Organic matter is ingredient for healthy soil

by James Oderman

MANNING, ND -- The productive capacity of soil directly correlates to the amount of organic matter available was the message at the Building for the Future Beef Cattle and Forage Field Day held August 24, at the Dickinson Research Extension Center ranch. Producers from across western North Dakota heard presentations from North Dakota State University extension personnel, professors and researchers.

Cropping systems research began at the DREC in 2004 and data has shown soil can be improved while providing options for producers. DREC animal scientist Doug Landblom, who has headed up much of the research, told producers, "Soil organic matter is the very heart and soul of improvement in soil quality. The other thing we looked at was some of the utilization of these integrated crop and livestock systems and net returns that are coming off of these fields at the end of the grazing season."

North Dakota Senate majority leader, Rich Wardner of Dickinson (second from right) listens intently to comments from Ryan Buetow, Area Extension Cropping Systems Specialist at the Dickinson Research and Extension Center. Buetow's comments were part of the Building for the Future Beef Cattle and Forage Field Day August 24 at the DREC ranch. Others looking on are Fara Brummer, extension livestock specialist from the Central Grasslands Research Extension Center at Streeter, Joe Frenzel, Medora area beef producer, and Jay Soreide, Bowman area beef producer. (James Odermann photo)

Landblom said the research has found "different ways of doing things and in today's agricultural environment, anytime we can do something that's a little bit different that may lend itself to greater profitability, we kind of like to go that direction."

One big improvement that cropping systems and cover crops have shown is the increase in underground microbial action, which provides a steady stream of nutrients to plants.

"Soil nutrients are made available over time during the growing season, rather than right away at any one particular time," Landblom said. "That translates into savings in fertilizer so in the cropping that we're studying, we're not applying any additional fertilizer to these fields and the yields are quite impressive actually."

Bowman area livestock producer Jay Soreide and Ryan Buetow, Area Extension Cropping Systems Specialist at the (DREC) Dickinson Research Extension Center, discussed benefits of one of the 13 species of plants in the cover crop field during the Building for the Future Beef Cattle and Forage Field Day August 24 at the DREC ranch. (James Odermann photo)

Dr. Larry Cihacek, NDSU soil scientist, spoke of organic matter as "the sponge, the reservoir, a revolving account that provides nutrients to plants . . . and the nutrients required for plants are also needed for microorganisms."

Producers toured a cover crop field that contained 13 different plant species and a cornfield in which steers were grazing. They dug plants and soil to see root structure and pathways for moisture. The presence of earthworms, Landblom said, were indications of healthy soil that was feeding below ground life forms.

The DREC research effort shows the symbiotic effects of livestock and agronomic production, DREC director Dr. Kris Ringwall said. "This research is particularly interesting because of all the diversity that we are looking at in agriculture and the integration of crops, livestock and soil health. And, it's an interesting concept that is proving to be quite profitable."

He added, "What it comes down to is the soil health, having a large variety of organisms that help make soil productive."

More information about the Building for the Future Beef Cattle and Forage Field Day and research being conducted is available by contacting the DREC. Phone: 701-456-1100; web: www.ag.ndsu.edu/dickinsonrec/livestock-research; email: drec@ndsu.edu.