

AGRICULTURAL EXPERIMENT STATION  
Oregon State College  
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YIELD TRIALS WITH HYBRID FIELD CORN - 1938

by

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Introduction

Corn yield trials have been conducted by the Experiment Station for a number of years for the purpose of determining which varieties of corn are best adapted to Oregon conditions. These trials have taken on a new significance since hybrid corn is being produced in the state. Varieties of open pollinated corn can be changed quite markedly by a few years of selection. Therefore, any new varieties brought into the state, even though not too well adapted at first, can be changed into adapted types by a few years of selection. This is not true of hybrid corn as new freshly crossed seed must be purchased each year so there is no chance to change it by selection. A hybrid is either adapted to a locality or it is not and the only way to determine its adaptation is to actually test it in various localities. There are hundreds of different hybrids being produced and sold in the middle west but the majority of them are not adapted to western Oregon conditions. Yield trials in which hybrids are tested in comparison with local open pollinated varieties have been established on the Experiment Station farm at Corvallis and in many of the corn growing counties of western Oregon to determine which hybrids should be recommended. Results obtained from these trials during the 1938 season are presented in the following report.

Yield Trials at Corvallis

Yields of all varieties and hybrids included in the test were relatively low during the 1938 season due to unusually dry weather. Normally in the vicinity of Corvallis there is enough rain during the months of May and June to supply plenty of moisture for growth. During the 1938 season there was not sufficient precipitation at any one time to moisten the soil from early in April to the first of September. The soil was so dry at planting time that some of the seed failed to germinate and hence the stands obtained of some hybrids and varieties were poor. On September 4, 5, 6, and 7, a total of 1.6 inches of rain was recorded by the weather station at the College. The corn plants were still green and some varieties and hybrids, particularly the later maturing ones, were able to make considerable growth after this time. The earlier maturing ones were too mature to make much growth but all varieties and hybrids stayed green until frost and did not ripen properly. The moisture content of all, except a few of the earliest varieties, was rather high at harvest time. The growth made after the September rains tended to give some of the later maturing hybrids an advantage they would not have in a normal season.

The yield trial plots conducted at Corvallis were located on Willamette soil and were not irrigated. Each variety or hybrid was planted in two row plots twenty hills long and was replicated five times, thus giving a total of ten rows or 200 hills. Grain yields were determined from four replicates and the fifth was

used to determine silage yields. All plots were planted at the rate of five kernels per hill and were thinned to three plants when the corn was three to four inches high.

### Grain Yields

All grain yields were calculated on a 15 per cent moisture basis and corrections for stand were made for all varieties having less than a 90 per cent stand. Shelling per cent was determined on samples of each hybrid or variety. The date at which silks were showing on the majority of plants in the variety was recorded during the growing season and may be used as one index of maturity. These data are presented in Table 1. Seed for these yield trials was furnished by commercial seed companies and by the Iowa and Wisconsin Experiment Stations.

Hybrid corn again proved its superiority in these trials. The highest yielding open pollinated variety in the trial, Murdock, ranked 46th with a yield of 20 bushels per acre. Forty five hybrids exceeded this variety in yield, the highest one, Iowa 3412, giving a yield of 33.2 bushels per acre. The difference in yield between the highest yielding hybrid and the highest open pollinated variety was 13 bushels, giving the hybrid an advantage of nearly 40 per cent. Other open pollinated varieties were included in the trial for comparison and the yield of each was as follows:

Wiegand's Yellow Dent	-	10.8 bushels;
Golden Glow		17.8 "
Eureka Yellow Dent		17.5 "
McKay's Yellow Dent		17.0 "
Minnesota 13		16.1 "

Several of the hybrids ranking near the top in yield were fairly late in maturity. These hybrids appeared to make considerable growth after the September rains and may, therefore, rank slightly higher than they would have in a more normal season. Four hybrids from Iowa were at the top in yield. While these hybrids appeared to be slightly later in maturity than some of the local strains, they looked rather promising. However, these hybrids are all white corn and for that reason would be objectionable to the majority of Oregon growers. This is the first year they have been included in the test and further data are needed before any definite recommendations concerning them can be made.

