

Odd Things About the Soil.

IMPORTANCE OF RIGHT SOIL TEMPERATURE.

MUST WARM QUICKLY.—In the early Spring, the surface temperature of the soil is held down by the low temperature of the deeper subsoil, and so great is this effect, that unless a deep seedbed for early planting has been thoroughly prepared, the soil will be too cold for rapid germination, and weak plants are likely to be the result. One of the chief objects gained by a thoroughly-prepared seedbed is the securing of a warmer soil than would otherwise be possible. When the farmer once understands the importance of this, and how the higher temperature is secured, he will then be more particular about it, and be sure to secure the desired condition.

Small grains like oats, barley and wheat do not sprout quickly and produce vigorous plants unless the soil temperature is first brought up to, at least, 60 degrees F. Undisturbed soil in the spring will maintain a temperature as low as 55 and 50 degrees, and even 45 degrees quite late at a depth as shallow as four to six inches. When a farmer goes into his field to sow grain with a drill without first preparing the ground, as is done in many cases where the chief thought is to get the seed in early, no matter how, the seed is dropped directly upon the undisturbed cold soil at the bottom of the drill furrow, while a layer of loose non-conducting soil over it shuts off the sun, and thus places the seed under the very conditions which tend to keep the temperature low. More than this, the poorly-prepared seedbed has had the surface made very uneven without forming a proper mulch, and this hastens the loss of water from the soil, and at the same time and in consequence of it, holds the temperature much lower than would otherwise be the case, so that not only is there a needless waste of water, but the soil is kept unnecessarily cold.

Wetting the bulb of a thermometer in dry air lowers its temperature often

as much as 15 to 20 degrees, by simply using up its heat to evaporate the water; the same thing is true of the soil when water evaporates quickly from it. I have often measured a difference in soil temperature equal to 12 degrees F., due simply to the fact that water is evaporating faster from one soil surface than from another, temperatures in April being lowered in some cases from 65½ to 54 degrees. The time for haste in the Spring is in getting the seedbed ready rather than in putting the seed in the ground.

STIRRING WARMS THE SOIL.—When a disk harrow or other tool has been used on a Fall-plowed field, or on corn stubble to prepare it for small grain, stirring the soil to a depth of three or four inches, there is formed a perfect mulch which prevents the cold moisture from deep in the ground rising rapidly to the surface to be lost by evaporation, and thus keeping the surface cold. Every farmer is familiar with the fact that thoroughly-stirred soil rapidly dries in the spring, and as soon as it has become dry, it also becomes warmer through the direct absorption of sunshine. Further than this, having made the upper soil open and loose, it does not lose its heat as rapidly by having it conducted downward to the cold soil below, for the reason that its open structure makes it a poorer conductor; its temperature, therefore, rises higher, making it possible to sow earlier than would otherwise be prudent to do. Then when the grain is dropped into the mellow and drier soil, cut off from the cold soil below, where the heat of the sun will bring the temperature up to the degree of healthy and rapid germination, it is plain that much better conditions, so far as temperature is concerned, are quite certain to be secured.—F. H. KING, in the *Rural New Yorker*.

The Soy Bean.

W. C. Latta, of the Purden Experimental Station, writes the following in the *Country Gentleman*, of recent date:

"A comparatively new and promising leguminous crop is the soy bean. This plant has been successfully grown in different parts of Indiana, and at several points farther north in the United States. It thrives in good corn soil, and will grow wherever corn can be successfully produced.

"Being a quick-maturing annual, it will prove especially helpful to those who cannot grow clover. A crop of soy beans can be produced between the spring and autumn frosts anywhere in the State. The soy bean may be grown for pasture, green forage (soiling), for hay or ensilage, or for seed. It will yield 9 to 12 tons of green fodder, 1½ to 5½ tons of hay, and 10 to 40 bush. of seed, according to variety, condition of soil, etc.