The Health Proposition: A Demonstrably More Nutrient-Dense Product

A primary driver of consumer choice is the clear and measurable nutritional superiority of milk from pasture-raised cows. Scientific research consistently demonstrates that a forage-based diet fundamentally alters the composition of milk, creating a product that is richer in beneficial fatty acids and key vitamins.



- Higher Omega-3 Fatty Acids and a Better Omega-6:3 Ratio: Peer-reviewed studies show that grass-fed organic milk contains up to 62% more omega-3s and a 2.5-fold better omega-6 to omega-3 ratio than conventional milk. This is critical because a lower omega-6 to omega-3 ratio is widely associated with reducing the risk of chronic inflammation.
- Higher Conjugated Linoleic Acid (CLA): Pasture-fed cows produced milk with up to 500% more CLA than cows fed conventional, high-grain diets. CLA is a naturally occurring fatty acid that has been linked in numerous studies to significant health benefits, including reduced cancer risk and improved immune function.
- Improved Vitamin Content (A, E, K2): Organic and pasture-based milk shows significantly higher levels of alpha-tocopherol (Vitamin E) and carotenoids (precursors to Vitamin A) compared to conventional milk. A diet rich in fresh pasture directly translates to higher levels of essential fat-soluble vitamins and antioxidant compounds in the milk.

"These preferences are not just associated with the label; they are readily apparent when consumers open the container and when they taste the products."



At the Convening, food systems thought leaders identified the need for a clear and unified standard to protect the unique attributes of grassbased dairy



RURAL PROSPERITY

The strategic expansion of grassbased dairy through the One Million Acre Blueprint is a powerful tool for the revitalization of rural American economies. The One Million Acre Blueprint envisions a mosaic of small, medium, and large dairies across the landscape, with each farm contributing their own unique and diverse benefits to the system. The research consistently shows that these agricultural mosaic landscapes generate more economic activity and retain local wealth and strengthen the social fabric better than consolidated agricultural landscapes.

The grassbased marketplace is a deliberate and strategic market shift that will produce a prosperous dairy landscape. The current trend toward consolidation is not inevitable; it is the result of existing incentive structures and deliberate policy decisions. The One Million Acre Blueprint envisions using similar tools to build out the grassbased model. By building a system that inherently values the different benefits of diverse farm sizes, grassbased dairy can foster a more balanced agricultural ecosystem that leverages the unique strengths of all scales of production.

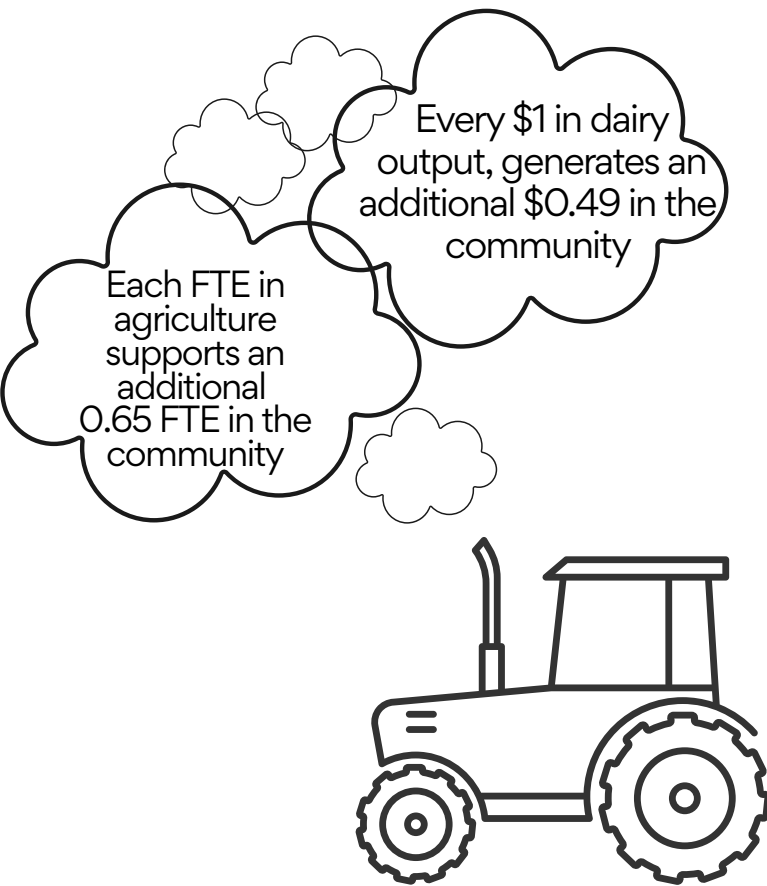
BY SOURCING LOCALLY AND HIRING NEARBY SERVICES,
GRASSBASED DAIRIES HELP CIRCULATE DOLLARS IN RURAL
ECONOMIES—SUSTAINING SMALL BUSINESSES AND
STABILIZING SCHOOL ENROLLMENTS