The Wisconsin hybrids, 525 and 570, again, as in previous tests, gave an excellent yield and appear to be quite well adapted to Willamette Valley conditions. The Wisconsin 455, while not quite as high yielding as 525 and 570, also made a creditable showing and appears to be worthy of further trial. Two other Wisconsin hybrids giving high yields were 531 and 645. These hybrids appeared to be slightly later in maturity than 525 and 570 and cannot be recommended until further data are obtained. The same statement also applies to Iowa 95 and National 110. These two hybrids will be tested further and may be found to be adapted to certain localities of western Oregon.

Table 1  
Field Corn Yield Trial  
 Corvallis, Oregon

Granger Farm

Planted - May 7, 1938

Harvested - October 24, 1938

	Variety	Yield. Bu. per acre 15% moisture	% Moist- ure at harvest	Shelling %	Silking date	% stand
1	Iowa 3412	33.2	50.5	79.1	8/18	89.2
2	Iowa 3748	31.5	41.3	81.3	8/12	84.2
3	Iowa 3733	30.6	46.2	77.4	8/8	90.4
4	Iowa 3215	30.4	41.4	79.3	8/10	92.8
5	Wisconsin 531	29.8	45.8	80.0	8/8	83.8
6	Wisconsin 645	29.6	47.4	81.7	8/8	93.5
7	Iowealth 95	28.2	43.9	78.5	8/14	94.2
8	National 110	28.2	45.6	80.7	8/15	91.7
9	Wisconsin 570	28.1	44.7	81.7	8/4	90.7
10	Wisconsin 525	28.0	40.2	83.0	8/2	92.7
11	Wisconsin 696	27.9	51.7	75.0	8/16	96.0
12	Cornell 29-5	27.8	45.5	76.8	8/12	89.7
13	Iowealth A. P.	26.6	49.5	80.0	8/17	92.3
14	Illinois T 32	26.5	42.5	74.1	8/14	89.2
15	Kingscrost L 4	26.2	51.2	79.7	3/10	80.8
16	Wisconsin 455	26.1	42.9	83.1	7/29	92.3
17	Wisconsin 606	26.1	47.7	82.2	8/10	86.7
18	Iowealth Minn. S.	26.1	43.2	83.7	8/10	81.3
19	National 112	26.0	47.8	81.3	8/17	88.5
20	Iowealth 5	26.0	32.7	82.7	8/8	85.6
21	National 90	26.0	39.0	79.6	8/2	84.3
22	Illinois T 27	25.6	48.4	76.1	8/13	89.2
23	Kingscrost D	25.4	39.2	82.9	7/30	80.6
24	Tru-Crost Wis. 90	25.2	36.7	79.6	7/30	87.7
25	Kingscrost M	25.1	43.8	83.3	8/10	86.0
26	Iowealth 90	24.9	41.3	79.2	8/15	86.2
27	Wisconsin 325	24.5	49.8	77.5	8/8	92.5
28	Wisconsin 340	24.5	39.2	81.2	7/24	92.1
29	Iowealth 98	24.3	39.1	83.5	8/9	88.5
30	Wisconsin 404	24.1	39.2	82.6	7/20	95.8
31	Kingscrost F B	24.1	49.4	80.0	8/18	87.9
32	Cornell 30 - 13	24.1	42.2	78.7	8/14	86.0
33	Wisconsin 456	23.7	43.2	81.5	7/26	95.2
34	Iowealth 15	23.5	51.0	80.3	8/17	79.8
35	Iowealth A	23.4	48.2	83.9	8/15	89.6
36	Wisconsin 356	23.3	39.0	80.5	7/24	91.7
37	Wisconsin 360	22.3	38.8	79.3	7/20	93.6
38	Cornell 29 - 3	22.0	44.3	79.5	8/10	93.6
39	Tru-Crost 150	21.8	44.3	81.3	8/5	88.3
40	Kingscrost A - 2	21.8	40.0	75.9	7/30	94.4
41	Illinois T 25	21.5	52.6	78.9	8/15	90.2
42	Illinois T 23	21.4	50.1	74.4	8/14	90.8

