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Spare the Tiller, Spoil the Soil

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GARDEN NOTES

SPARE THE TILLER, SPOIL THE SOIL

By Dennis Hinkamp

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"If it doesn't fit, get a bigger hammer."

"This axiom has proved to be helpful at different times in my life, and occasionally even applies when it comes to my own landscape and garden," says Jerry Goodspeed, Utah State University Extension horticulturist. "I used an old shovel to work the soil in one of my first gardens. It about killed me, but I was young, foolish and broke.

"Now I use a tiller, and the bigger the better. If it could fit in my backyard, I'd use a two-ton backhoe."

A good tiller is at the top of the list of tools that make gardening easier, Goodspeed says. One with rear tines is more effective and easier to handle than one with the tines in front. Tillers work well for mixing organic matter into the soil and preparing it for seeding.

The purpose behind tilling a garden is not to see how smooth or finely ground you can get the soil, he explains. This actually does more harm than good, even if it does look neat and orderly.

"Don't overwork the soil," he says. "Some homeowners spend hours tilling a small area, which makes the soil resemble brown flour when they are done. In reality, soil should only be worked a couple of times. Too much tilling destroys the soil structure. When soil structure is broken down too much it loses some of its ability to hold moisture and nutrients."

Soil structure is how the different elements of the soil hold together, Goodspeed says. Some soil structures are platy, granular or blocky. These formations help the soil hold water and nutrients and give roots a place to grow, expand and utilize the water and nutrients.

"Imagine a small bowl with a layer of flour in the bottom," he explains. "Next, pour some milk into the bowl and let it sit awhile. After a few minutes, pour the milk out of the bowl, and examine what is left -- a gooey mess. The surface of the flour is wet and slimy, while the majority of the flour is still dry underneath and most of the milk was poured off because it was not absorbed.

"Now, pour some cold cereal such as Cheerios into the bowl on top of the wet flour. Pour in the same amount of milk as before. After a few minutes, it is obvious that the cereal is

absorbing some of the milk into its pores. Now pour off the excess milk, did not soak into the cereal, and you see very quickly that the cereal held much more liquid than the sifted flour."

This process also works in the soil, he says. An aggregated soil, or one that has structure, has pores and other places that hold moisture after gravity has taken much of it through the root zone. This can reduce the need to water as frequently, and the soil retains more of its nutrients or fertilizer.

Soil structures vary in size and shape, he adds. The southern part of our great state has some large aggregates. These may be larger than we want in a backyard garden. Some aggregates are measured in fractions of an inch - almost too small to see. When tilling the garden, leave a few small clods about the size of marbles and some about the size of a golf ball. It is also good to leave a bit of organic matter visible. This bothers some people, but plants actually don't mind it.

So, as the weather breaks this spring, and the urge to fire up the tiller hits you, remember to be frugal about the number of times you till the garden, he says. If you want to be on the safe side, you could always sell your tiller and grab a shovel.

For more information, contact your local USU County Extension office.

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