The way this grassbased dairy system is envisioned allows for each size class of farms to bring their own benefits to the system. Large farms bring their powers of efficiencies – helping to build efficient milksheds, driving a critical scale of supply, and revaluing dairy barns across the landscape. Small farms bring their powers of community development – acting as turbo charged economic multipliers and bastions of community strength. The diverse mosaic of farm sizes envisioned in this grassbased model will generate outsized economic and social benefits that reinforce community stability, support population retention, enhance food system resilience, and maintain landscape level economies of scale.

Engines of Community Strength: Beyond the Farm Gate

The contributions of a diversified, grassbased dairy system extend beyond economic metrics to reinforce the social vitality of rural America.

- **Ties Between Dairy Farms and Community Vitality:** Dairy farms are described as providing critical “economic, social, and environmental benefits to rural communities,” playing a large role in preserving rural economies and supporting local supply chains.
- **Anchoring Rural Traditions and Fostering Social Capital:** Grassbased dairies, often owner-operated and community-embedded, preserve multigenerational ties to the land and anchor a strong sense of local identity. These systems also foster social capital by encouraging peer networks, field days, and cooperative learning, which builds trust and local leadership.



At the convening, food systems thought leaders aligned around the need for workforce development initiatives to prepare the next generation of Dairy Graziers. Managed Dairy Grazing requires a deep, specialized knowledge of animal nutrition, plant physiology, pasture ecology, and soil health that is unique to the grassbased dairy industry. The Dairy Grazing Apprenticeship is the only nationally recognized program that provides this exact pathway, creating the essential human capital needed to power this transition. By offering both formal Apprenticeship and skills-based learning modules through its Managed Grazing Innovation Center, the Dairy Grazing Apprenticeship functions as the centralized education hub. Investing in the Apprenticeship is a direct investment in the feasibility of the entire Blueprint.

Alongside a skilled workforce, continued innovation in precision agriculture is a force multiplier that will ensure the efficiency, profitability, and integrity of the domestic grassbased dairy sector. The challenge is not just to graze cows, but to do so in a way that is economically competitive and verifiably trustworthy to consumers. Precision technologies are essential to achieving this. From integrated traceability systems that offer an immutable chain of custody from pasture to product to management tools that track animal health and productivity or forage quality and density, precision agriculture technology will empower dairy graziers to make data driven decisions that optimize pasture rotations, maximize efficiency, and improve profitability.



FOOD SECURITY

The Strategic Imperative of a Grassbased Dairy Landscape

National food security is not merely a function of total production volume; it is a measure of a system's resilience, adaptability, and integrity in the face of constantly changing external pressures. While the modern agricultural landscape has been defined by consolidation and a focus on economies of scale, a growing body of evidence demonstrates that a diversified ecosystem of small, medium, and large dairy farms is essential for creating a truly secure and resilient domestic food supply. Decentralized networks of diverse farms and varied middle of the supply chain processing facilities provides the flexibility, risk mitigation, and supply chain integrity necessary to ensure a stable and reliable food supply that is resilient in the face of varied shocks including: climate change, labor challenges, economic uncertainties, and disease outbreak.

