

# Gardening

## Cover crops fertilize

By Pat Leuchtman

It used to be easy to have a fertile garden. You went down to Agway, bought a sack of 10-10-10 fertilizer, spread it on the garden and waited for your seeds to grow. And they did.

But then came the oil crisis and fertilizers became increasingly expensive. At the same time it became apparent that chemical fertilizers were not as perfect as they seemed.

After years of using chemicals in their gardens people noticed changes. The soil was no longer filled with earthworms. Plants often seemed more susceptible to insect and disease damage. Chemical fertilizers provided plants with their major nutrient needs, but more was required. Plants also need trace elements and minerals. The structure of the soil had changed; it was no longer friable, rich and crumbly. Lack of tilling meant precious top soil was being washed and blown away.

So maybe chemical fertilizers weren't such an easy way to grow a garden after all. But what is the way to maintain soil fertility?

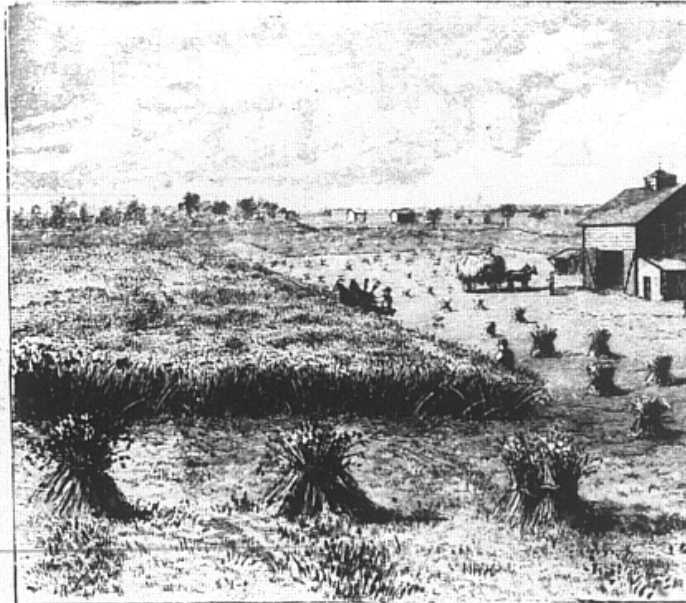
Cover crops are one answer. Not a new answer, either. The Chinese have been cover cropping for over 3,000 years. The ancient Romans grew green manures and cover cropping was a common practice in Europe in the 17th and 18th centuries.

Cover crop, green manure and catch crop are names for interdependent techniques. Cover cropping is planting your garden with something to prevent erosion. Tilling that cover crop under in the spring before planting is green manuring. When you plant a cover crop that will absorb and hold soil nutrients, preventing them from leaching out of the garden soil, you are catch cropping.

We broke sod for our first garden in Heath. In spite of heavy mulching, I have more weeds than I'd like. Now as I harvest, I am planting annual rye. Weed growth is slacking off and the fast growing rye will help to choke out the weeds so their population should be much diminished next spring.

My soil is heavy clay. By planting rye, I am not only killing weeds. When I till it into the soil in the spring, I will be incorporating a lot of organic material into the soil, improving its structure.

Remember, there is more to a plant than what you see on the surface. A single rye plant, grown under experimental conditions for four months, was found to develop



14 million roots with a combined length of 387 miles. That's a lot of organic material going into my soil! In addition, the rye roots make use of nutrients that would be unavailable to my garden. By "catching" them with the rye and then tilling it in, I am making use of a good, cheap fertilizer.

Adding organic matter to the soil encourages the growth of soil microbes and earthworms. These creatures produce weak acids that work to dissolve minerals in the soil and make them available to garden plants.

The local Agway sells annual rye seed for cover cropping and they say that is what most local farmers and gardeners use. If you know your soil is nitrogen-poor, you might try planting a legume cover crop like alfalfa or clover. They will not only provide all the benefits of rye, but they will also fix nitrogen in the soil. Planting alfalfa can add as much as 200 pounds of nitrogen to an acre—that's equivalent to spreading a ton of 10-10-10 fertilizer. If legume cover crop seeds are not available locally, they can be ordered from Johnny's Selected Seeds, Albion, Maine, 04910 or R. H. Shumway Seedsman, 628 Cedar St., Rockford, Ill., 61101.

When you use chemical fertilizers you are concentrating on feeding your plants. These fertilizers are water soluble and they make the

major nutrients quickly available. The soil merely becomes a medium to hold the roots.

When you plant cover crops and till them in, you are feeding the soil. This richly fed soil then becomes a banquet for your plants. A varied diet, filled with basic nutrients and all the trace elements and minerals that insure good plant health, will make your plants more vigorous and more resistant to pest and disease damage. You will have healthy plants in a healthy soil. This is my goal.

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