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Tests With Corn

Outlying Testing Report 10



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CONCLUSIONS AND RECOMMENDATIONS

Varieties--Yields were good and the moisture content low for corn in the 115-day maturity range at Eltopia and Winchester. Most seasons will allow 115-day corn to mature at these two locations. It should be planted early in May or when the soil first warms up. Where the frost-free season is shorter, use shorter-season varieties.

Fertilizers--Nitrogen requirements vary with the cropping and fertilizer history of the fields. On new land or land known to be deficient in nitrogen, use up to 200 pounds of available nitrogen per acre. For phosphorus and potash requirements, have soil tested. Land that has been leveled will probably need phosphorus. Be sure all fertilizers are plowed under or placed several inches beneath the soil surface.

OUTLYING TESTING IN WASHINGTON

Outlying Testing in a joint project of the Experiment Stations and Extension Service of the State College of Washington. The program is conducted in cooperation with local farmers. In Eastern Washington work is being done in Franklin, Adams, and Grant Counties of the Columbia Basin. Trials have been conducted on dry beans, wheat, barley, oats, field corn, grain sorghum, and peas.

In 1956, 15 trials were conducted on small grain varieties, pea fertility, bean fertility, corn fertility and corn varieties. The locations tested represent different climatic and soil conditions in the Basin.

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Locations of trials are shown in Table 3. In addition, a few trials were started but were not carried to completion.

1956 CORN VARIETY TRIALS

Six corn varieties representing a wide range of maturity types were planted at two locations -- in Block 15 near Eltopia and in Block 73 near Winchester. The cooperator, location, and soil type for each trial are listed in Table 3. In each case the land had been previously cropped under irrigation. Fertility was not considered a limiting factor in either trial. The corn was planted at the rate of 17,500 plants per acre. The moisture content of the grain was determined at the time of harvest.

The varieties, the maturity type for each, and the yield and moisture content for each are given in Table 1. Each value is the average yield (or moisture content) of four plots at Winchester and five plots at Eltopia.

1956 was a favorable year for growing corn. Yields were high and moisture content low at Winchester. Yields were quite good and moisture content fairly low at Eltopia. No doubt the yields would have been better and the moisture content lower at Eltopia had the corn been planted early in May. At 25 per cent moisture, corn is mature and will not give any further increase in yield. Twenty per cent is a safe level at which to crib ear corn.

CORN FERTILITY TRIAL

Only one corn fertility trial was carried to completion in 1956. It was located on the Woolman unit in Block 42 south of Moses Lake on Timmerman sandy loam. The area had previously been cropped under irrigation. The corn was planted May 7. The fertilizers were side-dressed after the corn had emerged.

The yields resulting from various fertilizer treatments are given in

Table 2. Each value is the average yield from four different plots. A statistical analysis shows a distinct response to 80 lbs. of nitrogen but a much less distinct response above that point. Although there was a slight depression in the absence of phosphorus, the likelihood that the difference was actually due to phosphorus is rather small. There was no response to potash or minor elements.

Wheat Variety	Yield (bushels)	Yield (bushels)	Yield (bushels)	Yield (bushels)
W12 4544	100	21.8	121	15.8
W12 841AA	115	24.3	128	18.8
Jowa 934	135	28.4	144	21.8
D.S. 13	120	31.4	132	25.3

Table 1. Yield and Moisture Content of Six Corn Varieties at Two Locations

Variety	Maturity type days	Eltopia (Planted May 18)		Winchester (Planted Apr. 26)	
		Moisture at harvest (Nov. 1) %	Yield at 15.5% moisture bu. /acre	Moisture at harvest (Oct. 25) %	Yield at 15.5% moisture bu. /acre
Wis 240	80	16.4	94	13.5	111
Wis 416AA	95	20.6	88	15.0	136
Wis 464A	100	21.4	111	15.8	140
Wis 641AA	115	24.8	124	18.8	153
Iowa 939	115	25.4	124	21.3	161
U.S. 13	120	31.4	132	23.3	170

Note: The table is divided into 2 sections to facilitate the making of comparisons. Comparisons of nitrogen rates may be made in the upper section. Phosphorus and potash treatments may be compared in the lower section. The 240-100-0 treatment appears in both sections.

Table 2. Yield of Corn as Influenced by Various Fertilizer Treatments at Moses Lake

Treatment			
Nitrogen (N)	Phosphorus (P ₂ O ₅)	Potash + Minor Elements (K ₂ O)	Yield
lbs. per acre	lbs. per acre	lbs. per acre	bu. per acre
0	100	0	66
80	100	0	99
160	100	0	101
240	100	0	117
320	100	0	120
240	100	0	117
240	0	0	106
240	100	100	107

Note: The table is divided into 2 sections to facilitate the making of comparisons. Comparisons of nitrogen rates may be made in the upper section. Phosphorus and potash treatments may be compared in the lower section. The 240-100-0 treatment appears in both sections.

Table 3. Locations of 1956 Columbia Basin Outlying Testing Trials

Farm Cooperator	Location	Block No.	County	Soil Type ¹	Type of Trial
Sid Flanagan	Quincy	73	Grant	Haywood silt loams (Warden-Wheeler) ²	Grain Var.
Ralph Parks	Othello	49	Adams	Ephrata sandy loam (Ephrata)	" "
Dale Worshem	Eltopia	16	Franklin	Taunton fine sandy loam (Burke)	" "
Everett Mietzner	Quincy	73	Grant	Renslow silt loam (Warden-Wheeler)	Pea Fertility
Ken Goodrich	Moses Lake	42	Grant	Sagemoor silt loam (Sagemoor)	" "
Willis Suhrbier	Stratford	70	Grant	Scooteney gravelly silt loam (Ephrata)	" "
Bob Holloway	Quincy	75	Grant	Timmerman very fine sandy loam (Ephrata)	Bean Fert.
Murphy Black	Quincy	72	Grant	Haywood silt loam (Warden-Wheeler)	" "
D. E. Nelson	Warden	44	Grant	Warden silt loam (Warden-Wheeler)	" "
Howard Risenmay	Othello	49	Adams	Scootenay-Ringold complex, v. fi. sandy loam, (Ephrata)	" "
Clarence Snekvik	Othello	49	Adams	Ephrata v. fi. sandy loam (Ephrata)	" "
Jim Persons	Mesa	12	Franklin	Glade v. fi. sandy loam (Ephrata)	" "
Al Woolman	Moses Lake	42	Grant	Timmerman sandy loam (Ephrata)	Corn Fert.
Ken Schroeder	Winchester	73	Grant	Babcock silt loam (Ephrata)	Corn Var.
Max Pyles	Eltopia	15	Franklin	Taunton v. fi. sandy loam (Burke)	" "

¹ Information provided by R. A. Gilkeson and the Office of Conservation and Survey, Dept. of Agronomy, State College of Washington.

² Series names used prior to 1955.