Resilience Through Decentralization: Mitigating Systemic Risk

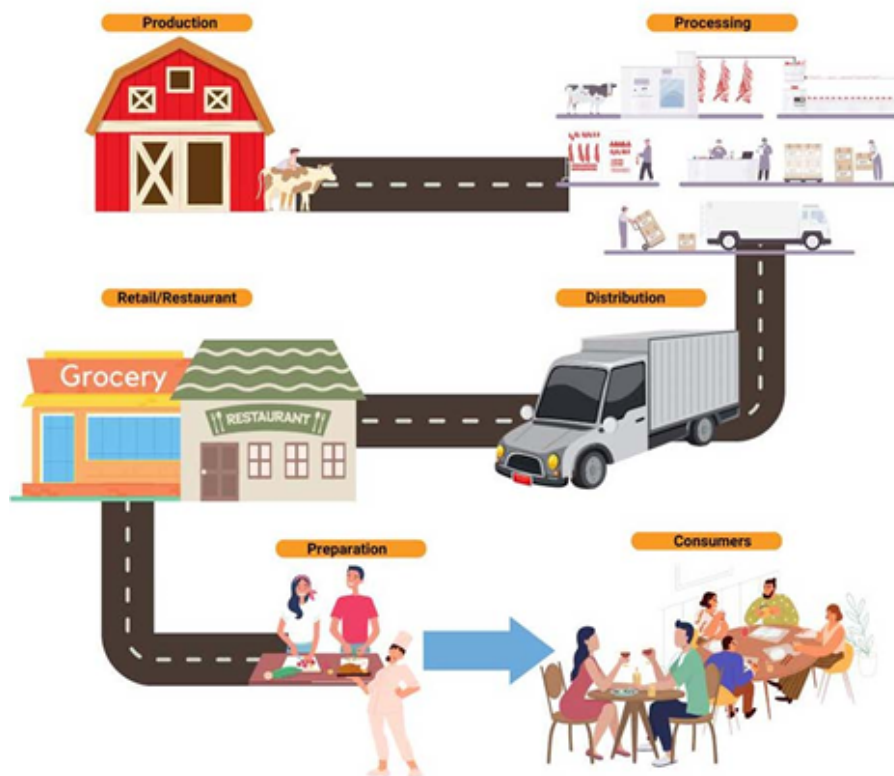
The concentration of production into a small number of very large operations creates a fragile system. A single disease outbreak, regional weather event, or disruption at a major processing hub can have cascading and catastrophic effects on the national dairy supply. A landscape that includes a robust network of small and medium-sized farms and processors provides a critical buffer against these risks.

- **Geographic and Biological Diversity:** A multitude of farms spread across a wider geography creates inherent resilience. Operating independently, these operations utilize diverse animal genetics, forage types, and management structures, reducing the risk of a single pathogen or pest having a widespread impact. This biological and geographic decentralization acts as a natural insurance policy against systemic shocks.
- **Inherent Risk Management:** Diversity in production scale and practice is, by its nature, a robust risk management strategy. A system composed of varied supply, processing, and logistics channels will not experience a systemic shock in a uniform way; a crisis that is debilitating for one type of producer or processor may not even register for a different type

Supply Chain Integrity

A food system that relies on a diverse array of farms and processors fosters shorter, more transparent, and more secure supply chains. This diversity provides multiple pathways to market, mitigating the fragility of a system predicated on a few large-scale players.

- **Shortening the Distance from Farm to Consumer:** A rich mosaic of grassbased dairies and processing plants able to service the sector inherently shortens the distance from cow to consumer. This mosaic of farm sizes builds efficiency in milksheds.
- **Local Processing and Value Retention:** When farms engage in local processing, they add significant value within their own communities. This creates a positive feedback loop that supports local job creation in agriculture-adjacent industries and encourages intergenerational succession by offering viable, attractive career paths for the next generation.
- **Enhancing Transparency and Trust:** Shorter supply chains are inherently more transparent. When consumers, retailers, and food service providers have a closer connection to the source of their food, it builds trust and provides a greater degree of accountability.
- **Creating Redundancy and Flexibility:** A system with numerous producers and processors has built-in redundancy. If one supply channel is compromised, others can adapt and fill the gap.



While large-scale farms will continue to be essential for their efficiency and volume, national food security cannot be achieved through a strategy of consolidation alone. Building out the domestic grassbased dairy system through deliberate actions that focus on supporting and expanding the grassbased dairy ecosystem is a strategic necessity. By fostering a truly diverse agricultural landscape, the United States can build a food system that is not only productive but also resilient, adaptable, and fundamentally more secure.



At the Convening, thought leaders identified the need for a strong and transparent traceability protocol that could be used to verify grassbased claims from the cow to the consumer. This traceability protocols needs to be transparent so that consumers have a high degree of confidence in adherence to the grassbased standard and needs to not pose an additional burden for producers or processors. Adopting a standard traceability framework that is scale and technology agnostic and functions across commodities, is key to building out a domestic grassbased standard.

