

Whitetail Institute's in-house agronomist and weed scientist answers common queries most land managers face.

■ by *Josh Honeycutt*

SOLUTIONS FOR



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OR QUESTIONS

EVERY FOOD PLOTTER ASKS

Plant growth is a miracle made possible by the big man upstairs. It's a captivating process brimming with biology, chemistry and other scientific disciplines. Food plotting is complex, and it can be overwhelming for plant nutrition newbies and seasoned veterans. Here are some of the most common questions new food plotters have, with answers courtesy of Dr. W. Carroll Johnson III, an agronomist and weed scientist for Whitetail Institute.

JH: How far in advance should I plan my food plots?

Dr. Johnson: *Making the assumption you have access to the land for an indefinite period, have a two- to three-year plan in place. For food plots,*

you have to develop a strategic plan. Put it down in writing. What are your goals? What do you intend to plant? Develop a timeline over the course of each year. It gives you an idea on how you can plan the workload. The more you can put it in writing, the better off you'll be.

JH: Is it better to plant annuals, perennials or both?

Dr. Johnson: *The starting point is analyzing your long-term goals. Is it property you'll have for one season? Or is it a property you own and where you can make long-term investments? That will dictate whether you plant annuals or perennials. Then you should look at climate, geography and your ability to manage the site.*

JH: How do I decrease the risk of failed food plots?

Dr. Johnson: I'm a very strong proponent of lessening the risk of losing a food plot. The best way to lessen risk is to diversify the plantings.

Perennials are worthy goals to have, but there are many cases where annuals provide the customer an opportunity to correct acidic soil, and they also provide opportunity to correct serious nutritional deficiencies. So if you have a site, and you have some serious soil-related problems with productivity, including difficult perennial weeds, planting annuals early in the food plot sequence for a couple of years will allow the manager to correct those problems. Then, when you have those problems resolved, systematically incorporate perennials.

JH: Should I have one big food plot or several smaller ones?

Dr. Johnson: That depends on the size of the property, how many hunters are on it and how you intend to hunt. From food plot management and hunting points of view, I think it's safe to say that if you have several different food plots, that total acreage will be better off as compared to the same acreage in one food plot.

JH: How can I build up the organic matter in my soil?

Dr. Johnson: This is a long-term process, and it takes commitment. This will not happen quickly or even within a year or two. Organic matter comes from decaying plant materials. Always have something growing, and plant cover crops. It's a multi-year commitment to improve the soil health.

JH: Should I use herbicides?

Dr. Johnson: Herbicides are critical tools in weed management in any food plot or crop. It's not a stand-alone form of weed control, but it's a big part of it. In food plots, it gets complicated, because herbicide selection in food plots is very limited. You have to approach managing the weeds in a food plot with herbicides being one of several tools, carefully chosen according to the weeds that are present.

JH: How important is comprehensive weed management?

Dr. Johnson: Weed management is way more than using herbicides. It's a total concept of a balanced weed management system. Cultural practices promote forage crop growth that can favorably compete

against and suppress weeds. Mechanical weed control is a judicious use of timing and tillage to kill weeds before you plant. (Mowing the tops of weeds is also a form of mechanical weed control.) The third leg of this triad is using herbicides correctly. Within all of that, the one thing in which I see the biggest area of improvement is to monitor the food plots very carefully early in the season and control weeds before they get bigger. That's a time commitment in late spring and early summer. Walk the food plot, see what weeds are there, and be in a position to take corrective actions.

Many times, by mid- to late summer, we're made aware of weedy situations in food plots when few options are left. Had that been brought to our attention two months earlier, those could have been effectively managed with minimal cost. Timely weed control and sound management are important factors for food plots.

JH: What are the best ways to remove and prevent weeds?

Dr. Johnson: The foundation is do not let weeds produce seed. That's it right there. Annual weeds are going to come from seeds that are produced in previous years. If you have a significant weed problem, managing the weeds is very difficult, and the first thing you have to do is stop weed seed production. That's a yearly priority.

In regard to perennial weeds, these propagate by rootstock that does not die off each year. You have to target the depletion and destruction of those perennating rootstocks. No quick fixes. This is long-term management.

JH: How do I do a soil test?

Dr. Johnson: A soil test is not a single soil sample from a field. It's a collection of many samples that are blended together from a given field. Then, you submit a part of that for analysis. The reason is because all fields are naturally variable, no matter how they look. This composite sample is the standard technique.

JH: What do I do when soil pH is too high or low?

Dr. Johnson: The soil is acidic when the pH is too low. The pH value is a negative exponent, which means that a pH of 5 is 10 times more acidic than a pH of 6. Small changes in the pH value can have big implications on the overall chemical nature of the soil.

