
Food, Agriculture, and Natural Resources Research in Support of a Healthier America

The American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) represent about 20,000 scientists, researchers, educators, and practitioners working across the full breadth of the food and agriculture system. Collectively, our members work at the intersection of natural resources stewardship, food production, environmental sustainability, and human health.

ASA, CSSA, & SSSA appreciate and support the overarching goal of the broader Make America Healthy Again (MAHA) initiative of improving the health and well-being of Americans through safe, nutritious food, healthy environments, and resilient agricultural systems. Our members' research and applied work contribute directly to these outcomes by advancing soil health, diversified and sustainable cropping systems, environmental protection, and science-based innovations across food and agriculture.

At the same time, the Societies emphasize that achieving these goals requires evidence-based, systems-oriented approaches grounded in agricultural and natural resources science. Below, we identify four priority areas where MAHA objectives intersect with the expertise of the agriculture and natural resources research community and outline opportunities for constructive engagement and targeted investments to advance shared public health and environmental outcomes.

Guiding Principles

The Societies' perspective is grounded in several core principles:

1. **Human health is inextricably linked with healthy agroecosystems.** Soil, water, plants, animals, and people form an interconnected system.
2. **Agricultural diversity strengthens resilience.** Diverse crops, rotations, and production systems support both environmental and nutritional outcomes.
3. **Producers must be partners in change.** Voluntary, scalable, and economically viable practices are critical for long-term adoption.
4. **Science-driven solutions are essential.** Publicly funded, peer-reviewed research provides the evidence base needed to inform policy and practice.

1. Soil Health and Regenerative Agriculture

Soil is not merely a growing medium, it is a living ecosystem whose biological complexity directly influences the nutritional quality, safety, and abundance of the food supply. Healthy soils are also fundamental to environmental protection and human health. The Societies support efforts to elevate soil health as a national priority and more broadly integrating soil health strategies into agricultural systems.

Recommended Actions

- **Establish long-term, multi-year federal payments for cover crop adoption.** Cover crops reduce soil erosion, improve soil biology, enhance downstream water quality, and can increase the yield and nutritional quality of subsequent crops. Current voluntary programs have achieved limited adoption; durable financial incentives are needed to overcome agronomic, economic, and technical barriers at scale.

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- **Prioritize federal research and remediation funding for soil contaminants** including PFAS, heavy metals, and nanoplastics. Biosolid applications to agricultural land are a significant and underregulated source of PFAS contamination. Congress should act on the National Academies' 2026 PFAS report prepared for USDA and fund applied research on soil remediation strategies.
 - **Support adaptive rotational grazing research and adoption.** Well-managed rotational grazing restores forage and soil health on land unsuitable for crop production, supports healthier animal fatty acid profiles in meat and dairy, and manages manure in ways that reduce the potential for negative environmental impact..

2. Agricultural Production in Support of Human Nutrition

The nutritional quality of the American diet is directly shaped by what farmers grow, how they grow it, and what markets and incentive structures exist to connect diverse, nutrient-dense foods to consumers. A food system optimized for caloric yield and commodity price efficiency will not automatically produce a healthy population. Targeted policy changes can simultaneously support producers' livelihoods and reorient production toward human health outcomes.

Recommended Actions

- **Invest in crop diversification, with emphasis on fruits, vegetables, and specialty crops** that are currently underproduced relative to dietary guidelines. Federal research, extension, and market development programs should explicitly support more diversified agricultural systems and support farmers that voluntarily want to transition away from mono- and bi-cultures.
- **Fund research on the relationship between soil management practices and food nutrient density.** Emerging evidence suggests that soil health interventions, including cover cropping, reduced tillage, and diversified rotations, influence the mineral and phytonutrient content of food crops. Formalizing this research agenda bridges the gap between food-as-medicine goals and agricultural production policy.
- **Develop and expand alternative and regional market infrastructure** that allows farmers producing diversified, health-supporting crops to reach consumers at fair prices. Market access barriers are among the most significant constraints on dietary diversity and domestic food security.
- **Integrate natural pest management research into federal IPM programs** to reduce reliance on synthetic inputs while maintaining yield and food safety standards.

3. Technology and Innovation for a Healthier Food System

Modern agricultural science offers a powerful toolkit for an agricultural system that simultaneously produces more abundant and nutritious food, while also maximizing the efficient use of traditional and next-generation agricultural inputs. Translating these tools into widespread practice requires a coherent federal strategy that supports both discovery research and on-farm adoption.

Recommended Actions

- **Advanced precision agriculture technologies** allow farmers to optimize inputs – water, fertilizer, crop protection products – lower producer input costs, and reduce the environmental footprint.
- **Support precision integrated pest management (IPM) research and deployment,** including sensor-based detection systems and targeted application technologies that reduce pesticide application frequency and rates while maintaining crop protection efficacy.

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- **Invest in advanced plant breeding, including both conventional and biotechnology-assisted approaches**, to develop crop varieties with improved nutritional profiles, enhanced disease and pest resistance, and better adaptation to diverse farming systems and climatic conditions.
 - **Fund research on soil microbiology as a lever for improving food quality**, including the identification of soil management practices and microbial inoculants that enhance nutrient cycling, support healthier plant root microbiomes, and reduce the bioavailability of soil contaminants.
 - **Improve coordination among technical assistance providers** including USDA extension services, NRCS, and land-grant institutions to ensure farmers have actionable, locally relevant guidance for adopting health-supporting practices.

4. Public Investment in Agricultural Research

Realizing the MAHA Commission's vision requires a strong, well-funded, and trusted public research enterprise. The agricultural and food system challenges that most directly affect human health such as soil contamination, air and water quality, nutrient density, food availability and cost, biodiversity in production systems, are areas where public-sector research has a critical role that the private sector alone cannot fill.

Recommended Actions

- **Increase dedicated federal funding for transdisciplinary research** that integrates agronomy, soil science, crop science, animal science, food science, nutrition, economics, and human health. The connections between what happens in a field and what happens in a body are complex; understanding and acting on them requires collaborative science across traditional disciplinary boundaries.
- **Create formal mechanisms for coordination between USDA and NIH/CDC/EPA research portfolios** to align food and agriculture research priorities with human health and environmental research needs. Currently, these agencies operate largely in parallel; structuring joint funding opportunities would accelerate the science linking diet quality, food production systems, environmental impacts, and population health outcomes.
- **Protect the integrity and independence of the public research enterprise.** Public trust in science depends on transparent, peer-reviewed research conducted free from commercial or political interference. Robust federal support the USDA Research, Education, and Economics (REE) mission area in partnership with land-grant university programs is essential to maintaining this trust.
- **Support science communication and public engagement efforts** that help farmers, consumers, policymakers, and health professionals understand the evidence base connecting agricultural practice and human health. Building shared understanding across these communities is a prerequisite for durable policy change.

Conclusion

The science is clear: the health of Americans and the health of our soils, crops, animals, and farming systems are deeply connected. Federal investment in the four priority areas outlined above – soil health, agricultural nutrition, farm technology, and public research – will advance MAHA's goals while strengthening the long-term resilience and productivity of the U.S. food system. ASA, CSSA, and SSSA welcome the opportunity to engage further with Members, staff, and agency officials on any of these priorities.