

# Soil Testing Results in Bigger, Better Farm Harvests

## Guesswork Farming Diminishing With Sampling Program

The days of farming by guesswork are steadily diminishing, according to W. B. Tucker, Jackson county agricultural extension agent.

More and more Oregon farmers are reaping bigger and better harvests as the result of the Oregon State college soil testing service, he says. Under this program, a farmer submits a cross-section sample of his soil for analysis in the college laboratories. After tests have been completed, the farmer receives a report telling the quantities of chemicals the soil contains and pointing out which ones are needed in greater or smaller amounts in order to more abundantly produce a particular crop.

Soil with a hydrogen ion concentration (pH) of 6.5 to 7.0 is considered neutral, Tucker says. Any pH reading below 7 indicates acid, while any reading above pH7 indicates alkaline soil. For practical purposes, a reaction between 6.5 and 7.5 is considered suitable for most crops, he explained.

After the soil is neutralized, it is corrected by further fertilization to accommodate specific crops.

Selecting the right amounts of the proper fertilizers is, however, a matter requiring considerable knowledge, Tucker pointed out. Too much or too little of a particular chemical can result in poor or improper yields and even, in some cases, costly crop failures.

### Rely on Guesswork

Before the onset of the OSC testing program in 1952, farmers were forced to rely largely on guesswork in their attempts to improve their soil by fertilizer application.

Finally, a makeshift testing laboratory was established in the Jackson county agent's office. "It was operated for several years," Tucker said, "but our facilities were inadequate and only 10 to 20 soil samples were submitted each year."

In December, 1952, a complete soil testing laboratory operated by skilled personnel was established at Oregon State college.

"The OSC testing service is making rapid gains in popularity," the county agent said. "And in the last 1 1/2 years, 150 Jackson county farm operators submitted samples from 323 fields representing 5,117 acres."

### Sample Reports

PH reports on these Jackson county samples showed that of the total acreage represented, 3 per cent was below 5.5, seven per cent between 5.5 and 5.7, twenty-one per cent between 5.8 and 6.0, fifty-five per cent between 6.1 and 6.5 and 14 per cent over 6.5.

One-half ton of lime per acre was recommended for 9 per cent of the acreage represented; 1-1/2 tons per acre for 54 per cent, 2-2/2 tons per acre for 1 per cent, more than 3 tons per acre for 1 per cent and no lime was recommended for 35 per cent.

Reports also showed 16 per cent of the total acreage was low in phosphorus; 31 per cent medium; 41 per cent high and 12 per cent very high.

### Potash Content

In potash content, 10 per cent was low, 22 per cent medium, 53 per cent high and 15 per cent very high.

To illustrate the value of soil testing, Tucker told the story of one Jackson county farm operator whose marion bluegrass production was increased from 500 to 840 pounds per acre as a direct result of having his soil



**APPLYING FERTILIZER**—After soil samples have been analyzed and recommendations made, the next step is applying the fertilizer. Here John Niedermeyer applies 300 pounds per acre of complete fertilizer consist-

ing of nitrogen and phosphorus. The mixture, commonly known as 16-20-0, will supply the ground with 48 pounds of actual nitrogen and 60 pounds of phosphorus per acre.



**SAMPLING THE SOIL**—John Niedermeyer, who farms about 200 acres between Medford and Jacksonville on Old Stage rd., uses the soil auger to extract a soil sample. Samples should be taken six or eight inches below the surface of the soil. The earth samples are then placed in a clean bucket, thoroughly mixed, dried and placed in the sample carton shown at left of bucket. The carton is then packed and sent to the soil testing laboratories at Oregon State college.

tested.

Otto Bohnert, who operates about 15 farming enterprises on 200 acres of land northwest of Central Point, became concerned over erratic yields on his land over a period of several years.

Changing amounts of fertilizer, applied by sheer guesswork, resulted in no particular change in his yields. Finally, he took samples of soil in 13 of his fields and sent them to OSC for analysis.

Laboratory reports showed his lowest soil pH was 4.9 and the highest was 5.9. Application of lime in amounts varying from 1,000 to 3,000 pounds was recommended.

He followed the recommendation and 12 months later, less than the average time required for soil to react from one application, resampled the same soil. Tests on these samples showed the lowest pH was 5.1 and the highest was 6.3. Production that year was the highest Bohnert had ever obtained and his expenditure for commercial fertilizer was the lowest in several years.

