South Valley Wheat Meetings
September 24, 1992

Alternative Weed Control Programs
Bill Brewster, OSU Crop Scientist
Update on Take-All Management
Neil Christensen
Performance of Gene and Other New Wheat Varieties on South Valley Soils
Russ Kowar
Economic Return of Mixed vs. Single Varieties
Mark Mellybe
Protein Testing Program
South Valley Wheat League

Wheat Growers Meet Sept. 24

Two production meetings for south valley wheat growers are planned for September 24. The first is at the Festival Hall in Junction City, 7:30 a.m. The second is at the Extension Office in Albany at 7:00 p.m. The same program is offered at each location.

These educational meetings are sponsored by OSU Extension in Linn, Benton and Lane counties, and the South Valley Wheat League. The program features weed control, take-all management, new variety results and protein testing.

The focus of the fall program will be alternative weed control programs. OSU agronomist Bill Brewster, working under Arnold Appleby's program, has a wealth of information to share with us. Control of broom, Hoelton resistant ryegrass and wild oats, speedwell and bedstraw will be featured.

The South Valley Wheat League will review the protein testing program. This is a marketing opportunity for producers. Protein testing is also a way to check your resistant ryegrass and wild oats, speedwell and bedstraw maximum yields.

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Opinions vary on surface liming of established grass seed fields. Some farmers and agricultural scientists question the practice, but others believe it's beneficial on acid soils. Farmer testimonials have been positive, but field trials have been inconclusive.

To help shed a little more light on this management option, I've presented some soil test data here on a field that was surface limed in 1986. The soil is a Dayton silty clay loam. Samples were taken one and six years after application of about one and one-half ton of lime. This project was conducted in cooperation with Cenex Full Circle. We wanted to find out how deep the lime reached, and how much it affected soil pH and calcium in the root zone. We also wanted to see how long it lasted.

The results are presented in Table 1. As you look at these numbers, recall that we'd like to see the soil pH above 5.0 and the soil test calcium at least 5.0 meg/100g. Ideally, we'd like to keep the soil pH at 5.5 or higher.

Here's some observations I've made from this investigation.

- **How deep did it leach?** Most of the lime could be accounted for in the first half inch of soil. There was some movement into the 1/2 to 1 inch zone, but none below 1 inch.

- **How much did it affect soil pH and calcium in the root zone?** These results remind us that lime is not mobile in the surface layer of the soil, especially the first 1/4 inch. Root growth in this surface layer looked very good. One year after application, the soil pH was raised to above 6 and Ca levels in the surface inch of our soil in Table 1 declined quite a bit. But they were still both above five. Without surface liming, the pH and Ca in the surface layer would have dropped into the fours similar to the 1 to 2 inch depth. Thus, surface liming on this field helped maintain a favorable chemical environment in the upper root zone over six years.

- **How long did it last?** This third and final observation is, I believe, an important one. To appreciate it, though, recall that the rate of acidification in Western Oregon grass seed fields is, I believe, an important one. To appreciate it, though, recall that the rate of acidification in Western Oregon grass seed fields is equivalent to over 600 pounds of lime per acre each year. Leaching, nitrification, and to some degree removal of basic cations in straw all contribute to the process.

- **After six years of marinating in this acid bath, the pH and Ca levels in the surface inch of our soil in Table 1 declined quite a bit. But they were still both above five. Without surface liming, the pH and Ca in the surface layer would have dropped into the fours similar to the 1 to 2 inch depth. Thus, surface liming on this field helped maintain a favorable chemical environment in the upper root zone over six years.**

- **This brings us to some closing comments.** Acidification lowers the pH and Ca over time in established grass seed fields, especially in the surface 2 inches. We've shown that applying lime to the surface can help slow this process down, but mostly in the surface 1/2 inch. Still, this may be beneficial for the stands.

- **Neutralizing acidity in the surface layer of already strongly acid soil could promote better root growth and possibly better P and K fertilizer uptake from the soil surface. The activity of soil residual herbicides like Senor could also be improved by maintaining a higher pH.**

- **But surface liming will not help on ground that has slipped into the "critical zone" of excess soil acidity. Liming should always be looked at as a preventative program, not a rescue attempt. Severe soil acidity should be corrected by a conventional liming program; that is, working it into the soil.**

**Table 1. Effect of Surface Liming on Soil pH and Calcium on an Established Tall Fescue Seed Field.**

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**Private Applicator Exams Scheduled**

We've scheduled two private applicator exams for Linn and Benton counties. One is on September 29, LaSells Stewart Center, Corvallis, 7 - 9 p.m. The second is October 27, LaSells County Extension Office, Albany, review at 1 p.m., exam at 2:30 p.m.

Please contact the Oregon Department of Agriculture (ODA) at 374-3796 to reserve a spot at either of these sessions. There is no charge for the exam. Please contact the Extension Office for study materials.

Exams are also given every Thursday at the ODA in Salem.

**Watch Carbon Planting On Fallowed Ground**

Last fall some carbon band seeded fields germinated surprisingly fast on summer fallowed ground. While the surface appeared too dry to put on diuron and too dusty to spray remaining weeds, there was enough moisture to sprout the crop. Delaying the herbicide treatments in these cases was a problem.

Again this summer it's been hot and dry, but there's more moisture than you'd guess on fallowed fields. If you're considering getting your herbicide on before the crop sprouts.**