



# OREGON'S SEED INDUSTRY: ON A CLEAR DAY

Where there's smoke, there's fire. Only in Oregon the converse is true. Citizens in this grass seed capital of the world have built a fire under the state legislature and passed a bill which would literally and figuratively "clear the air." The result several years from now, according to the Oregon Seed Council, could be the decline of the grass seed industry in Oregon, resulting in low quality turfgrass seed; or abundant yields of even higher quality seed at a slightly higher cost to the superintendent.

The legislation enacted by Oregon halts all open field burning by January 1, 1975. Open field burning is a procedure used by almost 2,000 grass seed growers, centered mainly in Oregon's Willamette Valley, to destroy the residue, straw, after the various grass seeds have been harvested. This half-century practice has afforded thousands of superintendents throughout the world an opportunity to maintain the finest and lushest golf courses through high quality turfgrass seed.

A result of open field burning has been smoke concentrations so dense that a freeway connecting Oregon with California has had to be closed, and Oregon's second largest airport, located in Eugene, 90 miles away from the burnings, has had to be shut down. More important, however, was the general public irritation over the smelly, ugly and dangerous pallor of smoke which had hung over this agricultural state during late summer.

The Oregon Seed Council, which is composed of orchard grass, bentgrass, fescue, ryegrass and bluegrass growers, realized that time was running out on how much the public would stand.

Public pressure came in the form of the infamous "Black Tuesday." August 12, 1969, can be looked upon as the culmination of years of complacency on the part of growers and the frayed nerves of the public. On that day, over 45,000 acres were being burned. In the morning the conditions for burning seemed

ideal. Then the wind shifted and an inversion layer trapped the smoke over Eugene, Oregon's second largest city. Visibility was reduced to two blocks.

"The Oregon Department of Environmental Quality (DEQ) had over 6,000 complaints on field burnings in 1969," says Scott Lamb, president of Agricultural Commod-

**The grass seed industry in Oregon faces impending danger if some of its problems cannot be solved by 1975. At best, superintendents may be faced with higher seed costs. At worst, the state's grass seed industry could be plowed under by the very legislation they have supported**

**by JERRY A. OLSON**

ASSOCIATE EDITOR

ity Promotions, public relations coordinator for the Oregon Seed Council. "Ninety-five per cent of those complaints were the result of Black Tuesday."

Instead of being placed on the defensive and have disastrous legislation imposed upon them, the grass seed industry launched a many-pronged attack toward correcting the problems within their industry by taxing themselves and supporting legislation that could ultimately lead to their downfall.

Their first progressive step in taking the offensive was an internal examination of the industry itself. Although the industry had been attempting to solve its smoke problem, there had been no great incentive or pressure exerted upon them to make any changes.

A series of breakfasts with Oregon lawmakers, showing slides of what the Oregon Seed Council proposed to do to solve its field burning problems, was well-received by legislators. "Instead of saying 'you politicians can't tell us what to do,'" Lamb says. "We said we want you to assess us so we can find the

solution." The growers also compromised on a timetable to completely end open field burning. Many legislators and the public were shooting for a deadline of mid-summer 1973. This was not feasible, so, because of the breakfasts, the date was moved to January 1, 1975. In the meantime a smoke control and field burning program was instituted by the Oregon Seed Council.

To top off the offensive, the seed growers asked the legislature for an additional tax on themselves so they could accomplish their objectives and find a solution to open field burning. In a state with already exorbitant property taxes, the growers supported a special field burning tax. Each seed grower paid 50 cents an acre to burn his field. This gave him a fire permit to burn at regulated, selected times. Of the 50 cents tax, 5 cents went to smoke control operations and overhead, 10 cents went to the local fire districts that had to marshal the burning, and the remaining 35 cents went into a special fund to develop, purchase and demonstrate a mobile field burner.

Open field burning accomplishes three purposes in the seed cycle.

□ It sterilizes or sanitizes the ground killing airborne diseases, such as the blind seed disease.

□ It gets rid of waste straw and weeds.

□ It gives the plant a physiological shock enabling it to fight back and recover without mutation, thereby increasing the quality and yield of the seed crop.

If in actuality solutions to open field burning are not found by 1975, several adverse effects could occur. Yields would be decreased because of blind seed disease, which is nature's way of weeding out the weaker plants. Because the seed industry is composed mainly of small growers with small margins of profit, the number of growers could be drastically reduced. It is estimated that up to 50 per cent of the current yield in grass seed could be eliminated within the first year.

The legislature appointed a five-man committee to develop and administer the funds for the mo-

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*An example of the result of open field burning before the industry took steps to clean up its problems.*



## OREGON *continued*

mobile field burner and to work on legislation. Members included a representative from Governor McCall's office, a representative from Oregon's Department of Environmental Quality, two seed growers and a member of Oregon State University's Engineering Department. They were charged with certifying a workable field burner. Blueprints of the incinerator developed by OSU were made available to companies, and OSU engineers pledged complete cooperation in working with any company wishing to build a mobile field burner.

