

## Breaking the Cycle

### AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

The natural world is one of repetition: cycles within cycles within cycles. Dark and light, cold and hot, wet and dry are all cycles we see daily, yearly and multi-yearly. Everything in the natural world is constantly going through cycles. Organisms grow, produce “offspring” and die. It’s one thing that we just can’t get away from, but we all too often don’t think about it, we don’t understand it, and then we become frustrated by it.

In agriculture we use crop rotation to break insect, weed and disease cycles. When we used to grow the same field to wheat for twenty years or more straight, we’d start to develop real problems with certain weeds. But once we started rotating wheat with soybeans and corn, we were doing things at different times of the year. We were using different herbicides to control weeds or different periods of tillage which disrupted those cycles.

In lawns, the whole idea is to keep the area in continuous grass, which sort of defeats the notion of crop rotation. But we have to look at other ways to break cycles. One of the basic principles of weed control is to not let weeds produce seed. Let’s say that you have crabgrass really bad year after year. No matter how often you mow the lawn, that crabgrass will produce seed. Some of that seed germinates next spring, some next summer and some may not germinate for a year or two. Over time you build up a pretty good supply of seed in the soil and this “seed bank” creates quite a challenge.

You have to break that seed bank cycle through various methods. You try to make the lawn more competitive through fertilization and mowing taller (to shade the soil better) and weed control. You may use a pre-emerge herbicide to control crabgrass at the start of the season and then a crabgrass killer later in the summer to control the escapes. Over the course of several years you will get that crabgrass seed bank depleted and you’ll have an easier time keeping your yard crabgrass free.

Through the use of Roundup Ready soybeans and corn, we have managed to select for pigweeds that are resistant to glyphosate. One large pigweed plant can produce several hundred thousand seeds. A few weeds in a crop field may not look like much, but if they are allowed to go to full maturity, you suddenly have several million seeds ready to sprout and grow. So you have to break the cycle. You have to do things differently. You use different herbicides that the pigweeds aren’t resistant to. You spray when they are smaller. You go to a non Roundup Ready crop in the rotation. You break the cycle.

Peonies can get leaf diseases and we are seeing a lot of that right now. The leaf diseases over winter on the dead foliage. If you mow your peonies off in the fall, you scatter and shred all that leaf material all over the area and allow those disease spores to overwinter right where they can re-infect next year’s peony crop. So you don’t mow the peonies off. You go in and carefully cut off all the peony growth in the fall of the year. You put it in a burn pile and burn it up or put it in the trash and haul it away. You get those disease laden dead leaves out of the area. You break the cycle.

Nature is rarely a one and done situation. Cycles keep repeating for days, weeks, years, even centuries until something breaks the cycle. That something is usually the way that we manage the ecosystem. Learn the problem and what can be done about it. Look for the easiest, cheapest and most effective way, to break the cycle.