To correct soil acidity, limestone is your best choice. It's the most cost-effective solu-

tion, and it chemically reacts in the soil to neutralize soil acidity. There are other liming materials available that are a different chemistry altogether — oxides and hydroxides. They also chemically react to neutralize the soil acidity. Impact, one of Whitetail Institute's new products, is a sprayable oxide that will quickly neutralize soil acidity and provide a short-term benefit.

If the soil is too alkaline (which is the opposite of acidity), it's best to bring that to optimum levels with sulfur or sulfur-containing fertilizers. This will create a more acidic condition. To do this right, conduct routine soil testing.

JH: What are some tips on using fertilizer?

Dr. Johnson: Pre-blended fertilizers in different concentrations have nitrogen, phosphorus and potassium. Those are the three numbered [components] in a bag of fertilizer. For example, 16-4-8 is 16 percent nitrogen, 4 percent phosphorus and 8 percent potassium. These blends [combinations] will vary across the country. You buy what's locally available.

The fertilizer you use will depend on what the forage crop needs. When you soil sample and submit that sample to testing at a soil testing laboratory (such as Whitetail Institute's), it will match up the nutrient requirements for the product you're planting with the nutrient amounts in the soil, including pH, and will make a recommendation. That will be based on an amount of fertilizer per acre, or per 1,000 square feet. That helps the food plotter make sense of how to manage their forages for ideal plant nutrition. That's where Whitetail Institute's technical experts can provide guidance in helping new and established food plotters.

JH: What are some tips on using lime?

Dr. Johnson: Your soil sample test report will also note the amount of limestone that's needed. Acidic soils affect crops in two ways. First, acidic soil will change the availability of desired plant nutrients so they are no longer available to plants. If the soil is really acidic and you put a lot of fertilizer out there, the plants cannot use those nutrients because they're in the wrong chemical form. And so, acidic soils cause crop starvation.

The other way acidic soils affect crop growth is that they change the availability of the naturally occurring element alumi-

num in the soil, such that it becomes more available when the soil is acidic, and it's available at a level that will poison crop growth.

Limestone will neutralize the acidic soils, raise the pH, prevent aluminum toxicity and allow for significantly greater fertilizer use efficiency. Lime allows you to get more out of your fertilizer dollars.

JH: How do I know when to plant?

Dr. Johnson: All of our products have planting directions on the bags, which includes times to plant. It's also on the company website. These times of year will vary from one part of the continent to another. That information is important.

These are guidelines (for the best times to plant) to increase the chances for food plot success. There is nothing guaranteed here as to whether it will succeed, because we're all at the mercy of Mother Nature, including rainfall, temperature and other factors. Yet these guidelines for planting are based on sound agricultural knowledge that's science-based. That's why I encourage everybody to study the directions on the seed bag as to when to plant, how to plant and how much seed to sow.

JH: What happens if I plant at the wrong depth?

Dr. Johnson: Do not bury the seed too deep. Most of the products planted in food plots are small-seeded forages, such as alfalfa, chicory, clover and any of the brassicas. Those seeds are very small. It's really easy to unintentionally cover them with too much soil. Deep seed burial is a serious production problem that limits food plot success.

JH: How important is good food plot seed?

Dr. Johnson: In my previous career as an agricultural researcher, I spent the majority of that time working on the peanut. We had a technical specialist named Frank McGill. He made the comment that you create your yield potential the minute you put your seed in the ground. In other words, you're establishing the high-water mark for crop productivity.

It's the same way with food plots. You're establishing the potential for high productivity the second you put seed in the soil. If you plant junk seed, varieties that aren't adapted to your area or the wrong product at the wrong time of year, your potential

for productivity is much lower.

JH: How do I see more daylight activity in food plots?

Dr. Johnson: Speaking on opinion rather than facts, screening materials are good for helping deer access the food plot and egress safely and unnoticed. It gives them a degree of comfort and makes them more receptive to entering the open during daylight. I think that's important.

Whitetail Institute sells products that will accomplish that: Conceal, which is a mixture of tall sorghums; Sun Hemp, which is a tall legume; and PowerPlant, which is a high-protein, warm-season annual. Plant in areas and shapes that guide deer movement in desired directions and provide deer with cover and seclusion as they come and go. This also hides what's going on in the food plot from prying eyes, such as trespassers and poachers.

The other thing to think about is to try to not be in and around the food plot unless you have a reason to be there — hunting or food plot maintenance. Hang around too much and deer will get suspicious of the human activity.



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