Another farmer, John N. Winton, realized a saving of \$456 one year by making use of the soil testing service, Tucker said. Winton, who operates a farm near Agate rd., north of Medford, had tentatively ordered about 300 pounds per acre of super phosphate for 150 acres of forage crop land. Cost of the fertilizer would have been about

made only about once every 10 years. If the same crop is raised from year to year, tests should be more frequent. This is because different crops use varying amounts of certain soil chemicals or plant food elements. It is possible to preserve these chemicals in the soil over a period of several years by alternating the crops which have varying chemical requirements.

**Cost Varies**  
Cost of the soil tests varies according to type. In western and southern Oregon the fee for the standard soil test, which determines soil reaction (pH), lime requirement and available phosphate, potash and calcium, is \$2.50 per sample. The lime requirement and phosphate test, which determines pH, lime requirement and available phosphate, is \$1.50 sample. Extra tests, which are made upon request, include organic matter, \$1 per sample, and boron, \$1 per sample. The OSC laboratory operates on a non-profit basis, Tucker explained, and the fees are for equipment and materials used in the tests.

A new soil testing service was announced this week by Dan \$38 per ton. Before delivery, he took four soil samples over 80 acres of his land and had them analyzed at OSC. Testers reports showed his soil was neutral and needed only nitrogen. Needless to say, he promptly cancelled his \$456 super phosphate order. Cost of the soil analysis was \$10. If a good crop rotation plan is established, Tucker explained, it

is necessary to have soil tests. Evans, soil scientist in charge of the soil physics laboratory at Oregon State college.

The new service will measure two physical qualities of soil—the approximate amount of water the soil will hold one day after a heavy rain or complete irrigation, and the amount of water still in the soil when the plants wilt from lack of available moisture.

### Amounts of Water

The amount of water in the soil between these two measurements is the amount the soil can hold. And, since soils vary greatly in usable water-holding capacity, the measurements will help soil specialists and county agents make recommendations for more efficient irrigation water and commercial fertilizer applications.

Cost of the new service is \$2 per sample.

In order to obtain accurate reports on the soil tests, it is imperative that the soil be sampled in the proper manner, Tucker emphasized.

A farmer may use a spade, garden trowel or soil auger to take soil samples. Soils that are distinctly different as to type or in appearance, crop growth, or past treatment should be sampled separately. Not more than 10 to 20 acres should be represented in one sample.

### V-Shaped Hole

The farmer must first cut a V-shaped hole in the earth seven inches deep to take a thin slice from one side. This slice is put into a clean bucket. If a soil auger is used, the whole core is placed in the bucket. This procedure is repeated at least 15 times in each field sampled.

After the sample soil has been completely dried at room temperature it is thoroughly mixed. Sample cartons, provided by the college and available at the county agent's office, are then filled with the mixed, dry earth.

Before sending the carton to the laboratory, the farmer writes on it his name and address, whether the sample is topsoil or subsoil, field name or number. He then wraps the carton securely and ships it to the college.

### Sending Sample

In addition to sending the soil sample, the farmer must also fill out a special information sheet and mail it to the laboratory. On this sheet the farmer indicates the location of the fields, size of area sampled, soil type, position of the land (bottom, terrace or upland) whether subsoil is coarse, light, medium or heavy and depth to subsoil, whether a slope is level, rolling or hilly, type of drainage, whether the land is irrigated, type of analysis desired, crop and fertilizer history for the past three years and crops he intends to grow for the next three years.

He also draws a sketch of the farm or fields from which samples were taken, showing location of samples, eroded areas, poorly drained areas, drainage and any other pertinent information.

"Collecting soil samples and having them analyzed has ended many mysteries as to why certain land in this area hasn't been producing adequately," Tucker said.

### Experiment Underway

An experiment is currently under way in Jackson county involving one particular acreage that has been unproductive since it was cleared 40 years ago. This land is owned by Glenn Birds-

## Spring Roundup of Shrine Club Set

The annual spring roundup and crab feed of the Jackson County Shrine club will be held at the Rogue Valley Country club Monday evening, according to A. K. Morse, club president.

Bill Schei is chairman of the committee in charge. He said some 250 persons, members of the club and their wives, are expected to attend. The theme of the event will be western, and many members plan to wear western dress.

Entertainment will be furnished during and after dinner by the Rhythmaires, one of the northwest's best-known quartets. Music for dancing after dinner will be provided by the Melody Wranglers.

George Gauldager, Eugene, Shrine potentate, and members of his divan and their wives, will attend the annual event, which is one of the Shrine club's social functions of the year.