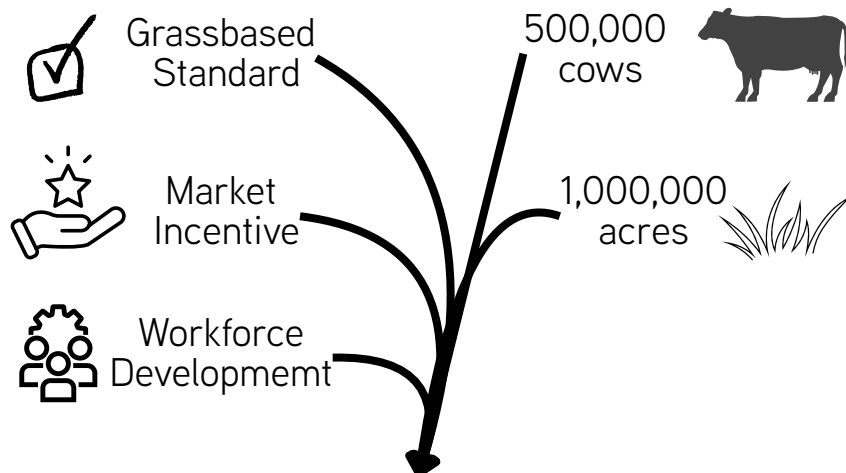


THE BLUE PRINT SOLUTION

The "Million Acre Blueprint" outlines a strategic vision to build a vibrant domestic grassbased dairy industry in the United States. It presents a quantifiable path to capture a rapidly growing, high-value market currently dominated by imports, while simultaneously delivering significant economic, environmental, and social benefits to the nation

The Market Opportunity & The Challenge

- **High-Growth Market:** U.S. consumer demand for grass-based dairy is expanding at a rapid 6-7% annually and is projected to become a nearly \$7 billion market by 2033.
- **Dominated by Imports:** This growth is currently being captured almost entirely by overseas producers, evidenced by a nearly 50% surge in grass-based butter imports from Ireland between 2023 and 2024.
- **The Core Problem:** The U.S. is ceding a profitable, high-demand market, resulting in hundreds of millions of consumer dollars flowing out of the American economy.



A Quantifiable Path to Market Capture

The Goal: Convert one million acres of U.S. farmland to managed dairy grazing.

The Scale: This transition would support an additional 500,000 grassbased dairy cows.

The Impact: This expansion would allow the industry to intercept future import growth, representing **5% of total domestic dairy production while capturing 10% of its value.**

Domestic Grassbased Dairy Industry
5% production yields 10% of value

The Multi-Faceted Benefits of the Transition

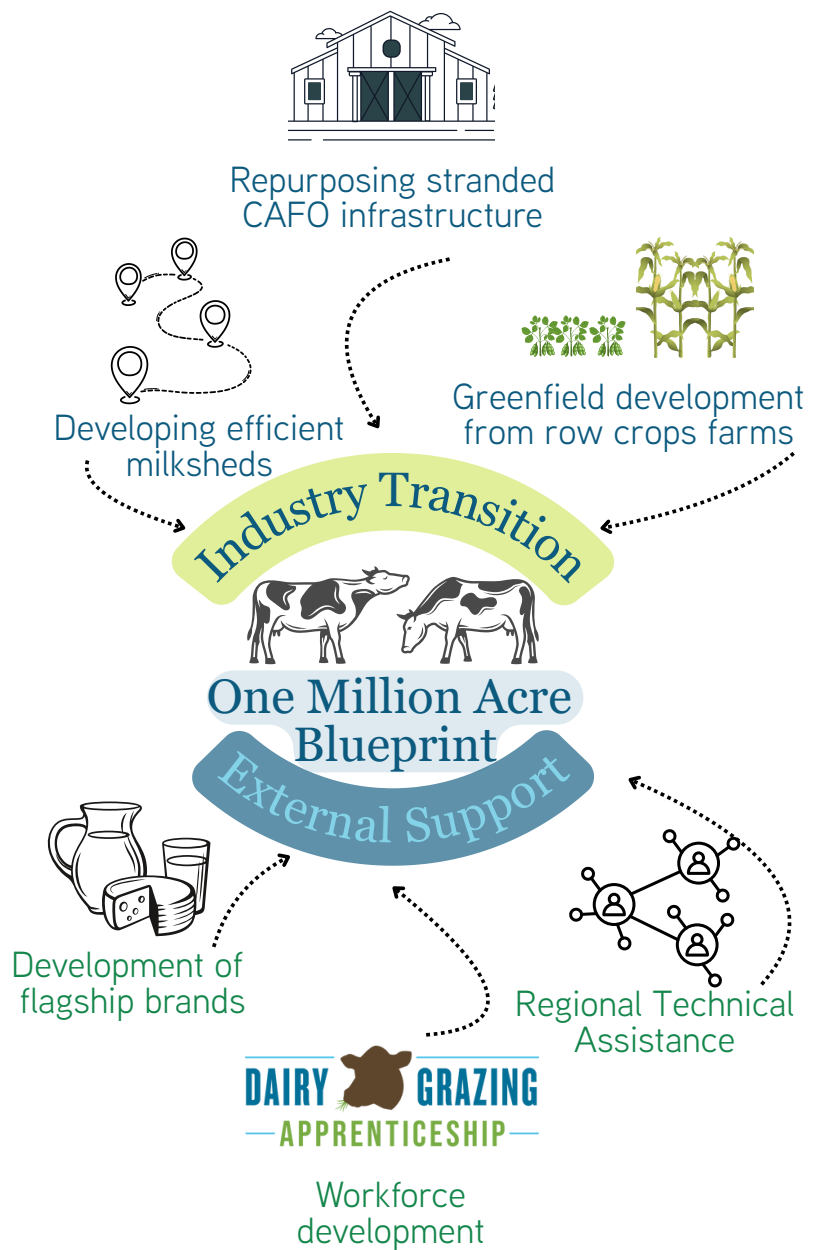
The initiative is framed as a strategic alignment of national priorities that extends far beyond market economics.

