**Cultural Practices for your Lawn: Jamie Dekes**

Let's start by acknowledging that growing a lawn on Cape Cod can be a difficult task. Crabgrass and moss seem to be far better suited to this soil than the grasses we desire to grow. People tend to look at the weeds that grow in their lawns as the problem, but they aren't. They are merely a symptom. The real culprit in many cases is that the soil here is very tight. Compaction is a problem when you are trying to grow a plant that grows its roots down through the air pockets in soil. The roots only go as deep as the air goes, so as your soil becomes tighter the roots stay closer and closer to the surface. How can we remedy a compacted soil and help our grass become the dominant plant we want it to be?

First, we need to discuss soil health. Plants don't exist by themselves out there, they have help. Much like your body has microorganisms that help keep you healthy, plants have a whole bunch of things that exist in a healthy soil that help them out. If we are using synthetic fertilizers to feed our plants, we are in fact leaving them defenseless against pathogens and much less able to access soil structure as a nutrient source.

Synthetic fertilizers use salts as the main part of their nitrogen source which, when used consistently, is bad news for the good guys in the soil that work hard to keep your plants healthy and happy. Basically, plants use the sunlight to make photosynthesis happen, and their roots exude stuff like carbohydrates and sugars which beneficial bacteria and fungi like to eat. The microorganisms that the plant is feeding will go to work and do things like break the soil down into forms of food the roots can access. These little microorganisms also adhere to the same spots in a root mass that the pathogens would go to to get in. Some of these little guys enjoy eating the bad things in the soil too, so they actively help keep the pathogens at bay.

As your beneficial biomass breaks down the salts from the fertilizers we like to use it kills them off. So when you adhere to this type of strategy you end up with very few beneficials that can help your plants access the things in the soil it needs, or help keep it safe, and it becomes dependent on the fertilizers being used for its food. The soil at that point is basically just holding them upright. Lawn fertilizers have the same effect for the plants that surround the lawn as well.

This is where worms come into the conversation. Worms enjoy eating those little organisms, so they like to colonize soil that has a large biomass. When worms call a place home, you see a little pile of castings on the soil. This is a tunnel that goes down a foot or two, so if you are trying to grow a plant like grass that prefers a well aerated soil, you want as many earthworms as possible. The more casting piles, the more vertical tunnels to grow your lawn's roots through. Worms are one of our best friends when it comes to growing a lawn in soil like ours. They bring the air down so we can grow roots deeper and have a happier grass plant that will be able to withstand the summer here with a deep infrequent water structure. Not only does the fertilizer remove a source of food for the worms, they also don't like those kinds of salts. It irritates their skin, so they tend to

just travel through those areas instead of setting up shop there. This is why you tend to see worm castings in late fall through the spring in a chemical lawn. When the salts are out of the soil the microorganisms start building back up and the worms come back in to munch on them. When you put the typical step 1 fertilizer down the worms go back to living elsewhere until the next fall. We need the worms if we want to get off of that frequent shallow water structure that is typical in the industry.

So what can we do to work toward getting a nicer lawn? Cultural practices are hugely important. Start with the basics. When we mow our lawns, we need to make sure we have a sharp blade on the mower. If the blade is dull it will tear the grass which will be a place for disease to enter. We don't want that. First cut of the year, you should cut it short and bag it. Removal is important this time because there are probably molds and fungus on the blades from the winter.

Sterilize the mower… I recommend simple green to people because NOFA recommended it to me many years ago as a good alternative to the harsher products as I was sterilizing my mower between customers' lawns and didn't want to mess anything up. Spray the underside, wheels, deck, basically anywhere that it comes in contact with the lawn. Get in the habit right away of sterilizing the tools between cuts. If you go through a pathogen on the lawn you will be bringing it back out the next time you cut. That's one of the reasons things tend to persist when you really want them to go away. After your first cut I would tell you to raise that mower up to 4" and mow with no bag. You want to get as much back into the soil as you can. The organic matter you let go into the grass breaks down into food and helps fluff the soil back up. In the fall you mulch as much as you can back into the lawn as well. This is how you slowly rebuild your soil. Organic matter is very important and most soil tests I come across here are extremely low in it. We want a solid 8% of our soil to be organic matter.

Water structure is so important. I would like to stress that the reason to have irrigation is to get you off of your irrigation. The whole point should be to get your root mass to grow as deep as possible so it is better able to deal with these hot humid summers we have been having. The first thing to think about when trying to get your water structure better is how to know when that plant is thirsty. The way you do that is to take a pinch of grass before you go inside for the day and look at it. Grass blades to me are like tiny, tall books. Books have a binding and can be either open or closed. Grass has a midrib and also has the ability to be open or closed. If you look at the grass in your hand and it is flat, then it is happy. As grass gets thirsty it closes along its midrib just like a book closes. If the blades all look like L's or canoes, it's time to water in the morning. This is important as now you will only be watering when the grass is telling you it's thirsty.