Table 1 - continued

	Variety	Yield Bu. per acre 15% moisture	% Moist- ure at harvest	Shelling %	Silking date	% stand
43	Kingscrost E-2	21.1	38.0	82.1	7/30	85.8
44	Wisconsin 350	21.0	39.7	76.0	7/24	87.7
45	Illinois T 35	20.8	65.7	81.7	8/16	83.8
46	Murdock	20.0	44.2	82.3	8/14	85.6
47	Tru-crost 170	19.9	41.7	78.1	8/9	90.6
48	Weigand Y. D.	18.8	36.9	82.2	8/1	90.0
49	Tru-crost 100	18.1	21.2	81.0	7/26	89.2
50	Tru-crost Minnesota 402	18.1	23.5	79.5	7/28	93.1
51	Golden Glow	17.8	44.4	80.5	8/6	92.3
52	Eureka Y. D.	17.5	26.1	82.8	7/30	89.5
53	McKays Y. D.	17.0	29.5	79.6	8/1	91.9
54	Minnesota 13	16.1	33.7	84.6	8/4	83.3

#### Silage Yields

Silage yields were determined on the majority of the varieties and hybrids included in the trial. As these yields were only taken on one replicate and as the growing season was abnormally dry the data obtained are probably not typical in all cases. However, this trial does definitely indicate that adapted hybrids will give higher silage yields than open pollinated varieties. The highest yielding hybrid exceeded the highest yielding open pollinated variety by 46 per cent in weight of air dry material. The average yield of all hybrids in the trial was 22.7 per cent greater than the average yield of all open pollinated varieties.

The data on silage yields are given in Table 2. All yields were low due to the dry season. Yields were calculated on a dry basis so that all hybrids and varieties could be compared. To give an absolutely fair comparison, all hybrids should be harvested when in exactly the proper stage for silage. Since it was impossible to do this, all varieties were harvested at about the time silage corn is ordinarily harvested in this locality.

The per cent of ears was determined by weighing a dried sample from each variety, shucking out the ears and weighing them, and then calculating the per cent of the total weight due to the ears. Per cent moisture loss was calculated from a sample of each variety weighed in the field at harvest and reweighed after the sample was dried.

Table 2  
Corn Silage Yield Trial - Granger Farm, 1938

Harvested September 24, 1938.

	Variety	Yield per acre # air dry	% Ears by wt.	% moisture loss	% Stand
1	Cornell 29-5	3511.2	56.7	71.4	90.9
2	Iowa 3412	2864.4	47.8	70.2	74.2
3	Wis. 325	2847.6	48.1	72.3	96.7
4	Kingscrost F. B.	2847.6	45.0	68.0	95.0
5	Wis. 531	2486.4	54.1	72.6	94.2
6	Iowealth 90	2394.0	56.0	70.0	86.7
7	National 90	2335.2	-	65.9	90.0
8	Iowealth A	2251.2	55.2	74.8	95.0
9	Iowa 3748	2167.2	29.5	63.7	87.5
10	Iowealth 95	2091.6	47.7	71.7	91.7
11	Wis. 606	2024.4	35.3	74.8	86.7
12	Wis. 456	2058.0	66.7	69.0	92.5
13	Tru-crost Wis. 90	1999.2	52.9	67.6	94.2
14	Wis. 350	1974.0	57.1	69.3	95.7
15	Kingscrost M	1965.6	42.6	77.5	86.7
16	Murdock	1873.2	32.8	72.3	79.2
17	Wis. 525	1856.4	50.0	74.0	94.2
18	Iowealth 5	1831.2	-	70.0	92.5
19	Iowa 3215	1806.0	62.7	77.7	92.5
20	National 112	1789.2	44.4	77.5	89.2
21	Wis. 340	1772.4	36.7	69.2	84.2
22	Tru-crost 150	1747.2	53.8	72.6	91.7
23	Wis. 455	1722.0	50.0	73.0	93.3
24	McKays Y. D.	1680.0	68.2	63.3	95.0
25	Wis. 570	1671.6	59.5	78.5	52.5
26	Kingscrost L 4	1612.8	-	81.5	65.0
27	National 110	1604.4	45.3	78.4	93.3
28	Cornell 29-3	1528.8	-	79.0	93.3
29	Tru-crost 100	1528.8	6.59	63.6	98.3
30	Wis. 360	1520.4	-	69.1	63.3
31	Wis. 404	1394.4	45.5	71.8	99.2
32	Wis. 645	1386.0	50.0	76.9	78.3
33	Ill. T 35	1352.4	42.4	79.4	92.5
34	Minhybrid 402	1335.6	70.7	68.5	99.2
35	Iowa 3733	1327.2	41.0	80.0	91.7
36	Iowealth 98	1318.8	54.5	78.0	92.5
37	Iowealth Minn. S	1302.0	-	78.3	92.5
38	Wiegand Y. D.	1293.6	-	75.6	65.8
39	Golden Glow (Sam)	1276.8	38.6	76.8	95.0
40	Eureka	1226.4	57.9	68.3	95.9
41	Minn. 13 (Sta.)	1167.6	48.3	69.5	87.5
42	Iowealth 15	1125.6	71.4	80.5	79.2
43	Kingscrost E 2	1125.6	54.3	75.1	85.8
44	Cornell 30-13	1125.6	-	82.4	93.3
45	Kingscrost A-2	1024.8	-	80.0	89.2

