

Winter Cereal Nursery - Redmond

A winter wheat and barley varietal nursery was seeded at Redmond on November 3, 1974. Thirty cultivars of wheat and ten of barley were included.

The field had been in potatoes the year preceeding the nursery. Approximately 100 pounds of N and 60 pounds of P₂O₅ was applied as a mixture of 16-20-0 and ammonium nitrate. There were indications of winter injury primarily in the barley but also as leaf burning in the wheat. With the advent of warm weather no apparent signs of injury were visible in the wheat except in a small area or two where high rates of fertilizer were applied on the potatoes in the previous year. The excessive rate of N apparently made both wheat and barley more susceptible to winter injury.

The yields by replication (Appendix Tables 11 and 12) indicate rather variable yields not only between replications of the same line but between lines in a replication. These variations were probably associated with interaction of moisture applied and soil depth.

Among the numbered wheat lines tested, (Table 10), 63-130-66-7, 65-116-70W, 71-9700 and Fd. 71017 were outstanding in respect to yield. The lines were relatively similar and acceptable in bushel weight, plant height and resistance to lodging. The first three lines listed are wheats acceptable for domestic uses while Fd. 71017 is a feed wheat.

The winter barleys (Table 11) show a remarkable variation in ability to withstand winter injury, at least in this year, with Corvallis 69-1-5-B and Or 7102 being excellent as measured by yield. These lines need to be closely watched and considered for possible release as a possible replacement of Luther in the Central Oregon area.

Table 10. The average yield in bushels per acre, bushel weight, plant height and percentage lodging for the winter wheat cultivars grown at Redmond by the Central Oregon Experiment Station, 1974.

| Cultivar | Ave yield bu/acre | Bu wt | Plant ht | % (1) lodging |
|------------------------------|----------------------|----------|-------------|------------------|
| Hyslop | 100.48 | 58.0 | 35 | 20 |
| Yamhill | 89.14 | 55.0 | 37 | - |
| Gaines | 97.56 | 59.0 | 35 | 20 |
| Nugaines | 95.64 | 60.0 | 34 | - |
| McDermid | 101.57 | 58.5 | 32 | 50 |
| Or. 6933 | 99.09 | 59.0 | 36 | 15 |
| Or. 6843 | 94.22 | 59.0 | 33 | 50 |
| Hys 706 | 102.00 | 58.5 | 33 | 60 |
| Hys-al-sus | 97.54 | 57.5 | 33 | 50 |
| 63-112-66-4 (N.Des./2* P101) | 100.97 | 57.5 | 34 | 20 |
| 63-112-66-2-E701 " | 88.87 | 57.5 | 32 | - |
| 63-112-66-2-E702 " | 97.83 | 58.0 | 32 | 40 |
| 63-112-66-2-E703 " | 67.42 | 57.5 | 30 | 50 |
| 63-130-66-7 " | 111.39 | 58.0 | 33 | - |
| 63-130-66-1 " | 98.40 | 58.5 | 33 | 10 |
| 65-116-70W (N.Desp/101) | 107.04 | 58.5 | 33 | 5 |
| 65-116-70MBW2 " | 90.01 | 56.5 | 31 | 10 |
| 6720-68-11 (C.D./P101//Dru.) | 82.39 | 56.5 | 29 | - |
| 6720-68-27 " | 87.86 | 56.0 | 31 | - |
| 6720-68-38 " | 96.02 | 57.5 | 32 | - |
| 67-237-69-S3H (1523/Dru-11) | 101.58 | 58.0 | 35 | 15 |
| 71-6900 (6720/63-112-66-2) | 100.65 | 59.0 | 33 | 50 |
| 71-9700 (P101/63-112-66-4) | 114.82 | 59.5 | 34 | 10 |
| 71-95 (63-112-66-2/S.Cerros) | 81.32 | 58.5 | 33 | 10 |
| 71-114 (S.Cerros/6720) | - | - | - | - |
| 71-6818 (6720/63-112-66-2) | 85.57 | 56.0 | 29 | 10 |
| Fd 72038 (Fd 7102/P101) | 97.82 | 57.0 | 35 | 10 |
| Fd 71017 (P101/Fd 71001) | 98.84 | 58.0 | 33 | - |
| Fd 72020 (P101/Fd 71002) | 60.44 | 56.5 | 34 | - |
| Fd 71017 (Fd 71002/P101) | 107.33 | 58.0 | 34 | 10 |

(1) Highest level of lodging observed in any replication.
Reps 4 and 5, no lodging observed.

Seeded November 3, 1973.

Table 11. Yield in bushels per acre, bushel weight and plant height for the winter barley cultivars grown at Redmond during 1974.

| Cultivar | Ave yld bu/acre | Bu wt | Plant ht |
|---------------------------------|--------------------|-------|-------------|
| Adair | 20.03 | 45.0 | 28 |
| Corvallis 69-1-5-B | 130.58 | 46.0 | 38 |
| Pend 706 | 59.41 | 46.0 | 35 |
| Kamiak | 81.57 | 44.5 | 35 |
| Schuyler | 119.77 | 46.5 | 37 |
| Luther | 126.53 | 46.0 | 36 |
| SH 3673 | -(1) | | |
| NY 6005-18 (Trail/Hudson) | 64.72 | 46.0 | 33 |
| Or 7102 (Luther/Olympia/Alpine) | 139.77 | 47.0 | 36 |
| Dar 69-977 (Jaydee/Hudson) | 38.36 | 55.0 | 20 |

(1) Winter killed.

Nursery seeded November 3, 1973.