Oregon's solution lies in the development of the mechanical burner, called a mobile field sanitizer. This device would control air emissions and still sanitize the surface of the ground from weeds, disease and insects. The mobile combustion burning machine would burn up the straw residue at approximately 3,000 degrees inside of its body and would not pollute the atmosphere.

"The tax monies paid by the growers for the field burner did not go for research," Lamb says. "We knew we would be inundated by inventors with 'secret plans' and 'sure-fire' ideas. We needed a prototype burner, not ideas," Lamb emphasizes. "Consequently, we offered to pay for the cost and development of any prototype field burner after it was demonstrated to us that it would work. It has to meet the specifications of the DEQ and OSU. This narrowed down the field considerably," Lamb says. "Although a final mobile burner has not yet been developed, we hope to have one in testing by this coming summer."

What happens if several com-

*An experimental mobile burner is tested in a grass seed field (left photo). An Oregon seed grower is dwarfed by the amount of baled straw residue (350 tons) produced from 100 acres of Manhattan ryegrass (right photo).*

panies come up with a workable and acceptable field burner?

"We'll work with all groups," Lamb says. "After all, they did take the incentive and risk." Over \$80,000 is currently in the pot for payment of field burner prototypes. Lamb estimates it will take 200 such mobile burners for the Willamette Valley alone. Cost of development is estimated at between \$10,000 and \$14,000. Assembly-line production should stabilize the cost of the machine to growers at, hopefully, \$12,000.

Does this mean the consumer (superintendent) will bear the cost of purchases of the machines?

"It's much too early to tell just yet," Lamb says. "Undoubtedly, some of the costs will have to be passed on. However, one of the advantages of these mobile field burners over open field burning is greater uniformity of burn, thus greatly increasing the yield of the seed crop. This should keep any cost increases reasonable," Lamb says. "Certain grasses burn at different temperatures," Lamb says. "By having a uniform burn at the proper temperature one is assured of no damage to the crowns. Some seed crops, such as perennial grasses, must be replanted because they are burned out."

Another advantage of the mobile burner over open field burning is safety. Currently, seed growers touch off their fields with propane torches and any shifts of wind can

send the fire and smoke in directions not necessarily planned. There have been a number of accidents involving field burning because of the many and unpredictable variables.

It currently costs seed growers between 50 cents and \$1 to burn an acre after the seed is harvested. The mobile burner would raise the cost to approximately \$10 an acre. Time is also a disadvantage of the mobile burner. Open field or slash burning takes about 15 minutes for a 50-acre field. A mechanical burner covers about 2 1/2 acres an hour.

Until the field burner is perfected, growers must still rely on open field burning, but the Oregon Seed Council has taken steps to prevent another Black Tuesday. Operation Sky Watch was initiated (also paid for by the burning tax) to coordinate burning in the Willamette Valley. Seed grower Bill Roses' Cessna many mornings during the burning season dutifully carries him, Lamb and DEQ meteorologist Bruce Snyder aloft to check on conditions and authorize burnings. Now, only a certain number of acres per section of a fire district are allowed to burn at a given time—50 acres in the north and 1,200 acres in the south. The plane is in continual communications with fire districts and growers via walkie-talkies. Each grower is allowed a quota for burning.

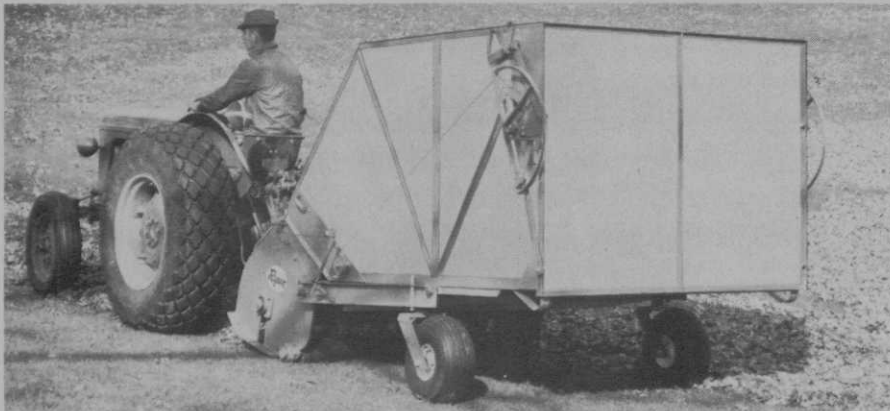
One of the problems has been the lack of knowledge about smoke dissipation. It was originally believed that a windy day was the best day to burn because then the smoke blew away. This was not only dangerous from a burning standpoint, but actually caused the smoke to travel closer to the ground. Next, it was concluded that a quiet day was

*continued on page 76*





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## OREGON from page 75

best. However, inversion layers coupled with pulp, paper and mineral emissions trapped the smoke for days over the valley. "We finally found that a combination of these conditions, plus checking humidity, provided us with the knowledge needed on smoke dissipation. We still make mistakes," Lamb laughs. "Occasionally the wind shifts and we push the panic button and have to cancel all burning, but we have done a much better job."

