

Scientists Study Nitrogen Efficiency In Soils of Northwest; Gains Cited

Oregon State college soils scientists hope to throw more light on the complex behavior of nitrogen in the many soil types of the Pacific Northwest and eventually get even more efficiency from nitrogen than is now possible on some soils.

It is estimated that proper application of nitrogen will return about \$3 for each \$1 spent on fertilizer through more efficient crop production. However the efficiency of nitrogen uptake by plants varies greatly depending upon soil type.

An important key to more efficiency on some soils is better understanding of so-called ammonium and ammonia nitrogen fixation in soils. This type of fixation is currently under study by J. Lowell Young, Agricultural Research service chemist and professor in the OSC soils department.

17 Different Soils Studied
Young is heading an intensive laboratory study of 17 representative soils in Oregon and Washington with emphasis on the nitrogen fixing abilities of both clay minerals and soil organic matter.

The research project, now in its third year, is being aided by \$2500 yearly grants from Phillips Petroleum company. M. E. Harward, OSC soils scientist, is assisting with the study of clay minerals.

It has long been thought that nearly 100 percent of the soil nitrogen is held in combination with organic materials, Young stated. However, present studies indicate that some soil strata may hold a large percentage of their nitrogen in mineral form as fixed ammonium. Also, many soil strata appear able to fix large additional quantities of nitrogen.

Benefits of Fixation Eyed
Whether fixation is good or bad from a practical standpoint depends upon many circumstances requiring further study, the scientists explained. Fixation is "good" from the long-term view of providing a storehouse of soil nutrients for future use. It might appear less desirable in considering returns for only the first year following fertilizer application, Young added.

Ability of soil to fix ammonia nitrogen not only varies greatly among soil types but also between soil strata within a given type, according to OSC findings. Fixing ability of minerals in surface soils may vary from an insignificant amount up to 400 to 500 pounds of nitrogen per acre. Variations are also great in some clay subsoils where more mineral fixation is generally found. The amount of fixation by the soil organic fraction is also being studied.

Long-range aims of OSC researchers are to relate nitrogen-fixation capacities of soils to specific clay minerals and types of

State Makes Battle On Cattle Diseases; Screening Test Begun

Dr. L. E. Bodenweiser, state veterinarian, has announced that the state department of agriculture is giving "positive attention" to cattle disease, leptospirosis.

"The department," says Dr. Bodenweiser, "has recognized this is a growing disease problem and has now started on a screening test of all blood samples submitted to the laboratory to determine which areas of the state are most heavily infected, percentage of infection and statewide totals.

According to the August report on animal diseases in Oregon released recently by the state department, there were 15 cases of leptospirosis reported by practicing veterinarians in eight herds. Losses had indicated the disease in these herds.

Other cattle diseases reported include anaplasmosis, 44 cases in 16 herds; blackleg, seven cases in six herds; shipping fever, 63 cases in 15 herds; bacillary hemoglobinuria, eight cases in seven herds; brucellosis, 19 cases in 12 herds; tuberculosis, five reactors statewide. Pink eye continues to plague ranchers with many cases reported.

In sheep, diseases reported include one flock of 2300 with black disease—total number of diagnosed animals affected not reported. There were 40 cases of sore-mouth in four herds.

Hog cholera in swine was reported in two herds. Other disease cases in swine include two of swine "flu," 64 of erysipelas and 14 of enteritis.

CELEBRATE ANNIVERSARIES
Mr. and Mrs. Edgar Fanning of Pomeroy, Wash., arrived Friday for a week of rock hunting and a visit with the J. Maurice Coreys. Fanning and Corey are celebrating their mutual birthday anniversaries today (Thursday) with dinner at the Corey home. The group will attend the Snake River Gem club monthly meeting in the evening.

soil organic matter. Results from this and related basic research on soil nitrogen problems could serve as a guide in predicting nitrogen behavior in similar soils throughout the world.

Bulletin Available On Nutritive Value Of Different Foods

Pumpkin pie ala mode . . . a broiled hamburger . . . a wedge of pizza . . . how many calories does each contain? And what food value?

Answers to these and other questions that relate to feeding the family better are found in a new bulletin made available by Oregon State college. Single copies of "Nutritive Value of Foods" may be obtained at county extension offices.

Mrs. Ruth Klippstein, extension nutritionist, describes the new booklet as a valuable aid to persons with special diet problems, or to their advisers—physicians, dietitians and nutritionists. Food values of about 500 foods are listed in the bulletin.

Readers can compare caloric value of ice cream and ice milk, creamed and uncreamed cottage cheese, and study food values of five popular forms of orange juice.