- **Environmental Benefits:** Well-managed perennial pasture is the "gold standard" for ecosystem services, sequestering carbon, virtually eliminating soil erosion, dramatically improving water quality, and creating vital habitat that supports biodiversity.
- **Consumer & Nutritional Benefits:** The plan directly meets consumer demand for healthier, nutrient-dense foods.
- **Rural Prosperity & Food Security:** A decentralized model of diverse farm sizes strengthens rural economies through a powerful local economic multiplier effect and creates more a more resilient food supply.

Critical Next Steps & Considerations

The success of the blueprint is contingent on several foundational actions identified by industry thought leaders.

- **Establish a Clear Standard:** Create a robust, industry-wide standard for "grass-based" dairy to protect market integrity, build consumer confidence, and compete with international benchmarks.
- **Provide Market Incentives:** Ensure a stable, premium milk price to de-risk the transition for farmers and provide the necessary financial incentive for conversion.
- **Develop the Workforce:** Invest in workforce development through programs like the Dairy Grazing Apprenticeship to create the next generation of skilled dairy graziers.
- **Foster Innovation:** Continue to develop and integrate precision agriculture technologies to improve the efficiency, profitability, and traceability of managed grazing systems.



Works Cited

- Advancing Grass-Fed Dairy: A whole systems approach to enhancing productivity, quality, and farm viability in the US - UNIVERSITY OF VERMONT. (n.d.). <https://portal.nifa.usda.gov/web/crisprojectpages/1016704-advancing-grass-fed-dairy-a-whole-systems-approach-to-enhancing-productivity-quality-and-farm-viability-in-the-us.html>
- Alothman, M., Hogan, S. A., Hennessy, D., Dillon, P., Kilcawley, K. N., O'Donovan, M., Tobin, J., Fenelon, M. A., & O'Callaghan, T. F. (2019). The “Grass-Fed” Milk Story: Understanding the Impact of Pasture Feeding on the Composition and Quality of Bovine Milk. *Foods*, 8(8), 350. <https://doi.org/10.3390/foods8080350>
- Azizsafaei, M. (2023). A Systemic Approach for risk and resilience assessment of food supply chains [Thesis]. University of Northampton.
- Benbrook, C. M., Butler, G., Latif, M. A., Leifert, C., & Davis, D. R. (2013). Organic production enhances milk nutritional quality by shifting fatty acid composition: a United States–Wide, 18-Month study. *PLoS ONE*, 8(12), e82429. <https://doi.org/10.1371/journal.pone.0082429>
- Dairy Grazing Apprenticeship. (2024). Collective opportunity, coordinated action: convening of the managed grazing dairy value chain (Forum for the Future & Rural Climate Partnership, Eds.).
- Elbehri, A. & United States Department of Agriculture Economic Research Service. (2007). The changing face of the U.S. grain system (Economic Research Report No. 35). United States Department of Agriculture Economic Research Service. <https://www.ers.usda.gov>
- Feeding high forage diets successfully - Central New York Dairy, Livestock & Field Crops - Cornell University - Cornell Cooperative Extension. (n.d.). <https://cnydfc.cce.cornell.edu/submission.php?id=818>.
- Flores-Siguenza, P., Lopez-Sanchez, V., Mosquera-Gutierrez, J., Llivisaca-Villazhañay, J., Moscoso-Martínez, M., & Guamán, R. (2025). Fuzzy Optimization and Life cycle Assessment for sustainable Supply chain design: applications in the dairy industry. *Sustainability*, 17(12), 5634. <https://doi.org/10.3390/su17125634>