Appendix Table 11. The yield in bushels per acre by replication for the winter wheat cultivars grown at Redmond, Oregon, by the Central Oregon Experiment Station, 1974.

| Cultivar | Bushels per acre by replication | | | | | Ave y1 bu/acr |
|------------------------------|---------------------------------|--------|--------|--------|--------|------------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Hyslop | 64.89 | 103.24 | 92.94 | 133.02 | 108.33 | 100.48 |
| Yamhill | 70.41 | 103.92 | 80.01 | 99.04 | 92.32 | 89.14 |
| Gaines | 72.89 | 99.79 | 106.31 | 105.44 | 103.27 | 97.56 |
| Nugaines | 85.59 | 101.73 | 95.89 | 100.29 | 94.68 | 95.64 |
| McDermid | 74.93 | 123.59 | 92.31 | 122.89 | 94.12 | 101.57 |
| Or. 6933 | 79.68 | 109.43 | 92.79 | 114.62 | 98.92 | 99.09 |
| Or. 6843 | 83.41 | 101.64 | 75.96 | 106.10 | 103.98 | 94.22 |
| Hys 706 | 91.88 | 104.12 | 93.38 | 109.34 | 111.26 | 102.00 |
| Hys-al-sus | 73.57 | 90.49 | 104.82 | 114.10 | 104.71 | 97.54 |
| 63-112-66-4 (N.Des./2*P101) | 99.16 | 101.59 | 94.06 | 108.93 | 101.10 | 100.97 |
| 63-112-66-2-E701 " | 89.04 | 105.35 | 46.96 | 109.22 | 93.76 | 88.87 |
| 63-112-66-2-E702 " | 83.43 | 112.38 | 83.79 | 120.76 | 88.78 | 97.83 |
| 63-112-66-2-E703 " | 48.40 | 86.95 | 61.76 | 73.36 | 66.61 | 67.42 |
| 63-130-66-7 " | 109.73 | 114.81 | 112.68 | 121.29 | 98.45 | 111.39 |
| 63-130-67-1 " | 66.43 | 99.61 | 105.88 | 116.46 | 103.62 | 98.40 |
| 65-116-70W (N.Desp/101) | 91.08 | 111.92 | 99.05 | 121.38 | 111.77 | 107.04 |
| 65-116-70MBW2 " | 80.80 | 88.80 | 90.14 | 106.10 | 84.23 | 90.01 |
| 6720-68-11 (C.D./P101//Dru) | 72.15 | 84.93 | 88.27 | 88.30 | 78.32 | 82.39 |
| 6720-68-27 (CD/P101//Dru) | 64.07 | 103.11 | 71.27 | 105.48 | 95.36 | 87.86 |
| 6720-68-38 " | 80.46 | 90.08 | 112.23 | 98.18 | 99.14 | 96.02 |
| 67-237-69-S3H (1523/Dru-11) | 88.71 | 92.05 | 107.99 | 104.51 | 114.66 | 101.58 |
| 71-6900 (6720/63-112-66-2) | 92.14 | 95.06 | 114.80 | 91.42 | 109.85 | 100.68 |
| 71-9700 (P101/63-112-66-4) | 102.85 | 113.86 | 125.30 | 112.27 | 119.81 | 114.82 |
| 71-95 (63-112-66-2/S.Cerros) | 73.69 | 84.67 | 92.14 | 79.72 | 76.37 | 81.32 |
| 71-114 (S.Cerros/6720) | | | | | | |
| 71-6818 (6720/63-112-66-2) | 77.76 | 84.67 | 95.95 | 105.47 | 63.98 | 85.57 |
| Fd 72038 (Fd 7102/P101) | 99.04 | 66.73 | 111.85 | 62.69 | 148.78 | 97.82 |
| Fd 71017 (P101/Fd 71001) | 109.49 | 98.21 | 112.08 | 97.78 | 76.64 | 98.84 |
| Fd 72020 (P101/Fd 71002) | 71.77 | 54.86 | 76.99 | 39.58 | 58.99 | 60.44 |
| Fd 71017 (Fd 71002/P101) | 94.20 | 106.33 | 113.36 | 104.04 | 118.63 | 107.33 |

Appendix Table 12. The yield in bushels per acre for the winter barley cultivars grown at Redmond, Oregon, during 1974.

| Cultivar | Yield in bushels per acre by replication | | | | | Ave |
|---------------------------------|--|--------|---------------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | |
| Adair | 23.14 | 24.58 | 20.31 | 12.12 | -(2) | 20.00 |
| Corvallis 69-1-5-B | 137.03 | 121.41 | 147.47 | 157.68 | 89.33 | 130.58 |
| Pend 706 | 53.69 | 51.88 | 77.61 | 83.09 | 30.78 | 59.41 |
| Kamiak | 46.13 | 68.44 | 93.11 | 103.11 | 98.08 | 81.57 |
| Schuyler | 126.33 | 70.67 | 133.87 | 130.45 | 137.54 | 119.77 |
| Luther | -(1) | 133.38 | 151.44 | 141.02 | 80.26 | 126.58 |
| SH 3673 | - | - | Winter-killed | - | - | - |
| NY 6005-18 (Trail/Hudson) | 79.63 | 48.21 | 92.96 | 75.51 | 27.30 | 64.72 |
| Or 7102 (Luther/Olympia/Alpine) | 136.29 | 158.05 | 134.91 | 129.81 | -(1) | 139.77 |
| Dar 69-977 (Jaydee/Hudson) | 43.52 | 16.60 | 51.39 | -(2) | -(2) | 38.30 |

(1) Sample lost after harvest.

(2) Not enough stand remaining to justify harvest.