



Climate Smart/Regenerative Agriculture Practices of Wheat Growers

Wheat growers value the long-term productivity of the soil and natural resources that sustain our farming operations. Climate-smart and regenerative agriculture cropping systems for wheat production must recognize the environmental and economic realities of individual farms, be regionally specific, provide for enhanced productivity or resource use efficiency and support the **principles of soil health** including **minimizing soil disturbance**, providing **soil cover** through crop residue, increasing **diversity**, maximizing the time with **living roots** and when applicable, **incorporating livestock** – all as appropriate for individual farms. We acknowledge that not all practices will work for all wheat growers and any policies must be flexible and recognize the uniqueness of each farming operation and the climate conditions and production systems of that operation.

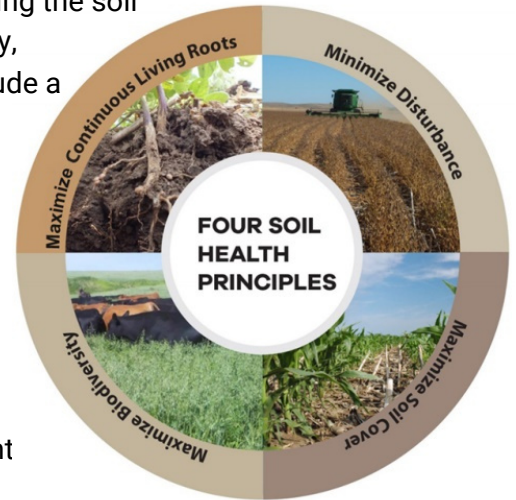
Policy and program delivery must work in partnership with individual farms and help growers balance the economics with environmental and societal benefits by incentivizing new approaches and management systems. To foster long-term environmental benefits, farmers should also be incentivized to maintain and enhance these management practices over time. Regenerative agriculture systems on our operations means that we, wheat growers strive to:

- Maintain an economically viable and productive farming operation to pass to future generations.
 - Maintain and build soil health.
 - Enhance resource use efficiency.
 - Utilize crop protection tools when necessary to treat weed, pest and disease infestations, combat weed resistance and manage conservation tillage systems.
 - Provide societal benefits such as sequestering carbon, improving water quality, controlling soil erosion, and reducing overall inputs and energy use all while growing healthy, nutritious food.
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Wheat Growers maintain **living roots** and **keep the ground covered** by:

- Growing wheat that provides a living root system and significant ground cover during a long growing season. Winter wheat provides a living cover, protecting the soil from fall planting to harvest the following summer. Additionally, growers are increasing the diversity of crop rotations that include a living plant in the field throughout most of the year.
- Using cover crops when the weather and cropping systems allow for planting cover crops, including the management of wheat as a cover crop. This practice can vary in wheat production regions based on annual rainfall and current weather conditions.
- Managing crop rotations for improved soil health, including reducing fallow periods. Flexibility in the approach is important as operations will differ based on geographic location, soils and pest pressures.



Wheat growers **reduce tillage** and **keep the ground covered** through:

- The adoption and maintenance of no till and conservation tillage as appropriate to their climate and geography.
- The practice of leaving wheat residue in place after harvest. The benefits of wheat in a cropping system include providing a high carbon, durable residue, and protection for the soil.

Wheat growers increase **plant diversity** through:

- Managing cropping systems with complex crop rotations. Diversity in cropping systems helps address pest pressures and herbicide weed resistance.
 - Double crop wheat production systems that allow growers to include a living cover of winter wheat followed by soybeans in the spring, which provides economic support for the farm and important environmental benefits.
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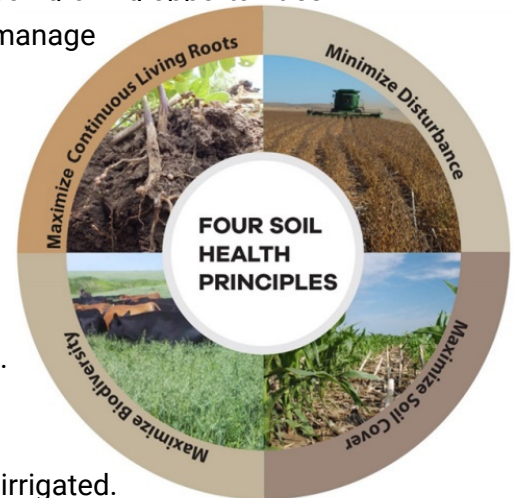


Wheat growers increase soil health through **livestock integration** by:

- Providing a high-forage livestock feed source through multi-season grazing opportunities.
- Implementing various grazing management techniques to best manage soil and livestock health.
- Maximizing resource use by providing both forage and grain production in dual-use management scenarios.

Wheat growers also utilize **additional management** systems to increase efficiency of operations and resource use including:

- Increasing nutrient use efficiency – applying nutrient at the right rate, right time, right place and using the right source of fertilizer.
- Utilizing soil and tissue sampling throughout the season to maximize resource use efficiency.
- Continuing improvement of water use efficiency where wheat is irrigated.
- Investment in agriculture equipment and technology that facilitates precision application of nutrients and crop protection tools.
- Minimizing overall energy use or enhancing efficiency of the farming operation through using new tools and technology and maximizing the production per unit of energy used to grow the crop.
- Managing the use of crop protection tools as needed based on localized weed, pest and disease pressures.



The **environmental benefits** of producing wheat and utilizing these tailored approaches as appropriate to each operation include:

- Protecting the soil by providing a living winter crop that traps winter snow and much needed moisture in dryer climates and increases water infiltration in areas with more rainfall. In 2020, over 30 million acres were planted to winter wheat in the U.S.
- Improved water quality by reduced runoff and keeping nutrients in the field.
- Providing a durable crop residue to protect the soil from wind and water erosion.
- Sequestering carbon through the production of the crop.
- Breaking pest cycles when added to crop rotations.





To support wheat grower's adoption of these approaches, additional support is needed to help maintain viable operations. Public and private research, conservation and crop assistance must be continued to help manage against risk and continue to innovate new approaches to balance the economics of crop production and natural resource benefits.

- **Crop protection tools**, and specifically herbicides are needed to maintain conservation tillage practices. Herbicides allow growers to maintain residue, soil structure and soil health. A variety of herbicides are needed by growers to enable management of herbicide resistant weeds.
 - **Crop Insurance** is an important element of a grower's operations and allows farmers to insure their investments in their crop, protecting against changing weather and climate conditions.
 - **Technical Assistance** through USDA Natural Resources Conservation Service and their partners is important to help wheat producers design soil health systems that work based on local environmental conditions and the economic realities of each individual farm.
 - Additional **research and incentives** are needed to both help mitigate the risk of adoption of cover crops and determine their proper utilization especially in areas that may not have sufficient rainfall to support both cover crops and the subsequent cash crop.
 - **Farm bill conservation programs** such as the Conservation Stewardship Program (CSP) and the Environmental Quality Incentives Program (EQIP) or similar programs based on conservation practices help provide financial assistance for the adoption and maintenance of regenerative agriculture/soil health practices. Continued research, education, and support for the adoption of nutrient management strategies and conservation practices for wheat production.
 - Federally funded **agriculture research** to support wheat and small grains to improve seed technologies and to develop soil health management systems designed for wheat production throughout the various regions of the country
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