

GUEST OPINION/NRCS residue mandates dumb and dumber

By Darel Hein

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Exremely high residue levels and no-till are the cornerstone of Natural Resources Conservation Service (NRCS, formerly the Soil Conservation Service) programs which attempt to reduce soil erosion and to improve water quality.

In reality, those mandates may very well have a long-term negative impact on well-intended goals.

Extremely high-residue practices and no-till are an improvement when compared to some of the more abusive farming practices. But they are mediocre management practices, not best-management practices.

NRCS mandates are stifling the efforts of many excellent farmers who have real conservation capabilities.

No-till and extremely high-residue practices are not environmentally positive. They are poor at recycling carbon, tend to starve soil microbes, are poor at recycling natural nutrients and are chemical intensive.

SOIL AND WATER erosion starts when soils become saturated and can no longer be infiltrated by water. Then water starts flowing over the soil surface.

In the total picture, surface residue plays only a minor role in preventing soil erosion; it slows up the flow of surface runoff. The problem is fields, because of high residue and no-till practices, invariably will have poor soil tilth and poor water infiltration capability.

The key to any good soil stewardship program is to rapidly convert crop residue to humus. Residue can't grow a crop, humus can. Truly fertile and quality soils tend to resist erosion.

Infertile and low-quality soils have more of a tendency to erode. Management practices which convert residue to humus will build quality soils.

The NRCS mandates are contrary to those best management practices.

You have a choice. Get the residue "down and dirty" so soil microbes can do their conversion work, convert that residue to humus, which is recycling carbon and other natural nutrients back into the soil.

Or you can do it the NRCS way — leave most of the residue sticking up in the air and have a lot of it oxidize. Then, carbon is converted to carbon dioxide and is lost into the atmosphere.

For every pound of biologically active carbon one can add to the soil, it can hold an additional 4 pounds of water. There is evidence of declining organic matter on some no-till farms.

WITH FERTILE soils and best-residue management practices, there will be virtually no evidence of the past year's crop residue by the middle of July. It will have been converted to humus.

A truly fertile soil has adequate mineralization as well as proper ratios or balance, good humus levels, good tilth, plus quantity and variety of microbe populations.

One can dump on tons of commercial fertilizers and get a high analysis on a soil test but still not have a truly fertile soil. That soil also needs humus and biolife.

The truly fertile soil will produce high-yielding, higher-quality and more nutrient-dense produce with lower commercial fertilizer inputs and with fewer herbicides and fewer insecticides and fungicides. That is environmentally positive.

Consider the human health implications of healthy soils, healthy plants, healthy animals, a total quality food chain. NRCS mandates on cropping practices hamper those goals.

Any herbicide will have a negative impact on the growing crop and/or the soil. Yet, it is very

difficult to grow crops without herbicides. Also, truly fertile soils will have less weed pressure than infertile soils.

What should we do?

RECYCLE THAT residue to build fertility, choose the herbicides which have minimal impact on soil and crops, use them with discretion and use enough tillage to minimize herbicide needs.

This approach may only require 35-50 percent of what would be used in a typical no-till program.

Insects are predators with a biological radio system to home in on unhealthy plants. Insects are much less of a problem in fertile soils.

Numerous farmers have built their soil fertility to the level where there is no economic advantage to use a corn rootworm insecticide on continuous-corn fields.

Virtually all no-till fields of corn will have a very poor root system, lesser plant health, and are prime targets for insects. That also equates to chemical intensity.

Healthy soils contain many strains of microbes which are in the antibiotic category. They will kill various disease-causing microbes and nematodes.

The key factor in reducing wind erosion is water-stable soil aggregation and electromagnetic stability of the soil. A contributor to those qualities are the exudates of dead microbes which provide the glue to give soil its crumb structure.

Those are factors of soil fertility and quality, not surface residue.

NO-TILL fields just don't have the ability to grow healthy plants with massive root systems.

Those fields just don't exhibit good tilth and natural fertility. Air-pore space is poor, water infiltration is poor. Chemical intensity pushes them the wrong direction.

Some tillage and the subsequent residue recycling would greatly improve those environments. We should all learn to dig and analyze. Virtually no one in the NRCS has that skill. Their only capability seems to be residue counting.

If there is a lot of residue, they think it is great, even if the plant health is pathetic, and the soil has become sterile and hard as concrete. Their "no-till culture" promotes those employees who buy the "party line."

Residue checking is simple, anyone with marginal eyesight who can count up to 80 can do it. No-till is an easy sell to the naive environmental element.

Check out the showcase no-till farms. With scrutiny, you will find the deficiencies. Many people get along fairly well with no-till for a year or so, but they eventually will get into trouble.

Many top-drawer farmers who have compliance mandates can relate to big problems resulting from high-residue requirements.

IN SOME areas, farmers are giving up on no-till. Some even think they are better off sacrificing deficiency payments than taking the production loss on no-till.

What about flexibility in compliance? There is better technology on line, and it is being practiced by many progressive large-scale commercial farmers in vastly differing geographic areas.

But if a field is classified highly erodible, then NRCS says no, no. Do it our way, we know what is best for you and your farm. Dumb, dumb, dumb!■

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