Today, there is an ever increasing demand for Indiana’s agriculture products. This demand is placing increased pressure for production on our farmland and soil and water resources. Marginal and environmentally-sensitive acres are rapidly being brought into production or farmed more intensively.

Prices are good, yields are good, and the economic stability of agriculture is as strong as any sector of Indiana’s economy. It’s during stable times that we should look for those new conservation technologies, efficiencies and advanced production systems to ensure a more sustainable and resilient cropping system. Now is not the time to sit back, but instead to actively pursue a system of proven practices that lead to better soil health and function.

The stability of our nation has always relied on a bountiful and inexpensive food supply. Productive soil is a foundation to our national security and a leading player for our world trade balance. Combining healthy soil with advanced conservation and production technologies will build a more efficient and productive system, that also protects the very natural resources we depend upon.

**Why are healthy soil systems more effective at improving water quality and efficiency?**

Farming is a dynamic system and no single practice or approach is guaranteed to function successfully. However, when multiple practices are implemented as a system, the effects are compounded and soil function increases.

A conventionally managed soil is very leaky, especially when it comes to nitrogen.

- Nitrogen is converted to nitrate long before the crop can utilize it.
- With each rain nitrate is flushed out of the soil.
- When a producer follows a single practice like nutrient management, he or she may follow proper application protocol, but the nutrients are still applied to a soil that has little ability to absorb these compounds.

A healthy soil has a balanced biological community and high organic matter with the capacity to retain and cycle nitrogen through a “living” and functioning ecosystem. This is particularly important in much of our Midwestern, drained, cropland.

In healthy soil systems, nutrient management is integrated with conservation crop rotations, no-till/strip-till, cover crops, precision
farming, and conservation buffers that are planned and prescribed to complement each other.

- Healthy soils have soil aggregate stability and are resistant to the erosive forces of water and wind.
  - Aggregates are held together by organic exudates (glues) from roots, fungi, and bacteria.
- This soil has improved water infiltration, and also has a much higher water holding capacity.

**Why should farmers pursue this challenge?**

There is significant **risk** in farm operations today. Fertilizer, seed, fuel, and land have production costs at historic levels. Weather patterns are extreme. There is a comfort level with traditional farming methods, and to make a substantial change in a tillage operation or management system is just one more perceived high risk. This perception has many people reluctant to try change. But farmer who do are seeing success at levels that surprise them.

Never before have farmers had access to the assistance they need to make these much needed transitions. The Natural Resources Conservation Service (NRCS) and their conservation partners have recognized and are promoting these systems. Through projects like Indiana’s Conservation Cropping Systems Initiative, NRCS, and our strong local partnerships are providing a wealth of information, planning assistance and evaluation of these systems. Farmers can take advantage of on-farm networks (groups of local farmers working together) with field trials and tools for technical and/or financial assistance that are practical for any location.

The U.S. can meet the world production demands, and protect the soil, water, and air by appropriately integrating today’s residue management technology with best management practices such as cover crops, nutrient management, integrated pest management, and precision farming into an advanced cropping system. Producers can maximize both soil health and profitability.

Imagine the benefits if the working lands were managed for high soil health on a broad scale...

Imagine if during each storm, we could store an additional inch of water in our soil...

**What would be the production benefit when the summer heat and drought comes?**

**What would be the downstream effects on flooding and water quality?**

We can take production and conservation further with Conservation Cropping Systems that lead to high soil health. These systems benefit the farmer economically...they are great for the environment...and best of all, they make sense to farmers because they are doable!

**The time is now, if we are to capture the potential!**

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