One table is suggested as a guide to shoppers in determining amount of raw meat to buy in order to serve a given amount of cooked meat. Nutritive values are shown for only parts of food usually eaten—corn without the cob, meat without bone, potatoes with and without skins. With information provided in the booklet, meal planners will be able to calculate ways to increase certain vitamins and minerals in the diet, Mrs. Klippstein notes.

They can see at a glance how requirements for a high school age youngster and their husband differ, and plan accordingly, she added.

Radiation Resistant Bacteria Studied By OSC Scientists

An intensive study of mysterious chemical compounds that seem to help some micro-organisms withstand thousands of times as much atomic radiation as a normal human is under way at Oregon State college.

The three-year research project, financed by a \$24,000 grant from the National Institutes of Health, is under the direction of Dr. A. W. Anderson and Dr. Paul R. Elliker, OSC bacteriologists. In the study, researchers hope to isolate and identify certain chemical compounds that seem to make it possible for some bacteria to withstand radiation dosages of over four million roentgens—about 10,000 times as much as a normal human.

The bacteria the scientists are studying were discovered at the OSC agricultural experiment station four years ago. Research since that time has shown the bacteria are equally resistant to normally lethal doses of ultraviolet light and x-rays.

Since their discovery, OSC scientists have studied the bacteria's metabolism—the way they chemically use their food—and their physical structure. These studies indicated the bacteria produced chemical compounds in their everyday living processes that hadn't previously been reported as products of normal metabolism in living organisms.

This information led scientists to believe these unusual chemical compounds may be the key to the bacteria's phenomenal radiation resistance. As soon as they are able to isolate and analyze these compounds, scientists plan to carry out tests to see if these compounds can be used to provide improved radiation resistance in higher forms of life.

Working on the study, in addition to Anderson and Elliker, are Anne Deeny and Lee Jong, OSC graduate assistants.

FIFTH GRADE MEMBERS ORGANIZE HEALTH CLUB
Healthy Helpers health club was organized Oct. 5 by members of Mrs. Nelda Schenk's fifth grade class. Officers elected for the coming year are John Briehe, president; Billy Kouns, vice president; Christine Burningham, secretary; Danny Wilson, news reporter; and Whad Haney, song leader.

—Danny Wilson, Reporter

Journal Classifieds Pay!

4-H Club Member Judging Teams Go to Portland

By Farmerettes Club

NU ACRES—Four Do More
4-H club members participated in judging contests and other activities at Pacific International exposition in Portland from Oct. 7 to 11.

Sally Evans and Kathleen Keck are members of the home economics team from Payette county. Boys from Nu Acres on the livestock team are Eldon Riblett and Frank Fry.

Mrs. Roger Jenkins arrived last Tuesday from Huntsville, Utah, to visit at the home of her mother-in-law, Mrs. George Pulsipher. She left for her home Thursday.

Mr. and Mrs. Winnie Unwin were guests Sunday at the home of the William C. Browns where they were served a Chinese dinner.

Young Group Has Hayride

Thursday evening the young people's class of the Fruitland Free Methodist church held a hayride with a chili feed following at the church. Among those attending were the Rev. and Mrs. C. H. Johnson, Judy and Oren, Mr. and Mrs. Tom Farley and Toni, Virginia and Lila Gross, Danny Bright, Jeanie Kilborn, Norman Russell and Carol Hardy. Attending from Nu Acres were Marilyn, Carolyn and Gary Betts, Sharon and Ernest Kimmes and Maxine Tullis.

Mrs. Jim Walker arrived last Sunday from Princeton, Ore. She is a daughter-in-law of Mr. and Mrs. Vernon Walker. She came with her brother and family, Mr. and Mrs. Jack Campbell, to visit her grandmother, Mrs. Winn, who is in Holy Rosary hospital in Ontario.

Mr. and Mrs. J. E. Randall, Carol Ann, Janie, Mark and Timmy, who recently moved to Nampa, were Saturday dinner guests at the home of Mr. and Mrs. LeRoy Howard.

Mr. and Mrs. Russell Hebdon, Katherine, May, Alton, Joanne, Steven and Carol of Bancroft, Idaho, arrived Thursday for a visit with Mrs. Hebdon's sister and family, Mr. and Mrs. Quentin Speas. The Hebdons left for home Saturday afternoon.

Group Goes Skating and Bowling

Monday evening the young people's group of Conservative Baptist church of New Plymouth went to the Roller Drome at Nampa for a skating party. The group had planned a hayride Friday evening but due to bad weather they went bowling at Gay Way Bowl. Following the games, the group went to the Mike DeGraaf home for a wiener roast. Among the group were Judy and Julian Stohler of Nu Acres.

Mr. and Mrs. George Asher of Dayton, Ore., accompanied by Walter Wills of Ontario, were Thursday guests of Mr. and Mrs. J. M. Corey.

