Scientist Traces Soil Background

(Continued from page 14.)

grassland areas by the moving sand is also serious.

The rolling hills are occupied by another sandhill soil that has a topsoil of 6- to 10-inches in thickness. It is composed of a loose sand that has accumulated enough humus to give it relatively dark color. The topsoil grades quickly into the pale grayish-yellow sand underneath. Under proper grazing management these soils support vigorous growths of the tall grasses that are classified by the range specialist as some of the best grasses for grazing. The quantity of forage produced by the grasses on these soils is high. Again the conservation of these soils is largely a matter of adjusting stocking rates to the point where a maximum tonnage of grass forage is produced. It is needless to add that where these areas are over-grazed, severe damage from the blowing sand will result. Some of these same soils are found on the higher portions of the bottomlands or valleys. An example is found on the low hummocky areas of the Elkhorn valley.

A third group of soils occurs in the low wet meadows of the Sandhills. They range in color and depth from those with dark sandy topsoils 16- to 18-inches deep to those that have very dark, clayey topsoils that are 6- to 12-inches in thickness over sand. Because of a relatively high water table that fluctuates within a relatively narrow range in depth, luxuriant grass meadows have developed.

SOIL CONSERVATION SURVEYS IN HOLT COUNTY — Since the Holt county Soil Conservation District was organized, approximately 129,000 acres of soil conservation surveys have been completed in the county. These surveys serve as a basis for making the conservation plans on both the farms and ranches. They are made on aerial phpotographs by trained soils scientists. When an application for a soil conservation program is received in the local district office, the first step towards developing a soil conservation plan is to make a conservation survey on the land.

In making this survey, the soils scientist studies the soils by digging holes to observe the various horizons or layers. From his knowledge of the area, he is able to classify the soils according to their depth, color, texture, and various other limitations and hazards that they may have. In addition to the soils, the mapper also observes and makes notes on the erosion, the slopes and the present land use.

Since some of the soils have characteristics that will cause them to respond to certain soil conserving practices while others will not, the soils are grouped accordingly.

Those soils that are sandy and are subject to wind erosion are placed in a group for which special emphasis is placed on a conservation treatment that will reduce losses from wind erosion. Those that are subject to water erosion are placed in another group that must be protected from this sort of erosion. Still another group may be suitable only for pasture, in which case a conservation plan is developed that stresses range management.

The Soil Conservation Service has established eight broad land classes or groups into which all land in the United States is classified. Because of the variations in climate, crops, rotations, soil limitation, and land use, the detailed grouping within the land classes will vary in different regions throughout the county but the broad overall grouping remains the same.

The basic policy of the Soil Conservation Service is to treat each acre in accordance with its needs, and use it according to its capabilities. It is only by detailed studies made on each farm or ranch that sufficient information can be obtained to fulfill this obligation. Those of you who have soil conservation work on your farms will recall having seen our soil scientist walking over your places and making notes on a map. He was studying the soils, slopes, erosion, and the land use on that particular piece of land. The map he produced was used by the planner when he visited your place to work out a conservation plan with you.

It is suggested that you review this map quite carefully when you have the opportunity and if you have questions about it ask the SCS technician about them. You may find some interesting facts about your land that are new to you.

A group of high school agricultural students are studying erosion that has taken place on a silty loam soil with moderate slope. Lloyd E. Mitchell, state soil scientist, says the largest area of this type soil if found northeast of Town Hall, in Shields township, and northeast of Page.

REAL ESTATE TRANSFERS

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MORE PRODUCTION AGAIN DEMANDED

Nebraska Is Fortunately Situated to Meet Wartime Needs

By E. G. JONES
State Conservationist
Soil Conservation Service

You might say that the "heat is on again." That is, American agriculture is again being asked to increase production to meet the requirements of almost a wartime defense setup. Food and other materials for both ourselves and our allies are needed in greater quantities, and with more men taken by the armed services and defense industries, it again will post the problem of getting this production with fewer people.

