THE LAYER BELOW

The Golf Course System for the Lawn You Actually Have



DALE

FIELD MANUAL

The Layer Below

The Golf Course System for the Lawn You Actually Have

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Mowing · Water · Soil · Seed · The Year

ABOUT THIS BOOK. Dale is a fictional narrator, a voice created for this book and its videos. He does not represent any golf course, club, company or professional association, and this book endorses no product or brand. The turf care practices are real; the voice that walks you through them is a character.

YOUR LAWN, YOUR CONDITIONS. Grass species, soil and climate vary widely across the United States. Where a recommendation depends on them, the book says so. For local specifics, the cooperative extension service of your state university is the best free source.

PRODUCTS AND SAFETY. This book gives no pesticide or herbicide rates. A pesticide label, weed killers included, is a legal document: read it and follow it. For any other lawn product, follow the directions on the package. Keep children and pets off treated areas as the label directs. For questions about an exposure, call Poison Control at **1-800-222-1222**. If someone collapses, has a seizure or has trouble breathing, call **911**.

BEFORE YOU DIG. Call **811**, the free call-before-you-dig number, a few days ahead; the notice period depends on your state. It marks the utility lines, not private ones such as irrigation, lighting or a buried pet fence. Flag those where you know they run, and have them located by an irrigation contractor or a private locating service where you don't. Follow your mower's and your rental machine's instructions, including their limits on slopes.

NO GUARANTEES. This book is general information, not professional advice for your property. Results depend on your grass, your soil, your weather and your work.

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10 The Screwdriver Test

Compaction, the problem under a lot of other problems

10.1 FROM TEN FEET

There is a strip of your lawn that never looks right. Usually it runs from the driveway to the back door, or along the fence where the dog patrols. You have seeded it twice. You have fed it. In spring it comes in thin, in July it browns first, and after a storm the water sits on it in a flat shine instead of soaking in.

From ten feet it looks like a grass problem. Thin, tired, hungry. So you buy something for the grass.

Before you buy anything for the grass, check what it is standing on.

10.2 WHAT'S UNDERNEATH

Good soil is roughly half solid and half open space. That open space holds the air and the water, and it is where roots push through.

Foot traffic, mower passes on wet ground, tires on the edge of the lawn: each one presses that space down a little. The particles get pushed together and the pores collapse. You don't see it happen. The top of the lawn still looks like lawn.

On packed ground, three things go wrong together. Less water gets in and more runs off, so less of it reaches the roots. Roots stay shallower, because packed soil is hard to push through. And with less air down there, the roots work badly right when summer heat shows up.

That is why compaction comes before the other fixes in this book. On hard ground, raising the mower won't do as much as it should. Deep watering runs off the top. Seed sits on a crust. Fertilizer sitting on a hard surface is more likely to wash away in a heavy rain.

You can't see compaction. You can feel it, with a tool you already own.

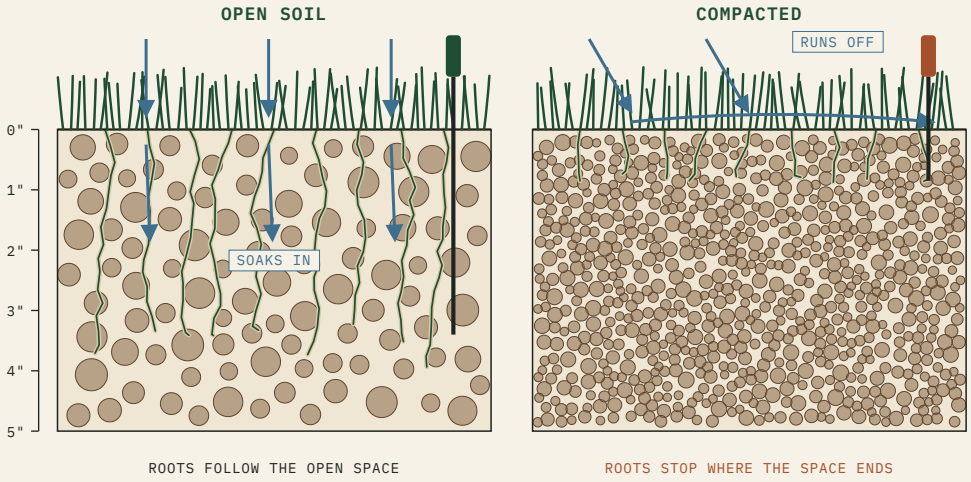


Fig. 10.1 Schematic, not to scale. In open soil the water soaks in and the roots follow it down. On compacted soil more of it runs off the top, the roots stay shallow, and the screwdriver stops early.

