

OSU Work To Create Grain Farming Changes

Grain farmers aren't selling off their tillage equipment yet, but the time may not be far off when the rod weeder, plow and springtooth will follow the stationary threshing machine and wooden harrow to the junkpile.

Scientists are nearing the breakthroughs in chemicals and planting equipment they need to make the concept of minimum tillage or chemical fallow a wide-spread reality instead of the supplemental practice it is at present.

The problem in Oregon falls into two categories. The search for a broad spectrum chemical for the summer fallow areas of eastern Oregon, and the need for new planting equipment for establishing a seedbed in western Oregon.

Dr. William R. Furtick, Oregon State University agronomist, feels that researchers are close to finding answers for both areas.

The OSU Agricultural Experiment Station has been conducting tests since 1960 to explore the feasibility of minimum tillage in cereal production.

The major problem in eastern Oregon has been control of cheatgrass in the stubble mulch tillage which is being practiced in the Columbia Basin to prevent wind and water erosion. Mold board plowing, which has been an effective control for cheatgrass, is undesirable from a conservation standpoint, according to Dr. Furtick.

OSU herbicide screening trials have been directed at finding a broad spectrum chemical that would replace the eight or more tillage operations necessary to bring the winter weed growth and germinating spring annual weeds under control to create a weed-free fallow during the non-crop year. Furtick said the most effective control so far has been accomplished with chemical combinations including light rates of amitrone and atrazine.

Three systems have been tested for comparison since 1961.

One is a total chemical fallow in which the land was kept completely free of weeds with chemicals from after harvest until seeding about a year later.

Another was a combination of chemical and mechanical oper-

ations in which weeds were controlled by winter application of herbicide and a minimum of tillage was used to control weeds during the summer. The crop was seeded in both cases by drilling the seed directly into the stubble of the previous crop.

Furtick said that the two systems, compared with conventional mechanical tillage over a six-year period, produced no significant differences in wheat yield for any of the three systems. There were lower yields with chemical in 1961 and 1962, higher yields in 1964 and 1966, and no difference in the other two years.

In western Oregon, the problem is not so much finding the right chemical combination, but developing drilling equipment and combating slugs and insects that overwinter in the straw.

Grass seed growers already have turned to chemical seedbed preparation in order to get a weed-free seed crop the first year to meet exacting demands of seed contracts.

Treatments developed by Dr. Orvid Lee, USDA agronomist stationed at OSU, not only control weeds better than mechanical tillage, but higher yields pay for the chemical costs in most cases. Chemicals used include Paraquat, diaquat, amitrone, dalapon and IPC.

Now OSU scientists are attempting ways to apply this practice to winter and spring cereal grains.

There has been a serious problem in the spring barley industry of yellow dwarf virus disease. This causes serious yield reduction when the aphid transmitted virus infects the plant during the small seedling stage.

The cure is to plant early so the grain is out of the seedling stage before the build-up of aphids occurs, but wet spring conditions usually prevent farmers from getting equipment on the fields early enough to accomplish this.

By using chemicals, such as paraquat, to kill the weeds in the fall, researchers were able to seed malting barley plots on March 15 last year, compared to April 12 for the mechanically prepared seedbed. The yield for the chemical plots was 48 per cent greater.

Spuds Pose OSU Study

How to produce more and better potatoes, and what to do with them after they've been raised, will be the main interests of two groups that will meet at Oregon State University in late July.

Members of the Potato Association of America will hold their 52nd annual meeting on campus July 29-31. The 18th annual Potato Utilization Conference will begin July 31 and continue through Aug. 2.

The two groups will get together July 30 in a joint session sponsored by the More-Rane Manufacturing Co., Corvallis; The R. H. Pierce Manufacturing Co., Eugene; R. M. Wade Co., Portland; and Oregon State University.

Members of the Potato Association of America will register in the Food Technology Building July 28 and 29. The program will begin July 29 with an official welcome from Wilbur T. Cooney, dean of the OSU School of Agriculture, and a business meeting. The rest of the program will consist of technical papers on such topics as genetics, chemicals and other factors and their effects upon potato production.