### County Trials

Seed of certain hybrids was sent out to 14 counties in western Oregon for trial in comparison with local open pollinated varieties. These trials were conducted in each county in cooperation with the county agent and farmers selected by the agent. No data were obtained on some of these trials due to the dry season or other factors beyond the control of the county agent. Data obtained in those counties sending in reports are given below.

#### Washington County

Yields of 108 bushels per acre for the Wis. 525 and 105 bushels per acre for the Wis. 455 were secured in a yield trial located on the J. J. VanKleek farm. A strain of Minn. 13 from Oregon State College, included in this trial for comparison gave a yield of 96 bushels per acre. The moisture content of the hybrids was relatively high being about 37 per cent. This trial was conducted in cooperation with Mr. W. F. Cyrus, County Agent; Mr. L. E. Francis, Assistant County Agent and Mr. J. J. VanKleek. Data obtained from this trial are given in Table 3.

Table 3  
Field Corn Yield Trial

Washington County

J. J. VanKleek Farm (Kinton), Route 1, Beaverton

Planted: May 18, 1938

Harvested: November 1, 1938

Soil type: Willamette

Variety	Yield Bu. ear corn per acre - 15 per cent moisture	Total per cent moisture
Wis. 525	108	36.3
Wis. 455	105	37.2
Wis. 105 day	104	37.8
Wis. 570	96	36.6
O. S. C. Minn. 13	96	31.2
Cornell 29-5	89	37.8
Local Minn. 13	75	26.1
Cornell 29-3	72	36.9

#### Josephine County

The Josephine County trial was conducted on the E. W. Hughes Farm by County Agent O. K. Beals. In this trial, Wis. 525 was the only hybrid to exceed one of the local varieties, Hayes, local strain, in yield. This hybrid was 5 bushels per acre higher in yield than the Hayes strain and 33 bushels higher than the College strain of Minn. 13 which was also included in the trial. Yields from this trial are given in Table 4.

Table 4  
Field Corn Yield Trial

Josephine County  
E. W. Hughes Farm - Grants Pass, Oregon

Variety	Yield Bu. per Acre
1 Wis. 525	69.0
2 Hayes Local Strain	64.3
3 Iowealth A. P.	54.9
4 Iowealth A.	50.6
5 Wis. 455	50.0
6 Iowealth 90	48.0
7 National 110	47.3
8 National 90	47.2
9 Iowealth 15	47.1
10 National 112	47.0
11 Iowealth 5	44.9
12 Iowealth 95	42.9
13 Hyde Local Strain	42.7
14 Iowealth Minn. S.	42.0
15 Wis. 570	36.9
16 Minn. 13 Station Strain	36.4
17 Wis. 105 Day	34.7
18 Iowealth 98	33.4

Linn County

A yield trial involving 8 hybrids and varieties was conducted in Linn County by Mr. Floyd C. Mullen, County Agent, and Mr. O. E. Mikesell, 4-H Club Agent, in cooperation with Mr. Charles Lamb's 4-H Corn Club. Several other tests, in which one hybrid was compared with a local variety, were also conducted. In some of these trials, the hybrids gave practically the same yield as the local variety while in others the hybrid gave a small increase. Data from these trials are given in Tables 5 and 6.