> **ON THE COURSE**
>
> The greens on a golf course take concentrated foot traffic every day, on a small surface. Nobody waits for them to look sick. We push a probe into them, we pull cores out of them on a schedule, and we keep the traffic moving. The cup gets moved. Ropes go up to keep carts off wet ground. That spreads the wear, and it spreads the compaction with it. None of it is decoration, and it starts before anything shows.

10.3 YOUR VERSION

You don’t need a probe. You need to know where your lawn is hard, how hard, and why.

The shape of the hard ground is your first clue. Hard soil in a line usually means traffic: a path, a shortcut, the turn at the end of every mower pass. Hard soil in one patch can be something left from the past, like construction fill or the spot where a truck parked while the house went up. Hard soil everywhere can be the soil itself, heavy clay that packs down when it gets worked wet. Rocks, tree roots and dry ground stop a screwdriver too. That is why you test moist ground and try again a few inches over before you decide.

Traffic you can move, and that costs nothing. Put a stepping stone where everyone cuts across, or accept the path and make it a path. Keep the mower off the lawn when the ground is soft enough to hold a footprint. Change where you turn.

The soil itself you open with core aeration, and this is the one step in the chapter that costs a rental fee. For this job, rent a core aerator, the hollow-tine kind. It pulls plugs of soil out of the ground, about half an inch to three quarters of an inch wide, two to four inches deep, a few inches apart. A spike only pushes soil aside. It takes nothing out.

Run it while the grass is actively growing, so it fills the holes fast. The soil should be moist but not muddy. If it has been dry, water deeply a day or two before and let it drain, because in dry ground the tines stop short. Go over the lawn twice, the second pass across the first.

Leave the plugs where they fall. The lawn will look like the geese came through. The plugs break down on their own, and the soil goes back where it came from.

Aeration is also the best time to seed. The holes give seed and compost a way down to the soil. Chapter Sixteen covers the seeding.

How often depends on what the test tells you. A heavy clay lawn that the family plays on may need it every year, at the right time of year. A lawn that passes the screwdriver test may not need it at all. Aeration relieves compaction in the layer the tines reach. On a lawn that isn't compacted, it is a Saturday spent for very little.

SAFETY

Before you aerate, flag every sprinkler head, valve box and shallow line you know about: irrigation, low-voltage lighting, a buried dog fence. The tines will find them. Call 811, the free call-before-you-dig number, a few days ahead; how much notice you need depends on your state. 811 marks the utility lines, not private ones like irrigation, lighting or a pet fence. If you know where those run, flag them. If you don't, have them located by an irrigation contractor or a private locating service before the machine goes in. Rental aerators are heavy and pull hard. Read the operator sheet, including what it says about slopes, and keep your feet clear of the tines.

WHEN TO AERATE

Cool-season

Fescue, bluegrass, ryegrass. Early fall is the usual best window, once summer heat breaks and while the soil is still warm. In much of the North that means late August into September. Spring is the second choice. Skip the heat of summer.

Warm-season

Bermuda, zoysia, St. Augustine, centipede. Late spring into early summer, once the lawn has fully greened up and is growing hard. Never while it is dormant.

Your state's cooperative extension office gives the local dates. In the transition zone, go by the grass you have, not by the map.

CHECK IT

The Screwdriver Test

Test when the soil is moist but not soggy, usually a couple of days after a good rain or a deep watering. Dry ground is hard in every yard, so compare spots at the same moisture. Stay away from sprinkler heads and any line you know about.

01 Take a full-size screwdriver.

02 Push it straight down with one hand. Steady pressure, no twisting, no hammering.

03 If it slides in three inches or more without much effort, compaction probably isn't your problem in that spot. In most lawns the bulk of the roots sit in the top few inches.

04 If it stops at about an inch, or you have to put your weight on it, that spot is likely compacted. Try again a few inches over, to rule out a rock or a root.

05 Test a dozen spots: the paths, the middle, the edge along the driveway, the dog's corner, and the best patch you have. Push a golf tee or a twig into every hard one.

Then stand back. The tees draw you a map. Often the map follows the routes people and dogs actually walk, and the thin grass sits right on top of it.

☐ **THIS SATURDAY**

Do the test and mark the map. Don't buy anything.

Walk the map and ask one question about each line of tees: who walks here, and can they walk somewhere else? If the whole lawn tested hard, find your grass's window in the box above and put core aeration on the calendar. Book the rental early.

THE USUAL MISTAKE

The usual one is a bag of something for the thin strip by the back door. The strip isn't hungry. It needs people to stop walking on it, or a stepping stone so they can keep walking on it in one place.

FIELD NOTES

DATE	SPOT	WHAT I FOUND