The complaints seem to indicate this. From the 6,000 complaints in 1969, Operation Sky Watch has lowered the figure to 1,700 in 1970. Last year the figure was reduced to 600.

Oregon's claim as seed capital of the world cannot be disputed. The climate makes the Willamette Valley area currently the only spot in the United States with the ideal conditions needed for maximum seed quality and production. The climate is wet, but not severely cold and the grass seed grows during the winter. The valley has long, dry summers which enable the seed to ripen and grow, and the lack of rain prevents the maturing seed from mildewing and being ruined. The record speaks for itself:

□ Annual ryegrass: Over 87,000 acres, virtually 100 per cent clean seed amounting to 111,693,000 pounds of clean seed a year.

□ Perennial ryegrass: Approximately 47,000 acres amounting to 47,000,000 pounds of clean seed which is essentially 100 per cent of the total produced in the United States.

□ Bentgrass: Oregon produces over 99 per cent of the United States' bentgrass seed amounting to over 273,000 acres and 7,108,000 pounds.

□ Red fescue: Over 90 per cent of the nation's red fescue is produced over 12,400 acres. This is approximately 5,484,000 pounds of clean seed a year.

□ Chewings fescue: Oregon produces essentially 100 per cent of all chewings fescue in the United States over 19,600 acres. This amounts to 7,884,000 pounds of clean seed a year.

□ Tall fescue: Oregon produces

over 15 per cent of the nation's tall fescue, over 12,200 acres for 7,438,000 pounds a year.

☐ Merion Kentucky bluegrass: Over 40 per cent of the United States' production which is 1,682,000 pounds over 5,770 acres.

The land this seed is grown on is not conducive to any other agricultural crop, so would idle or be sold for real estate speculation if it went out of production.

Burning begins with the orchard grasses in late June and continues into September with the bent-grasses.

After the field is burned in the summer, the annual grass seed is planted in the fall. Strangely enough, the seed is not broadcasted as in turfgrass planting, but planted in rows. This allows the perennial grass to spread out as it matures until the field is closed sod.

The plants are fertilized in the spring. A spinoff \$3 million industry is the fattening of sheep. For ryegrasses, sheep are brought into the pasture in the winter and eat the grass stalks. This causes the plant to shoot out from the bottom greatly increasing the yields.

In the summer, the crops are combined or harvested.

After it is combined, the seed is taken to approximately 200 cleaning plants, most of them owned by the growers, where the seed is clipped and cleaned. The seeds are strained through a screen many times, "weeding" out weeds, dirt and other debris.

The next procedure revolves around certification. Oregon has one of the toughest certification requirements in the nation. These are set standards by which growers have to furnish the highest quality of seeds. Pure seed can contain no other crop or weed such as barley or mustard. The seed certification department at OSU sets the standards. After the seed is cleaned, a county agent takes a sample from a certain number of bags of seed in every lot. This is sent to OSU where it is analyzed for purity. The blue tag is applied only by county agents, not the growers, after the analysis proves nearly 100 per cent purity. For grass seed being shipped overseas, the Department of Agriculture must test bags from each lot.

*continued on page 78*

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## OREGON from page 77

Anybody want to buy one million tons of straw?

This is the second problem facing the seed growers. The greatest residue comes from straw after the combining. It cannot be left on the surface, because it breeds disease and mildew and would ruin future grass seed crops. It could be collected and the stubble burned, but what do you do with one million tons of straw. One grower baled the straw residue of 100 acres of Manhattan ryegrass. For 100 acres, he had three stacks, each 16 feet wide, 15 feet high and 180 feet long. There were over 3 1/2 tons of straw to an acre. It is estimated that to bale all of the straw residue from grass seed each year would produce a stack 15 feet high, 16 feet wide and 250 miles long. If they could find uses for the straw, the situation would ease. Because straw is a fibrous tissue, it can be used in making paper, but the timber industry in Oregon has enough pulp and lumber to fill the demand for paper and cardboard. Straw can also be used as a protein yeast, but the livestock industry in Oregon has that market cornered. Japan is interested in the straw, but shipping is a problem. Attempts to cube it or pellet it have run aground because the great amount of silicone in straw does not allow it to compress.

The positive attitude of the seed industry in squaring off against the problem emphasizes the proper way to solve problems. But, the seed council and Lamb's job of selling the public is not easy.

"Unfortunately we receive a lot of credit whenever there's smoke in the air. It may come from mining or paper industries along the Willamette River, but we're always to blame. An example was one day last summer when the DEQ forbade grass seed growers to burn. During the day smoke drifted through the valley and hung like a blanket over the area. Operation Sky Watch found the culprit, logging interests slash burning 50 miles away and the smoke being funneled by winds through the valley." Lamb got on the phone and called the radio and TV stations explaining the innocence of the seed growers, but they were already playing "Smoke Gets in Your Eyes." □



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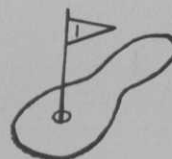


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