Table 5  
Field Corn Yield Trial

Linn County  
Charles Lamb Farm

Variety	Yield per Acre. Bu.	% Moist- ure lost	Shelling %	Height of Stalk, ft.	Height of Ear ft.
Wis. 501	53.0	28.3	79.7	8.0	4.5
Golden Glow	47.4	25.0	77.9	7.0	4.0
Wis. 525	46.4	31.7	81.5	8.0	4.0
Minn. 13	45.9	23.3	82.4	6.0	3.0
Wis. 570	42.2	28.3	84.0	8.0	4.0
Wis. 455	36.8	30.0	78.8	8.0	4.0
Minn. 402	36.4	23.3	75.0	6.5	2.5
Wis. 90 Day	35.5	30.0	77.0	8.0	4.0

Table 6  
Field Corn Yield Trials

Linn County, Oregon

Grower	Address	Variety	Soil type	Green Weight Tonnage	Per cent moisture lost	Dry weight tonnage	Per cent grain to Stalks	Grain Yield per acre bu.
Wesley Pugh	Shedd	Minn. 13	Amity	13.67	28.26	9.81	48.48	87.1
Wesley Pugh	Shedd	Wis. 90-day	Amity	12.34	22.72	9.54	41.17	80.15
Wesley Pugh	Shedd	Golden Glow	Amity	12.825	26.19	9.467	48.4	76.0
Lloyd Forster	Tangent	Golden Glow	Willamette	11.85	35.4	7.66	48.32	57.71
Lloyd Forster	Tangent	Wis. 90-day	Willamette	9.8	27.27	7.13	37.5	56.26
Lloyd Forster	Tangent	Yellow Dent	Willamette	9.02	32.89	6.06	50.98	47.7
Raymond Meyer	Albany	Wis. 90-day	Chehalis	7.66	13.33	6.64	38.46	34.57
Raymond Meyer	Albany	Golden Glow	Chehalis	6.775	18.0	5.556	43.47	29.92
Wesley & Jack Lamb	Albany	Golden Glow	Newberg	8.08	4.0	7.76	45.8	64.3
Wesley & Jack Lamb	Albany	Wis. 90-day	Newberg	14.4	7.5	13.32	41.7	54.4
Lyman Falk	Halsey	Golden Glow	Chehalis	Corn did not fill because of 12 spotted cucumber beetle				
Lyman Falk	Halsey	Wis.-90-day	Chehalis	Corn did not fill because of 12 spotted cucumber beetle				

Marion County

Yield trials were conducted in Marion County by County Agent Harry L. Riches in cooperation with Mr. Roy Skaife and with a number of Smith-Hughes boys in the Woodburn community. Minnesota No. 13 gave a higher yield than any hybrid in the trial on Mr. Skaife's Farm. In the other trials, Wis. 90-Day hybrid was compared with a local variety and in all cases the hybrid gave the highest yield. Data from these trials are given in Tables 7 and 8.

Table 7  
Field Corn Yield Trial

Marion County

Plots on the Roy Skaife Farm South of Silverton

Variety	Yield per acre in bushels
Minn. 13	53.0
Wis. 90-Day	50.3
Wis. 570	44.2
Wis. 525	40.7
Wis. 455	39.8
Wis. 105 Day	35.4
Silo King	30.9
Northwestern Dent	29.6



Table 8  
Field Corn Yield Trials

Marion County  
 Smith-Hughes Trials near Woodburn

Grower	Variety	Yield per acre in bushels	Difference in yield bu.
1. Charles Johnston	Hybrid	28.0	
	Local	25.4	2.6
2. Kenneth Arney	Hybrid	25.2	
	Local	23.5	1.7
3. Joe Serres	Hybrid	39.4	
	Local	34.1	5.3
4. Owen McNulty	Hybrid	29.7	
	Local	14.0	15.7
5. Sylvester Kirsch	Hybrid	32.4	
	Local	23.1	9.3

Douglas County

Yield trials were conducted in Douglas County by Mr. J. Roland Parker, County Agent, and Mr. A. E. Britton, 4-H Club Agent, in cooperation with eleven farmers and four 4-H club boys. Several farmers did not secure yields because of the exceptionally dry season. Two growers reported that Wis. 525 out yielded their own variety by 10 to 12 bushels per acre but accurate records were not taken.