Whatever length of time you were watering last year will be made a little longer this year. If you watered 30 min per zone last year, start at 45 or 50. If it starts puddling, shut it off and make your time less than it took to puddle. What we are trying to do is put water where the roots are but also get it deeper than the roots. As the roots grow deeper it will take longer for it to get thirsty. This is the strategy. When you notice the lawn going an extra day before it needs a drink you will increase the time you are watering. Becoming deeper and deeper waterings with less and less frequency.

Your goal is to get to an every other week watering, giving it 1.5 in as a drench. You work slowly toward this, using the grass as your indicator. When you see it going from getting thirsty every 3rd day to 4th water longer. When it adjusts, you adjust. Water depth will depend greatly on how much air you have down there so this is where the worms you have been keeping happy really start to shine for you. If you have a pesky puddle that forms in that front yard when it rains, worms can help to drain it for you. All those vertical tunnels will help you get that water deeper. Your grasses roots will follow that water.

Fertilizer and lime applications get lumped into the same category for me as I recommend both be applied 2x a year. Spring and fall. We grow cool weather grasses, so they don't really need to eat while its hot. I would recommend organic fertilizer over synthetic, and we have some really good choices. Calcitic Lime is used in spring and fall as well. We stress using calcitic lime over dolomite due to the dolomite lime having a large percentage of magnesium in it.

Magnesium is known to aid in compaction and your lawn isn't using it at all. Calcium deficiency is another thing that is typical for our soil and it just so happens the grass loves the calcium. So calcitic lime over dolomite for the lawns. What is the lime for? It adjusts the Ph. We have a very acidic soil here so we use the lime to raise ph to about 7 which makes the grass happy. The ph is important because the plant has different things available to it as the ph drops or raises. If a plant likes a ph of 7 that means that the food it wants access to is in that range.

Moss likes our native soil so a low ph suits it just fine. People think the lime kills the moss, but it just makes it harder for the moss to access its food. If we use the right amount of lime and use it in spring and fall then we keep our ph at a constant instead of letting it fluctuate. Lime can be put down earlier than fertilizer so if you have that itch to get in the yard first thing in the spring than go nuts and put your lime down. As far as when to start doing anything in the spring we use the forsythia as our indicator. When their flowers start to fall the soil is warming to the point that seeds need it to be for germination. Easy and accurate way to know that you aren't putting stuff out too early.

So what do you do if you go into a situation where the lawn is just a hot mess of weeds and minimal grass? Get an idea of what weeds you have as they are indicators of certain soil conditions that are favorable for their growth. We tend to have a lot of moss and crabgrass with spurge and plantains splashed in the mix. These are some solid indicators your soil is compacted.

There are a few main ways I tend to help people alleviate compaction. Before you begin a soil test should be taken and sent to U Mass for analysis. This will tell us exactly what is going on with your soil. A lot of times there is a complete lack of organic matter in the soil, so it is important to choose to get it tested for organic matter alongside the regular analysis. When you have a low organic matter content it is compost time. Compost applications are like years and years of mulching leaves and grass all at once.

If you are dealing with a majority of compaction plants in your yard, it may be worth just covering all that beautiful crabgrass and moss with an inch and a half of compost. That amount will turn

most everything below it into food, so you don't have to remove the crabgrass or moss. Just cover it with that amount of compost and spread your seed onto it. It is important to note that if you have more grass than weeds and you don't want to kill everything, a half inch of compost is as much as you would want to put on top at any one time. More than a half inch would start to smother plants you may not want to kill. If you are not trying  to smother everything then make sure to cut your lawn a little short first. A shorter spikier grass plant will be less likely to lay down.

As compost breaks down it turns into a liquid and aerates the soil while it goes through. The grass seed you sow into it will grow its roots down through the holes the compost is creating in the soil as it breaks down. Regardless of depth, when you do a compost application on your lawn you will want to reseed and apply a good organic fertilizer like Pro Gro. We recommend using a product like bio remedy to spray over everything to encourage breakdown of materials. Bio remedy is awesome. It is a sugar based product loaded with beneficial microorganisms that goes back to what we started this chat with: soil health. If you load up your root mass with beneficial microorganisms then you will encourage a much healthier plant but will also be encouraging those worm friends to colonize your soil faster.

Jamie (Dekes) Dedekian has worked at Hyannis Country Garden for 10+ years. He received an accreditation from the Northeastern Organic Farming Association (NOFA) as an Organic Land Care Professional (AOLCP). Jamie is Hyannis Country Garden's point person for organic lawn care. Bring your pictures and questions to Jamie at HCG…he's happy to help guide you to success with your lawn.