- Food System Resilience: A planning guide for local governments. (2024). Center for a Livable Future. <https://clf.jhsph.edu/publications/food-system-resilience-planning-guide-local-governments>
- Generational continuity of small dairy farms in Southern Idaho: An exploration of programs to help them stay in business. (2023). In *The Journal of Rural and Community Development* (Vol. 18, Issue 1, pp. 51–69).
- Golan, E., Kuchler, F., Mitchell, L., & Economic Research Service, U.S. Department of Agriculture. (2000). Economics of food labeling. In *Agricultural Economic Report* (No. 793). https://www.ers.usda.gov/webdocs/publications/41203/18885_aer793.pdf?v=0
- Hall, R., & Smith, G. (2024). Dairy and products annual. In *Dairy and Products Annual* (Report No. NZ2024-0010). USDA..
- Herzig, J., & Zander, K. (2025). Determinants of consumer behavior in short food supply chains: a systematic literature review. *Agricultural and Food Economics*, 21. <https://doi.org/10.1186/s40100-025-00370-w>
- Jafri, S. H., Adnan, K. M. M., Johnson, S. B., Talukder, A. A., Yu, M., & Osei, E. (2024). Challenges and solutions for small dairy farms in the U.S.: a review. In Agata Malak-Rawlikowska (Ed.), *Agriculture* (Vols. 2024–14, p. 2369). <https://doi.org/10.3390/agriculture14122369>.
- Paine, L. K., Jackson, R., Raff, Z., Booth, E., Gratton, C., Gibson, A., LeZaks, D., Lloyd, S., & Wepking, C. (2021). Well-managed perennial pasture: Setting the gold standard for ecosystem services. In November 2021.
- Schmit, T. M., Charles H. Dyson School of Applied Economics and Management, SC Johnson College of Business, College of Agriculture and Life Sciences, & Cornell University. (2019). *The Economic Contributions of Agriculture to the New York State Economy: 2019*.
- United States Department of Agriculture National Agricultural Statistics Service. (2022). Certified Organic Survey 2021 Summary. <https://downloads.usda.library.cornell.edu/usda-esmis/files/zg64tk92g/2z10z137s/bn99bh97r/cenorg22.pdf>
- United States Department of Agriculture & National Agricultural Statistics Service. (2022). Results from the 2021 Organic Survey. https://www.nass.usda.gov/Publications/Highlights/2022/2022_Organic_Highlights.pdf
- United States Department of Agriculture & National Agricultural Statistics Service. (2024). Dairy cattle and milk production. https://www.nass.usda.gov/Publications/Highlights/2024/Census22_HL_Dairy.pdf
- USDA. (n.d.). USDA Dairy Import License circular for 2024.
- What if CAFOs were history?: The rise of regenerative agriculture. (2025). Center for a Livable Future. <https://clf.jhsph.edu/publications/what-if-cafos-were-history-rise-regenerative-agriculture>

ABOUT THE DAIRY GRAZING ALLIANCE



DGA
Dairy Grazing Alliance

Collective Opportunity, Coordinated Action: Convening of the Managed Grazing Dairy Value Chain

SUMMARY OF INSIGHTS + OUTPUTS

On May 20-22, 2024, Dairy Grazing Apprenticeship (DGA) convened over 35 changemakers from across the dairy sector, from dairy farmers to technical support organizations, from government agencies to financing institutions and more. The convening aimed to align and develop action plans in concert with DGA's new mission: **To catalyze the development of and support for a vibrant managed grazing dairy sector.**

CONVENING OUTPUTS: Participants took part in two and a half days of immersive, structured dialogue and planning sessions, facilitated by Forum for the Future and made possible with support from Rural Climate Partnership.