Data from trials on which accurate records were obtained are given in Table 9. These trials were all located on river bottom soil. The plots on Mark's and Harmon's farms were irrigated once.

Table 9  
Field Corn Yield Trials

Douglas County

Variety	Mark's Farm **		Ritchie's Farm		Harmon's Farm**		Ferguson's Farm
	Yield		Yield		Yield		Wt. in
	per acre bu.	% moist- ure	per acre bu.	% moist- ure	per acre bu.	% moist- ure	lbs. from 90 ft. row
1. Weaver (O.P.)	110	26.2	---	---	90	23.6	30
2. Iowealth 95	75	26.7	---	---	---	---	---
3. Wis. 95 Day	71	22.9	---	---	---	---	33
4. National 112	68	22.9	---	---	---	---	---
5. Golden Glow (O.P.)	68	20.5	45	21.0	76	22.2	---
6. Wis. 525	66	23.7	41	23.2	82	21.2	27
7. Wis. 105 Day	65	23.2	---	---	72	25.3	28
8. Wis. 90 Day	63	21.1	---	---	61	21.9	33
9. National 90	61	20.6	---	---	---	---	---
10. Iowealth A.P.	58	22.5	---	---	---	---	---
11. Minn. 13 (O.P.)	38	22.6	32	17.9	---	---	---
12. Iowealth 15	*---	---	47	29.4	---	---	---
13. Wis. 455	---	---	43	25.2	---	---	---
14. National 110	---	---	43	24.6	---	---	---
15. Iowealth A	---	---	43	26.5	---	---	---
16. Iowealth 5	---	---	40	21.2	---	---	---
17. Wis. 570	---	---	39	24.5	---	---	---
18. Iowealth 90	---	---	34	22.8	---	---	---
19. Iowealth 98	---	---	32	20.2	---	---	---
20. Ferguson (O.P.)	---	---	---	---	---	---	33

\* Variety not included in this trial.

\*\* One irrigation.

Benton County

A yield trial in which 9 hybrids and varieties were included was conducted by W. S. Averill, County Agent, in cooperation with the local Farmer's Union. This trial was located on the Paul Secher Farm near Corvallis.

The strains in this trial were planted in long single rows across the field. Three plots, each 25 hills long, were harvested to determine yields. One of these samples was taken from near each end and one from near the center of the field. The results of this trial are not conclusive as the plots were not planted so that soil variations could be equalized. The trial plots were on one side of a large field of corn and there seemed to be a definite gradation in soil fertility from the outside of the field toward the center. This was indicated by the general appearance of the strains and by yields obtained from the hybrid Tru-crost 100. This hybrid was planted in the outside row of the field and again in the ninth row. A yield of 32.09 bushels per acre was obtained on row one as compared to a yield of 51.55 bushels per acre for row 9. This soil difference was partly due to an actual difference in soil fertility and partly to the fact that part

of the plot was plowed at a later date than the remainder. Data from this trial are given in Table 10.

Another small trial in which 5 hybrids were compared with the Station Strain of Minn. 13 was conducted on the Edwin Horning Farm. It was impossible to obtain accurate yields on this trial as it was planted with a drill and there was considerable variation in planting rate due to differences in seed size. However, weights taken on the plots indicated that all hybrids gave higher yields than the Minn. 13.

Table 10  
Field Corn Yield Trial

Paul Secher Farm - Benton County, Oregon  
Harvested October 14, 1938

Variety	Yield Bu. (ear corn)	Shelling %	% Total moisture
1 Tru-Crost Wis. 90	58.59	80.10	45.8
2 Minn. 13 (Secher)	55.67	83.24	44.0
3 Tru-Crost Minn. 402	54.11	80.47	43.9
4 Minn. #13 (Sta.)	53.43	83.52	42.6
5 Wis. 525	50.29	77.95	51.9
6 Tru-Crost 170	47.07	79.19	52.0
7 Tru-Crost 150	45.76	81.60	48.4
8 Tru-Crost 100	41.82	82.20	40.6
9 Lowearth 110	41.18	78.41	48.6

Clackamas County

Yield trials in which a number of hybrids and local varieties were included were planted by Mr. J J. Inskeep in cooperation with several farmers. The majority of these plots were poor due to the extremely dry weather and no grain yields were obtained.

