

### Soil Compaction, How it Happens

This is Gardening with Chuck. I'm Chuck Otte, Geary County Extension Agent. Many people think of soil as a solid mass. But it's a complex living organism. Not counting all the microbes fungi and other cool critters that are in the soil, it's basically 50% solid matter and 50% open space that should be filled with either air or water. When too much pressure is put on damp soil, not muddy mind you, but damp, you can press the soil particles together and start eliminating the spaces. These spaces are needed for the roots and the water. Compaction can happen in lawns and gardens by working soil too wet. Large riding lawn mowers and home sprinkler systems are big culprits for creating compaction in home lawns. Large dogs in a fenced in yard and even children playing on a lawn can cause compaction. Compaction restricts root growth and makes lawns, less durable to extremes. I'm Chuck Otte and this has been Gardening with Chuck.

## Soil Compaction, How to Prevent It

This is Gardening with Chuck. I'm Chuck Otte, Geary County Extension Agent. Preventing compaction is fairly simple. If the soil is damp, don't spend much time on it. Sprinkler systems that run on a daily basis can keep that soil surface wet enough that every time you drive over it with the riding mower, it packs it tighter and tighter. Water less frequently but more deeply. Let the soil start to dry out before you mow it. If it's been wet, use a push mower. Avoid walking the same path all the time and change up the directions you mow the lawn. Check compaction with a long screwdriver. If the screwdriver is easily pushed into the soil in some areas, but hard to do so in others, you have compaction. When working soil in gardens let it get well dried out. If you dig up a spade of soil, put a clump in your hand, squeeze it into a ball, and it stays together, it is too wet to till. Better wait a while longer. I'm Chuck Otte and this has been Gardening with Chuck.

## Soil Compaction, How to Fix It

This is Gardening with Chuck. I'm Chuck Otte, Geary County Extension Agent. The problem with soil compaction in yards and gardens is that it's easy to create but hard to fix. In the natural world, a few centuries of freezing and thawing and wetting and drying, along with the action of a few million earthworms will eventually loosen things up. In lawns and gardens we don't have that kind of luxury so start by just avoiding situations that will cause compaction. Lawns that have even moderate compaction should probably use a core aerator every other year if not every year. This machine pulls cores of soil up and leaves them on the surface. These cores break down and soil fills in the holes to start restoring the normal tilth and proper solids/pores ratio. But don't use any form of spine device that just sticks a rod in the soil and doesn't pull up a core as these simply make more compaction issues. I'm Chuck Otte and this has been Gardening with Chuck.

## Dwarf or Semi-Dwarf Fruit Trees

This is Gardening with Chuck. I'm Chuck Otte, Geary County Extension Agent. Traditional sized fruit trees truly are too big for most back yards. I grew up on farm pruning about 30 such trees every spring. A lot of space and a lot of work. Dwarf and semi-dwarf fruit trees are made by grafting known cultivars of fruit onto a rootstock that will keep the size of the tree smaller, assuming you don't plant it too deep and the tree roots down from above the graft. The dwarfing action keeps the tree smaller, but not the fruit. But smaller trees have smaller root systems to the point that many dwarf fruit trees can't really stand up to Kansas winds especially in more open settings. I plant semidwarf trees because they have bigger root systems and are sturdier. They don't get as big as full size trees, they are very productive and they stand up just fine in wind. But keep pruning them to control size! I'm Chuck Otte and this has been Gardening with Chuck.

## Grow Your Own Firewood

This is Gardening with Chuck. I'm Chuck Otte, Geary County Extension Agent. Many people burn firewood in their home sometimes for the majority of their heat and other times just for a little extra warmth and ambience. So these folks are always looking for firewood to cut. If you live in a rural setting with 5 to 10 acres you can probably grow your own firewood. There are several species of trees that have relatively fast growth rate and while maybe not as good a firewood as oak, can still work pretty well. Mulberry, osage orange, red oak and silver maple all have pretty good growth rates. Plant trees 4 to 5 feet apart to get taller trees with fewer branches, plan to harvest every five years. They won't be huge, but you'll get surprising growth. Plant an acre a year for 5 or 6 years and you could be set with firewood for the rest of your life. Tree seedlings are available from KFS. I'm Chuck Otte and this has been Gardening with Chuck.