First, participants aligned around shared needs and barriers that managed grazing dairy (MGD) faces as a sector, which include: *lack of trust and knowledge of **consumers**, infrastructure and **consolidation** that deprioritizes and disadvantages MGD systems, lack of an **industry standard** that maintains the core facets of MGD to scale with integrity, as well as a need for policy, marketplace, and financial tools that **support the stewards of MGD.***

At the outset of the gathering, the group cultivated an ambitious collective vision for a thriving grazing dairy sector, one where: *farmers have **capacity** and **support** to care for ecosystems, the marketplace supports farmers to **thrive financially**, grazing-based dairy is **accessible** for all, **consumers** are well-informed about their dairy choices, and infrastructure supports managed grazing dairies to **succeed at scale.***

RECOMMENDATIONS AND ACTION PLANS DEVELOPED FOR A THRIVING MANAGED GRAZING DAIRY SECTOR:

Participants generated ideas and cultivated action plans around the potential solution areas identified by DGA.

- 1.**Finance:** Develop, refine, and improve the (data-driven) business case for managed grazing dairy that shows MGD is viable outside of organic.
- 2.**Markets:** Leverage \$10 billion of public food spending to advance grazing-based dairy on the land and in American diets by 2030, and create an industry-wide standard for managed grazing dairy that people can have confidence in.
- 3.**External Enablers:** Lead an alliance to create a regenerative, planet-and-people-positive world through managed grazing dairy.
- 4.**Production Systems:** Build a vibrant and skilled workforce in managed dairy grazing and technical service provision through the creation of a centralized education hub.

By the end of the convening, there was consensus and enthusiasm around the potential for collective action to create the change needed for a thriving sector. Participants voiced their commitments to support DGA's next steps in organizing around the action plans. **DGA is poised to build a platform from which these ideas can flourish and evolve, in collaboration with stakeholders from across the sector.**

For more info or to get involved, contact:

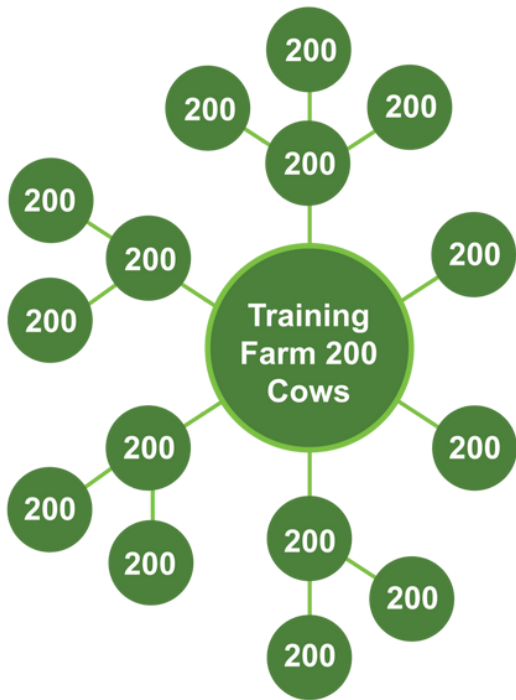
Joe Tomandl, III
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The Model: Dairy Grazing Development Campus

A business incubator and training complex that consists of 15-20 farms in a 20-mile radius combines the efficiencies of large conventional systems with a business structure built upon managed-grazing farms that have the potential to be independently owned. Strategic implementation of this model will lead to a reduced environmental footprint, rural business development, and renewed dairy markets.

Dairy Grazing Apprenticeship, a comprehensive work-based training program, can be integrated from the outset to provide consistent employee training, management protocol, and opportunities for advancement. Apprentices come through the program prepared to move into management positions and potential farm ownership within the campus or at a new location. This is the model for sustained and sustainable growth.



- 1 Train skilled labor and managers through formal Apprenticeship
- 2 Share management protocol and administrative resources
- 3 Identify and develop local, regional, and emerging markets
- 4 Comply with current and anticipated regulations
- 5 Partner with industry and research entities for ongoing innovation
- 6 Optimize supply chain logistics, efficiencies, and profitability

Learn more about the New Dairy Concept: <https://new-dairy-concept.dga-national.org/>



www.dga-national.org