The question arises: Can we meet this demand for increased agricultural production so soon after World War II without seriously weakening our land and water resources? Except in relatively small areas Nebraska has not been seriously depleted by erosion and improper land use in the past. But the threat of curtailing the state's land and water resources is very real.

An analysis of the information gained in past surveys has been made by the Soil Conservation Service. It shows that Nebraska is more fortunately situated than many states.

But even so, only a little over two-thirds of the cropland is on deep, silty or sandy loam soils with permeable subsoils — the kind of land that can be restored within a relatively short time to a satisfactory production level by conservation measures. Some of this, however, is rolling land where gully erosion can become severe enough to make further cultivation impractical. And some is light enough soil on which wind erosion losses can be severe.

Twenty-seven percent — more than one-fourth—of the cropland is underlaid with clay subsoils. This is land that cannot be built up, in a man's lifetime at least, if ever, to anywhere near its original productivity after all the topsoil has been lost. Much of this land has already lost a considerable part of the topsoil through erosion.

Other is on thin soil over rock, gravel or loose sand. That kind of soil, once the topsoil is gone, is finished for cultivated crops.

Unless erosion is controlled, there is a very real possibility of crippling the land and water resources of Nebraska since so large a part of the cropland soils are of a nature that once their topsoil has been lost they cannot be restored to more than a fraction of their former production for a long time to come.

Experiences during the last war, however, showed that properly designed conservation increased production without increasing expense and labor. Such conservation requires that crops be grown only on the good land, where the returns from the labor expended are the greatest; that gullies be converted to grass waterways instead of remaining waste and ruinous to adjoining land; that all land be put to its best, most productive use.

So far as the cooperators with the state's soil conservation districts are concerned, much progress has been made toward putting the land in shape to meet the production strain without much injury. These soil conservation districts, voted by the landowners under the provisions of the state soil conservation districts law, include all of the farm and ranch land in Nebraska.

More than 26,640 farmers and ranchers cooperating with these soil conservation districts had brought more than 8,150,000 acres under complete conservation plans, which they had worked out and are applying with the technical aid supplied by the Soil Conservation Service, aiding the districts. These conservation plans are based on the conservation survey made by the SCS of each unit cooperating with the soil conservation districts in order to provide the information to enable the technicians to determine land capabilities, diagnose the actual causes of the erosion problems, and propose the right combinations of conservation measures.

Progress made by these cooperators and the SCS technicians aiding them was greater in 1950 than in 1949, which was up to then the best year. This, in spite of adverse weather conditions that included the late, wet spring. In the application of the planned soil conservation measures they surpassed 1949 in most instances.

Accomplishments by these cooperators with soil conservation districts mark a steady forging ahead toward the goal of putting their units in shape to conserve the use of the greatest amount of water, control erosion, and improve the productivity of their soil.

Over 1,470 of them have their conservation plans fully established on the land. Others are well along toward that goal. But others, who have just begun cooperation with their soil conservation districts, still have a long way to go.

One-Third Washed—

Approximately one-third of the U.S. has been washed to the foot of slopes, into streams, and down to the ocean.

Land Suports It—

No community, no country, can rise above the level of the land that supports it.

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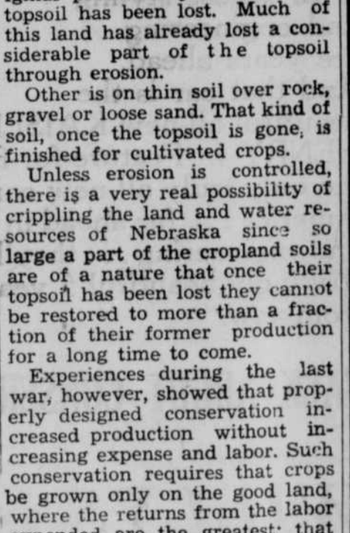

E. G. Jones . . . "heat is on again."