



Clapperton: Soil fauna alive with no-till farming

By SUE ROESLER, Farm & Ranch Guide | Posted: Thursday, December 29, 2011 11:51 am

Besides helping lessen soil erosion, no-till or zero-till farming practices help create a lot of “critters” underneath the ground that feed the plants.

“When we are standing on the ground, we are really standing on the rooftop of another world,” says Jill Clapperton, a world-renowned speaker for her work with no-till systems and biological soil processes.

Clapperton will be one of the speakers at the upcoming Manitoba-North Dakota Zero Tillage Farmers Association 34th Annual Zero Till Workshop & Trade Show Jan. 9-11 at the Holiday Inn-Riverside in Minot, N.D. She will speak on “The tie between soil fertility and soil biology.”

The annual event moves between Manitoba, Canada, and North Dakota each year. This year, it is North Dakota’s turn to host the event.

Currently, Clapperton farms and ranches with her husband along the rough Bitterroot Range terrain in west central Montana near Florence, and is a consultant on soil health to farmers and other groups. According to Clapperton, farmers who no-till are feeding their soil and allowing it to feed the crop. Living in the soil are plant roots, viruses, bacteria, fungi, algae, protozoa, mites, nematodes, worms, ants, maggots, other insects, grubs, and larger “critters,” she says.

Diversity of plants also helps create more organisms underneath the soil.

Clapperton said it is important to add different rotations and crops to “manage the roots. Put as many different roots into the ground as possible.”

“A healthy soil is a living system,” said Clapperton. “When using no-till along with plant diversity, your soil is not just alive, it is actively crawling with organisms.”

When Clapperton gives a talk, she presents a slide show of these “critters” blown-up to look like giant monsters ready to attack the world.

These organisms are responsible for the decay of organic matter and cycling of both macro and micronutrients back into forms that plants can use, she said.

“The longer we are in no-till, the more beneficial insects we will have in the soil,” she said. With tillage, some organisms “get away and some get run over,” Clapperton said.

“We kill a stable community in the soil when we till. Everything underneath the soil goes into sleep mode,” she said, adding that tillage starves the biology of the soil.

She said it is “disastrous” when farmers work the soil in the fall because it destroys the earthworms and the soil fauna is decimated.

“Let sleeping dogs lie. Earthworms sleep in the fall. The soil fauna gets decimated and it doesn’t recover in the spring,” Clapperton said.

She also does not believe in using fallow to preserve water because it arrests the soil biology. “The soil needs to work all the time,” she said.

“If the organisms underneath have nothing to eat, they go into resting mode. The longer the soil is in fallow, the more everything starts to decline. Leave residue on the ground, and that will hold the water in,” Clapperton said.

Other soil experts speaking at the Zero Till Workshop & Trade Show include Dwayne Beck, research manager for the SDSU Dakota Lakes Research Farm near Pierre, S.D.; Sarah Singla, holistic no-till farmer and agronomic engineer in France; Karl Kupers, no-till farmer in a low rainfall region of Lincoln County, Wash., and a Food Alliance certified grain grower; and Bill Crabtree, also known as “No-Till Bill” for his passion for no-tillage and the role he played in the Western Australian no-till- age revolution, among others.