**RYTHMAIRES**—The Rhythmaires quartet, above, will furnish entertainment at the Jackson County Shrine club's annual spring roundup and crab feed. The group has had singing engagements in all parts of the west. From top to bottom, they are Ralph H. Shumm, lead; William Wright, baritone; George Horner, bass, and A. C. Hingston, tenor.

eye and is located near Highway 99, about two miles south of Rogue River. The entire farm was originally owned by his grandfather and has been in cultivation for more than 100 years. The experimental plot is the only part of the farm that has been unproductive.

On the land, which is non-irrigated and has had no special treatment, Birdseye, the Rogue Soil Conservation district, southern Oregon branch experiment station and the county extension service are hoping to raise at least 20 improved forage type plants which should be good in this area.

First step of the project, which involves about one-half acre of land, was to sample the soil and have it analyzed. Laboratory reports indicated the soil pH was 5.9. There was a deficiency in calcium and too much acid. One and one-half tons of 100 per cent calcium carbonate was recommended to neutralize the land.

Soil Neutralization  
Soil neutralization and seeding have already been completed and the next phase of the project will be application of lime and other fertilizers at varying rates. Ultimately the group will determine the best soil correction for these particular plants.

"We hope to have this land producing as well as any other in the area," Tucker said. "There are many other farms in Jackson county on which production should be much higher. Testing is the first sure step in soil improvement and we hope every farm operator in the county eventually will be taking advantage of the soil testing service."

## Seed Growers Vote To Form Commission

Ladino clover growers overwhelmingly approved the formation of a ladino clover commission. J. F. Short, director of the state department of agriculture has announced following a count of votes cast in last week's referendum.

Over 95 per cent of Oregon's production of ladino clover seed is in Jefferson county with Jackson county accounting for most of the remainder.

Forty-eight of the 54 growers eligible to vote cast ballots in favor of the commission. They represented nearly half of the state's ladino production last year and a 90 per cent affirmative vote.

Under the law, two-thirds of the voters had to vote yes, according to Paul T. Rowell, market development chief who was in charge.

Much of the Jefferson county acreage suffered heavy winter freeze damage and as a result, 1956 production is expected to be substantially lower than last year.

## NW Power Program Making Progress

Spokane—(U.P.)—The federal power program in the Pacific Northwest has made some progress, but not enough, members of the Northwest Public Power Association were told here Friday.

Alex Radin, general manager of the American Public Power association, said funds were being appropriated to begin construction of Ice Harbor dam and added that planning was proceeding on the John Day project, but not at the optimum pace which should be provided.

Radin said there was still hope that a high federal dam would be built at the Hells Canyon site on the Snake river despite the fact the Federal Power commission has issued a license to Idaho Power company to build three low dams in Hells canyon. He pointed out that the case was still before the courts.

The power association's three-day meeting was to end Saturday.

All the states except Idaho observe Washington's Birthday as legal or public holiday.

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**FESTIVAL FINALISTS**—Six Pear Blossom festival queen finalists (above) have been selected on the basis of ballots cast last week. Chosen were (front, left to right) Barbara Urie, 5, daughter of Mr. and Mrs. Robert Urie, 330 Hillhouse ave., sponsored by the Medford Lady Lions; Raeanne Lynn Baum, 2, daughter of Mr. and Mrs. William H. Baum, Central Point, Central Point American Legion; Janet Kent, 5, daughter of Mr. and Mrs. John Kent, 922 South Oakdale ave., Women's Society of Christian Service; and Greta Kathleen Lund, 5, daughter of Mr. and Mrs. Sidney Lund, Prospect, Prospect Lions auxiliary; and (top, left to right) Connie Jean Hanscom, 3, daughter of Mr. and Mrs. Don Hanscom, Central Point, Gold Hill Grange; and Sherry Lynn Graves, 4, daughter of Mr. and Mrs. Clifford Graves, Central Point, Women of the Moose. The queen will reign at the April 21 festival. —(Landis-Shangle Photo)

## Man Admits Safe Jobs in Portland

Portland—(U.P.)—Police reported here Saturday that 23-year-old Jack Delaney had admitted 15 safecracking jobs in Portland that netted him several thousand dollars over a seven-month period.

Police said Delaney's arrest and admission cleared up one of the most extensive one-man safecracking operations on record here.

A safecracker was frightened away from a northeast district drugstore recently and the crowbar he dropped as police fired at him fitted marks left on safes in several other businesses. Officers said the suspect's operations included safecracking jobs in Milwaukie and West Linn.

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