Those attending the Potato Utilization Conference will register on July 31 between 8 and 9 a.m. The program will get underway with introductory and welcoming remarks by M. J. Copley, Director, Western Utilization Research and Development Division, U.S. Department of Agriculture, Albany, Calif.; and Dean Cooney. The rest of the conference will consist of presentation of papers on factors affecting potato processing.

A salmon bake will be sponsored July 31 for both groups by the Oregon Potato Commission.

Dr. Furtick said the quality of the grain, which is important in growing malting barley, was higher for the chemical plots. The late-seeded barley produced 34 per cent thins, which are below acceptable quality, during the dry 1967 summer, while the chemical seedbed had only 17 per cent thins.

One of the biggest hurdles is drilling equipment. Conventional seeders leave an open trough when drilling is done on wet, untilled land. Birds have a field day with the seed and raised havoc with experimental plots until last year. Slugs also cause a problem when the straw is left on top of the ground. Where it was burned off following harvest, slugs were no longer a problem.

British scientists, who have also been experimenting with non-tillage, have designed drills to overcome the problem of seeding directly into untilled soil. OSU researchers plan to test some of these drills this year. One drill, for example, has a fluted coupler which prepares a one-inch wide seedbed ahead of the seed.

The British also found that direct drilling reduced foot rot diseases, which contradicted the opinion that the buildup of straw would promote this type of disease.

Dr. Furtick said OSU research will be directed at establishing commercially acceptable programs for direct seeding of winter and spring grains in western Oregon and winter wheat in eastern Oregon.

"I think we are very close," he said. "We have some chemicals that look good for the eastern part of the state and I think we can solve the bird, slug and equipment problems on the west side, with a little luck."



Salem Scene

By Everett E. Cutter

Current speculation here on the difficulties of government budgeting for two-year periods and on allocation of state surplus funds -- if any -- again points up the strain Oregon's tax structure has withstood over the years.

While dollar amounts in state and local spending have almost doubled in the last decade, the tax structure itself has remained virtually unchanged. This situation raises serious questions about taxation inequities, which grow wider as budgets grow larger, and about keeping public spending in line with the taxpayers' ability to pay.

These questions, in turn, are largely responsible for initiative petition movements seeking tax reform and for problems with which the 1969 legislature will have to deal. They are, in essence, going to be the same problems which stymied lawmakers in regular and special sessions last year.

Each year Oregonians reach a new high in the cost of government. In 1967, citizens paid close to 1.97 billion dollars in total taxes -- an amount representing about one-third of personal income, or about \$1,000 for every man, woman and child. Less than half, surprisingly enough, goes to the federal government.

Property taxes, upon which local tax systems in Oregon are based almost entirely, grew from \$176,731,000 in 1957 to \$335,505,000 in 1967. The increase, after direct property tax relief, represents an 87 per cent climb in the ten year period.

Some two-thirds of this local tax revenue goes to schools. Education also gets the largest share of the state's general fund budget. State aid, now 155.2 million dollars per biennium, is in part property tax relief, for it provides money which otherwise would have to be raised by local taxing units.

Oregon levies no state property tax. Revenue for the general fund is raised primarily from state income taxes, corporation income and excise taxes, liquor and inheritance taxes. This budget has grown 100 per cent from 1957 to 1967, from \$272 million to nearly \$573 million.

In short, the increase in the cost of combined state and local government, including education, has risen 83 per cent in ten years. In the same time period, Oregon's population has grown only 15 per cent, and the taxpayers' personal income is up only 68 per cent.

Oregonians of course enjoy more state and local services, plus enviable education standards. But when the cost of gov-

Tourism Is Big Business

Oregon has become a mecca for vacationing motorists. In 1967, an estimated 2,502,700 out-of-state vehicles, containing 7,083,000 persons who spent more than \$190 million, toured our highways and byways, according to the Travel Information Division, State Highway Department. The agency anticipates a far greater influx this summer.

