

### South Wasco County Exploratory Experiments

The recent irrigation development in south Wasco county has improved the water supply for the Maupin area sufficiently that the farmers in that area have assurance of a more plentiful supply. The increased supply, however, has brought about higher water charges and the farmers are finding it necessary to look for more profitable crops. The area has a sufficiently long growing season that the farmers have a range of choices as far as environment is concerned but are limited by economic factors, such as the distance to prospective markets.

The research in that area in 1962 was directed toward a program which would provide the farmers with information on better varieties and fertility programs on the crops they are now growing and which are of proven adaptation, and to explore the possibilities of new crops for that area.

An alfalfa varietal nursery was established on the farm of Robert Larsell in the Maupin area. An excellent stand was obtained, however, there appeared to be a heavy stand of weedy grasses in one portion of the nursery. The seeding was made May 18, 1962 and a soil sample taken at that time.

#### Soil Analysis - Robert Larsell Farm 1962

Soil Depth Inches	Soil pH	P Pd./A.	K Pd./A.	K me/100 g.	Ca me/100 g.	Mg me/100 g.	OM %
0-8	7.7	10.5	1341.6	1.72	11.5	5.5	2.04
8-16	7.8	10.0	787.8	1.01	19.5	6.7	1.34
16-24	8.0	9.0	585.0	0.75	15.3	7.4	0.64

A fertility experiment on alfalfa was established on the farm of Jim Paulson in the Maupin area. The fertilizers were applied and the soil sample taken on April 11, 1962. The results indicate an adequate level of those elements tested.

#### Soil Analysis - Jim Paulson Farm 1962

Soil Depth Inches	Soil pH	P Pd./A.	K Pd./A.	K me/100 g.	Ca me/100 g.	Mg me/100 g.	OM %
0-8	6.5	32.0	733.0	0.94	6.1	4.1	1.09
8-16	7.1	19.0	671.0	0.86	6.1	5.3	0.92
16-24	7.8	7.5	663.0	0.85	5.6	5.3	0.71

The yield results of the first and second cuttings are shown in Table No. 24. They indicate no significant responses due to fertilizer. The area should respond to sulfur fertilization. The noted lack of response, then, indicates carry-over from previous sulfur applications and should not be considered a justifiable reason for stopping annual applications of sulfur in the Maupin area.

#### Pasture Fertility

A pasture fertility experiment was established on the farm of Fred Ashley at Tygh Valley. The pasture adjoined the White River and was on the valley floor. The field had been leveled in recent years for border irrigation. The soil is a coarse sand and highly permeable. In the trial area, the high borders were avoided in laying out the plots, however, two low borders fell at the edge of plots and were left within the plot area and fertilized. Only on these borders was there any acceptable growth of grass. The plot area between the borders yielded so little forage, that harvest was impossible. The rates of fertilizer application and the soil analysis results for this location are shown below.

#### Fertilizer Application

Pounds Per Acre			
N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	S
0	0	0	0
80	0	0	0
80	0	60	50
80	60	0	50
80	60	60	0
80	60	60	50
160	60	60	50
160	60	120	100
160	120	60	100
160	120	120	50
160	120	120	100
80-80	120	120	100

#### Soil Analysis -- Fred Ashley Farm 1962

Soil Depth Inches	pH	P Pd./A.	K Pd./A.	K me/100g.	Ca e/100g.	Mg me/100g.	OM %
0-8	7.0	10.5	101.4	0.13	1.7	0.7	0.75
8-16	7.3	9.0	117.0	0.15	1.5	0.5	0.30
16-24	7.4	10.0	132.6	0.17	1.3	0.5	0.30

Table No. 24

Effect of Three Rates of Phosphate, Potash and Sulfur  
Fertilizer on the Yield of Alfalfa Hay

Jim Paulson Farm - Maupin, Oregon  
1962

Fertilizer Application Pounds Per Acre			Average Yield in Tons/Acre of Air Dry Alfalfa Hay			Average Plant Height	
P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	S	1st Cut.	2nd Cut.	Season Total	1st Cut.	2nd Cut.
0	0	0	2.18	1.48	3.66	25.0	25.7
60	0	0	2.56	1.63	4.18	25.3	27.0
0	0	50	2.10	1.40	3.50	24.3	24.7
60	60	0	1.98	1.57	3.55	24.3	24.3
60	0	50	2.41	1.67	4.09	25.7	26.7
0	60	50	2.44	1.51	3.94	24.7	25.7
60	60	50	2.23	1.29	3.52	24.3	25.3
60	120	100	2.22	1.43	3.65	24.3	24.3
120	60	100	2.59	1.64	4.22	26.7	27.0
120	120	50	2.35	1.53	3.88	26.0	25.7
120	120	100	2.43	1.61	4.04	25.7	26.7
120	120	100 *	2.38	1.53	3.91	27.0	26.3

L.S.D. @5%      NS

\* Boron and Molybdenum added

Fertilizers applied April 11, 1962 except that B and Mo were  
applied April 22, 1962

First hay cutting - June 21, 1962

Second hay cutting approximately August 1, 1962

The problem would appear to be one of extensive leaching and probably extensive changes in fertilizer and water management will be necessary if the pastures are to be productive.

### Corn Varietal Adaptation

Two corn varietal adaptation nurseries were established; one within the crop adaptation nursery on the Leland Mayhew farm at Maupin and the second on the Peetz brothers farm in the Wamic area.

The trial at the Mayhew location consisted of only two replications and was not necessarily irrigated for corn production alone, (other crops were also in the trial area) consequently, this trial should be considered only exploratory. The varieties grown, yield in bushels per acre, total percentage moisture in the corn at harvest, and shelling percentage is shown in Table No. 25. The hybrid varieties planted were chosen to represent a range of maturity from early to late.

Typically silage varieties were included and handled as ear corn varieties. This procedure was unfair to the silage varieties in that no records were taken on total forage, however, it did give information on ear development and maturity for the area in which the varieties were grown.

Comments on the overall appearance of the hybrid varieties are shown on following pages. It appears that, at least during the cold years such as 1962, only the early-medium maturing varieties should be considered in this area. The late varieties, including the typically silage varieties, are too late for proper ear development even for good silage corn.

Considering yield and other desirable characteristics, Pfister 26 was the best hybrid variety grown at this location.

The hybrid corn varietal nursery located on the Peetz brothers farm in Wamic was planted in a field planted to Oregon 355 and consequently probably received more nearly typical treatment for corn planted in the area. The field received approximately 400 pounds of 16-20-0 fertilizer at planting time. The varieties seeded yield in bushels per acre, multiple range significance, shelling percentage and total moisture percentage are shown in Table No. 26. The actual yields shown at this location and at the Mayhew location appear to be high considering the backward year and the fact that the Peetz brothers expect from 80 to 100 bushel yield from Oregon 355 on normal years. These data should be considered on the relative placement of the varieties, rather than on the actual yield. With minor exceptions, the yields indicate that the earliest maturing hybrid varieties were the highest yielding. There was no significant difference between the yields of Idahybrid 216, Pfister 38, NK-KE475, Pfister 26 and NK-KA3. Considering the kernel, ear, and stalk characteristics, Northrup-King KE475 and Pfister 26 and 38 were more desirable than Idahybrid 216.