Silage yields were obtained from hills having two stalks and hills having four stalks in a field of Wisconsin 90 Day hybrid corn. The two stalk hills gave a yield of approximately 10.6 tons per acre compared to a yield of 9 tons for four stalk hills. The two stalk hills were well eared and produced a better quality silage than did the four stalk hills. This corn was grown on Cascade Silt Loam. On better soil types and when moisture is not so much of a limiting factor, three or four stalks per hill would be expected to show up to a better advantage.

Coos County

A silage yield trial was conducted by Mr. George H. Jenkins, County Agent, in cooperation with Mr. W. E. Cross. A number of the hybrids gave higher yields than two strains of Minn. 13 included for comparison. All yields were low due to dry weather. Further tests are necessary before definite recommendations can be made. Data from this trial are given in Table 11.

Table 11  
Corn Silage Trials

Coos County  
 W. E. Cross Farm

Planted - June 1, 1938

Harvested - September 20, 1938

	Variety	Yield per Acre Tons	% Weight of Ears
1	Kingscrost F B	16.84	17.24
2	Wis. 525	14.23	24.49
3	Kingscrost L 4	13.79	25.26
4	Kingscrost D	12.19	19.05
5	Kingscrost E 2	11.76	24.69
6	Kingscrost M	11.76	25.56
7	Wis. 455	11.33	29.49
8	Kingscrost A 2	11.33	23.08
9	National 112	11.33	29.49
10	Wis. 105 Day	10.31	7.04
11	Minn. 13 (Local)	10.16	27.14
12	Wis. 570	10.16	10.00
13	Minn. 13 (O.S.C.)	8.42	34.48

General Recommendations

Results from the 1938 yield trials were rather spotted due to the unusually dry season. However, as in previous seasons, some hybrids gave higher yields than local varieties in the trial at the Experiment Station and in many of the county trials.

Wisconsin Hybrids 455, 525, and 570 again gave excellent yields in many of the trials and can be recommended to growers in Western Oregon. The 455 is earliest in maturity and has given good yields in many of the trials. The Wis. 525 hybrid seems to be adapted over a wide area as it gave high yields in nearly all trials in which it was included. This hybrid is a good silage type as well as a good grain producer. The Wis. 570 gave high yields in several of the trials and is worthy of further test. Seed of these three hybrids is available in the state.

The Wisconsin 90 Day hybrid, again as in previous tests, showed up well in Clackamas and Marion counties and can be recommended for that general section of the state. In several of the trials in other parts of the state this hybrid did not show up as well as it has in previous tests. In many trials, this hybrid did not ear out well under drought conditions. Seed of this hybrid is also available in the state.

Several other hybrids gave excellent yields in some of the trials but cannot be recommended until further data are obtained. The seed of many of these hybrids is not available in the state.

Sources of Seed

Information on sources of seed can be obtained from County Agricultural Agents in the various counties or from the Agricultural Experiment Station at Corvallis.

Seed Treatment Trial at Corvallis

Five different seed treatment materials that have been recommended for use on seed corn were tested in comparison with non-treated seed. Each treatment was replicated three times. Only one variety, Eureka Yellow Dent, was used in this trial.

The purpose of seed treatment is to prevent disease organisms that may be on the seed coat or in the soil surrounding the seed from attacking the young seedling. Seed treatments are usually of more value in wet springs as cold wet weather after planting retards plant growth and favors development of diseases.

Since the spring of 1938 was exceptionally dry, seed treatments would be expected to be of little value. However, the rows treated with Barbak 111 and Semesan appeared to be slightly more vigorous throughout the growing season and, as is shown in Table 12, these treatments gave slightly higher yields.

Table 12  
Seed Treatment Trial

Corvallis, Oregon  
All Plots Planted to Eureka Yellow Dent

Seed Treatment	Yield per acre bu. shelled	Total moist. %	% Stand	Shelling %
Barbak 111	34.07	34.2	83.3	82.3
Semesan	32.31	35.1	84.4	83.5
Barbak C	31.01	35.5	86.7	82.7
No treatment	30.87	35.1	85.4	80.4
Vasco 4	30.43	29.1	85.6	75.7
Cuprocide	29.66	35.7	80.5	82.4