

Johnson Explains Fertility Tests; Announces Plans

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Bulletin Staff Writer

REDMOND — The man who started the experimental program for the tri-county area here nine years ago is going to take two years' time out for advanced study, seeking principally new and improved crops suitable for raising in Central Oregon.

Malcolm Johnson, who earned his BS degree in agriculture technology and his MS in farm crops at Oregon State College, will leave with his family the first of September for Purdue University in Lafayette, Ind.

There Johnson will enroll in the school of agronomy, to major in crop ecology — the study of crop plants in relation to their environment. Johnson will have one year sabbatical leave. He plans to continue during the second year on his own time to write his thesis and work for a doctorate. His family includes his wife Jean and their sons, Earle, 9, and Philip, 10.

When Johnson set up an experimental program, under the county courts of Deschutes, Crook and Jefferson, and began working with the extension service and area farmers, this became the 13th branch station in Oregon under the state Department of Agriculture.

Potato trials through the years have been particularly important, Johnson feels, because of the progress made in fertility studies. He has also maintained grain nurseries, pasture, alfalfa and clover fertility trials. The last was discontinued, however, as too many factors other than fertilization affected crop yields.

Proper Fertilizers Pay Threelfold. Pasture trials have shown that the grass in Central Oregon pastures does not grow much during hot weather, in spite of irrigation, a problem that will continue to receive study.

Experiments have shown generally, Johnson says, that a hundred pounds of nitrogen per acre in potato fields gives best results with application also of phosphate, potash and sulphur.

Generally, an application of 100 pounds of nitrogen, 75 of phosphate, 75 of potash and from 75 to 100 pounds of sulphur per acre will return to the farmer about \$3 for every \$1 he spends for fertilizer, Johnson has found.

Determining the proper amounts of these nutrients needed for various crops in various soils under various moisture conditions entails endless trials, and evaluation of results.

Quoting Johnson, "Under Central Oregon conditions, phosphates are concentrated in the top eight inches of the soil. When alfalfa, which is a deep rooted plant, is grown under this condition it is necessary to keep the top soil moist continually in order to supply the alfalfa with phosphate. Consequently, excessive water is used and soil moisture conditions are more favorable for the encroachment of blue grass.

Tries Deep Phosphate Placement. "Experiments have been established to determine if the deep placement of phosphate can be used to cut down the use of irrigation water and also slow down the encroachment of blue grass and other weeds in alfalfa stands. In this experiment, phosphate fertilizers were placed between 12 and 16 inches deep with a fertilizer placement machine built by the Klamath Branch Experiment station."

In fertility trials Johnson has found that grain planted in a field that had grain the year before needs 60 to 80 pounds of nitrogen, grain following potatoes needs about 40 pounds, but grain following a field where legumes has been plowed under needs none. Grain responds to phosphate when the soil test values for phosphate are low.



INSPECTS GRASS — Malcolm Johnson, Central Oregon agricultural experiment agent, inspects handful of alfalfa and orchard grass.

"In establishing the locations for experiments," said Johnson, many things are taken into consideration, i. e., the type of experiment to be established, the method of irrigation on the farm, the soil type, the slope of the land, the general level of fertility desired, frequency of frost in the area, elevation, and last but not least, the farmer himself.

Fertility Trials Explained

"When a fertility trial is to be established, the soil in the proposed trial area is thoroughly sampled and the analysis is determined by the Soil Testing laboratory of Oregon State college. If the soil test is in the range desired for the experiment, the area is staked and the trial is established. The Experimental Area furnishes and applies the fertilizer, takes pertinent notes, harvests the yield samples, while the farmer carries out the remainder of the cultural practices."

Early on summer mornings and late in the evenings Johnson is in the fields from LaPine to Agency Plains, from Sisters to Prineville, checking on trials.

Patience and the scientist's endless search for the answers characterize Johnson's work. He says he has found tri-county farmers for the most part very cooperative. When he came, he says, he was told he might expect about 50 per cent successful trials, but he has found the response much higher.

Samples of alfalfa are cut, weighed, dried, weighed again and sent to OSC laboratories for further testing. Grains are harvested, cleaned, tested; potatoes are dug. In the experimental warehouse near Redmond Johnson has facilities for drying, packaging, weighing products, cleaning seeds. He keeps extensive records and charts. During the "long winter" (from about December to Febru-

ary) he tallies up the findings made in the fields.

New Oat Variety Promising

This spring announcement was released regarding "Centore", a promising new oat variety, which had been under test in Central Oregon field trials the past seven years. Many area farmers grew plots of this variety which "is the answer to a long search for an oat variety that would yield a good grain crop without excessive straw growth," Johnson named the variety of course for the area.

So the deep-tanned man who was born in Portland, raised on Tualatin Valley farms, and wanted to do this kind of experimental work "as long as I can remember," hopes to come back to Central Oregon in two years with knowledge of new and better crops for this region.

Besides his work Johnson has found time to be active in Cub scout and Little League baseball activities, and as a member of Redmond Lions club helped extensively with exploration and improvement projects around Redmond caves. When he can find time, he goes fishing.

On July 1, Bob Callahan, an OSC student studying for his MS degree, was assigned to the Central Oregon experiment station on a part-time basis. He will work here six months of the year and study at the college the other half year. He is from Idaho.

Frank T. Redmond settled in Central Oregon in 1905. Transients stopped at his home. His name was used for that of the present town, established August 29, 1906, as a post office.

Cropland in Deschutes county decreased from 62,698 acres in 1939 to 48,515 in 1954, but there were 800 more acres harvested in 1954.



CLIPS TEST STRIP — Johnson uses a small hand mower to clip a test strip on a pasture trial plot at the Orval Buckner ranch.

Prineville Is Named After 1868 Pioneer

PRINEVILLE — A blacksmith shop, with iron obtained from fragments of an abandoned immigrant wagon, a saloon, with the stock consisting of a little whisky and a case of Hostetters Bitters and a general store equipped with \$80 worth of supplies was the beginning of a settlement which later became Prineville.

Blacksmith, innkeeper and store proprietor was Barney Prine, who with his wife Elizabeth located here in 1868. According to the "History of Central Oregon", Prine is also credited with conducting the first poker game to be played in Prineville. He and a compadre undertook to "teach" the niceties of the game to a pair of Indians and as a result were cleaned out of money, various items of personal property and two barrels of apples by their pupils.

Soon after Prine and his wife located here, they were joined by the Hodges, Vanderpools, Gullifords, Allens and W. G. Pickett, all of whom built houses and settled down to stay. Monroe Hodges bought a cabin and squatter's rights on a site now occupied by the town's business district. The purchase price was \$25 and a pack pony. Hodges then filed a homestead claim on the cabin and surrounding 80 acres and platted the town.

Prineville, an agricultural and livestock area, Prineville remained a small but lusty community, whose history is highlighted by a cattlemen - sheepmen range war and two disastrous fires, until

SPARE TIME FARMERS

Part time farms in Deschutes county numbered 199 at the latest U. S. count. These are farms with products sold ranging from \$250 to \$1,199 annually. They are owned or operated by men either working more than 100 days off the farm or having income exceeding that of farm products sold.

about 20 years ago when the lumbering industry entered the picture.

Lumber, together with cattle and farming industries, has gradually raised the population of Prineville to 4000 within the city limits and an additional 4000 in the fringe area.



SEED CLEANER — Johnson uses a seed cleaner developed by Orville Vogel of Washington State college in lab near Redmond.

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