"I would hope that all Oregonians will welcome our visitors by displaying an extra measure of driver-courtesy and consideration," Howard Eddy, Executive Secretary of the Oregon Traffic Safety Commission, said today.

"A fellow in the midst of unfamiliar territory needs a friend . . . not the blast of a horn or a dirty look," Eddy added.

The safety official urged Oregon drivers to establish the habit of spotting out-of-state license plates and to be sympathetic to the visitors' problems, including:

- 1 - Occasional necessity of slowing down to interpret road signs.
 - 2 - A possible sudden stop, wrong turn or quick change of mind.
 - 3 - Preoccupation with the scenery.
- "We can cut our accident rate, avoid injuries and save lives," Eddy concluded, "if we bear in mind the unfortunate fact that many traffic laws are not nationally uniform. What's accepted in Alabama could be out-of-bounds in Oregon!" A little common sense and an extra dash of courtesy could save your life.

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Pressure Spray Cans Rated Very Perilous

That push-button action of aerosol or pressure spray cans has great fascination to youngsters.

And, there is danger of their using these cans as play weapons, perhaps as a substitute for the water pistols.

The cans themselves, because of the pressure, if not handled properly, can be very dangerous, but the contents of some of these cans make them deadly weapons, warns Virgil Hiatt, chief chemist of the Oregon Department of Agriculture.

Several agricultural chemicals now come in such containers for home use and in most cases the contents are potential poison, says Hiatt. His advice is to teach children all aerosol or pressure spray cans can be dangerous to avoid any fatal accidents.

In fact, he points out that no matter what their contents these cans need to be handled with care because of the danger of their exploding. Hiatt recalls that a nationally distributed media carried the story of a child blinded by fragments from an exploding can of pressurized paint left in a parked auto during hot weather and exploded because of the high temperature.

So many things that children commonly use, such as toothpaste and hair spray, come in aerosol or pressure spray cans now that it is natural children would not think of their being dangerous and this makes it even more important that adults stress their danger to youngsters, Hiatt said.

He had these suggestions for care of aerosol containers and their use to prevent accidents: Keep those with dangerous materials well out of reach of children.

Don't leave aerosol or pressure spray cans exposed to the sun or stored in a hot place.

Never toss empty cans into the fire -- they become a bomb under heat. Place them in the garbage to be taken away by the sanitary services.

Never allow children to ever use aerosol dispensers as play weapons.

"This Is Your Land" Theme Adopted By BLM To Protect And Clean-Up Public Lands

"This is your land" is the theme of a new and intensive campaign being conducted by the Bureau of Land Management to clean up public lands and protect their natural beauty. Symbolizing the campaign is a lean, square-jawed outdoorsman called Johnny Horizon whose picture will appear on litter bags and leaflets which will be available to the public at BLM offices and other agencies throughout the state.

The Johnny Horizon cleanup effort will focus primarily on the 450 million acres administered by BLM in the west and Alaska -- including the 12 million in Idaho, according to State Director Joe T. Fallini, but other government agencies as well as private individuals and groups are urged to participate.

The use of public lands for all kinds of outdoor recreation continues to increase rapidly, and the cleanup of careless littering costs millions of dollars annually, said Fallini. In Idaho alone the estimated annual cost of cleanup of unauthorized dumpgrounds on public domain is estimated at \$150,000. An additional \$60,000 will be needed to remove litter from approximately 350 undeveloped recreational sites. District offices estimate that cleanup of nearly 2000 miles of BLM roads and truck trails will be needed in the 1968-69 fiscal year, and will cost about \$40,000. More than 500 tons of litter and junk

needs removal from unauthorized dumps, undeveloped sites and roadsides. The Johnny Horizon litter cleanup campaign is a concentrated effort to make the people aware of the extent of the litter problem, and enlist their aid in cleaning up lands which belong to all Americans. BLM has

worked closely with the national officials to Keep America Beautiful, Inc., the private antilitter organization. They have given high praise to the campaign and agree that this effort is sorely needed on public lands, according to Boyd L. Rasmussen, Director of BLM.

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