Farm Real Estate Taxes in Oregon Hit Record High

Taxes on farm real estate in Oregon hit an all-time high last year, averaging more than \$1 per acre for the first time in history, reports Stephen C. Marks, extension agricultural economist at Oregon State college.

Taxes on farm real estate in Oregon totaled \$20.7 million last year, up a full 7 percent over the amount levied in 1958, Marks found as he studied reports from the U. S. department of agriculture. These state and local government levies on farm lands averaged \$1.06 per acre.

This is the second largest increase in Oregon's farm real estate tax during the past 10 years, Marks said. Sharpest increase came in 1955 when taxes were boosted a little more than 7 percent.

The continued rise in farm real estate levies appears to be due to steadily expanding revenue requirements of local governments, due to a general rise in costs of providing public services, Marks said. These public services include such things as schools, roads, public welfare, and the like.

The general property tax, which includes taxes on farm real estate, is the primary source of revenue for local governments, Marks pointed out.

In contrast, gain in value of Oregon farm real estate during the year ending March 1, 1960, was about 5 percent. Thus, the 7 percent increase in tax levies

in the state pushed the tax-to-value relationship from 99 cents per \$100 value in 1958 to \$1.02 per acre in 1959, Marks said.

Oregon was one of 22 states over the nation in which the farm real estate tax levy last year increased 5 to 10 percent over the previous year. Ten other states showed less than a 5 percent increase in farm real estate taxes, and 12 states showed increases of 10 to 15 percent.

NOTICE OF ELECTION OF DIRECTOR OF BIG BEND IRRIGATION DISTRICT

Notice is hereby given that an election for the office of one director of the Big Bend Irrigation District in Malheur County, Oregon, for a term of three (3) years will be held within said District on November 8, 1960. The polling place for said election shall be the Big Bend School house, located 3 1/2 miles southeast of Adrian, Oregon, and the polls shall be opened at 8:00 a.m. on the day of election and shall be kept open until 5:00 p.m. when the polls shall be closed.

Nominations for such office may be made by petition, signed by at least ten (10) electors of the District or at an assembly of not less than twenty-five (25) electors. All nominations shall be filed with the Secretary of the District at least fifteen (15) days before the date of election. Nominating petition forms may be obtained from the Secretary of the District.

By Order of the Board Of Directors of the Big Bend Irrigation District
W. C. VAN DEWATER
Secretary.

Published Oct. 13 and 20, 1960.



Col. Bert Anderson

AUCTION SALES

—Conducted by—
Col. BERT ANDERSON
Ontario—TU 9-5501
Col. GUY SPARKS
Nyssa—FR 2-3475
Clerk Ron Christensen
Ontario—TU 9-8771



Col. Guy Sparks

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DAIRY DISPERSAL SALE

WEDNESDAY, OCT. 19, 1960, 1 p.m.—Located 8 miles east of New Plymouth on Emmett highway to Gem county line, then 1/2 mile south. TWO HERD SIREs. 11 REGISTERED JERSEY COWs. 12 GRADE COWs. FOUR JERSEY SPRINGER HEIFERS. Herd all vaccinated, tattooed and tested for TB and Bang's. Public invited to inspect before sale day. HERD ALL ON DHIA TEST; tester will be present. OLIVER NICCOLLS, Owner. Terms, cash. Lunch on grounds.

COMPLETE DISPERSAL AUCTION

THURSDAY, OCT. 20, 1960, 12 noon—Located 13 miles northwest of Vale on John Day highway to Road H, then 1/4 mile north. 30 DAIRY COWs. Entire herd is vaccinated and tattooed. 1950 FORD TRACTOR. ALLIS-CHALMERS ALL-CROP "60" COMBINE. Other farm equipment. 1946 DODGE TRUCK. MILKING EQUIPMENT. SHOP and HAND TOOLS. FURNITURE and APPLIANCES. 45 TONS BALED HAY. NELSON F. FIELD, Owner. Terms, cash. Lunch on grounds.

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SAVE OREGON Jobs and Payrolls

Don't be fooled by a fancy sounding ballot title! Ballot Measure 15 is NOT DESIGNED to protect scenery but rather to destroy vital jobs and payrolls . . . to cripple Oregon's \$176,000,000 tourist industry. It will authorize the state to build government-owned billboards with your tax money. Protect your pocketbook.

VOTE NO ON 15 UNFAIR BILLBOARD MEASURE

M. Adm. Council on Highway Regulation, Ralph T. Holapple, Ch., 2727 S.W. Upper Dr., Portland, Ore. Campaign Bldg.: 1227 S.W. 15th Ave., Portland