

PROJECT TITLE: Oat variety evaluation in re-crop trials at Moccasin.

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OBJECTIVES:

To evaluate the agronomic performance of oat varieties under no-till recrop conditions at Moccasin.

RESULTS:

The 2000 no-till recrop oat trial was seeded into barley stubble. Soil moisture was fair to good for seeding in the spring. The surface soil was almost mud due to the shade and shelter provided by the standing stubble and chaff. Crop year (Sept.99-Sept 00) precipitation was low, but three inches of precipitation received in August 1999 was conserved in the no-till environment. Late germinating volunteer oats (shatter from 1998 crop) were a problem in the spring cereal nurseries. Otana and other tame oats have post harvest seed dormancy that can cause problems more than a year after the oat crop.

The spring oat yields were slightly below average with low test weights contributing to the reduced yield. The high evaporation demand contributed to low test weight.

SUMMARY:

The no-till recrop yields were slightly reduced due to the low precipitation levels during the 2000 crop year. The combination of good vegetation control and the water conservation provided with no-till provided for good yields in a dry year.

FUTURE PLANS:

The no-till recrop variety nurseries will be continued at CARC.

Table 41. Moccasin Re-Crop Oat Variety Performance.
Central Agricultural Research Center, Moccasin, Montana.

| ID | VARIETY | Plant Height inches | Heading Date days | Grain Yield lbs/a | Test Weight lbs/bu | Grain Protein % |
|------------|---------------------------|---------------------------|-------------------------|-------------------------|--------------------------|-----------------------|
| 95A11633 | (95ab11633)87Ab5932/83Ab3 | 28 | 192 | 1594 | 30.7 | 21.5 |
| 90Ab1322 | 80Ab1322/Monida | 28 | 188 | 2391 | 30.4 | 15.2 |
| ABSP 9-2 | 83/Ab3119/Monida | 28 | 186 | 2401 | 31.3 | 14.8 |
| ABSP19-9 | 83Ab3083/Monida | 28 | 190 | 2410 | 35.3 | 15.3 |
| BELMONT | AC Belmont | 29 | 190 | 1684 | 31.8 | 18.7 |
| 82Ab1142 | Ajay | 23 | 187 | 2100 | 31.7 | 17.4 |
| CELSIA | Celsia | 31 | 190 | 2231 | 33.0 | 14.0 |
| 86AB1616 | Lamont | 27 | 192 | 1434 | 32.0 | 20.0 |
| CI483126 | Monida | 29 | 190 | 2602 | 35.1 | 15.4 |
| ND930122 | ND930122 | 33 | 185 | 2263 | 32.9 | 14.8 |
| 87AB5125 | Ogle/75Ab861 | 29 | 189 | 2318 | 29.3 | 13.3 |
| CI 9252 | Otana | 35 | 188 | 2305 | 31.9 | 14.9 |
| ND862915 | Paul | 34 | 190 | 1626 | 37.0 | 17.2 |
| 88Ab3073 | Provena | 26 | 190 | 1553 | 34.2 | 20.7 |
| 81Ab5792 | Rio Grande | 30 | 184 | 2596 | 32.4 | 14.3 |
| ND870258 | Whitestone | 30 | 189 | 2321 | 30.6 | 14.9 |
| MEAN | | 29.3 | 188.7 | 2114.3 | 32.48 | 16.4 |
| F TEST FO | | | 25.23 | 28.46 | 0.84 | |
| C.V. 1 | | | 0.41 | 6.07 | 11.89 | |
| LSD (0.05) | | | 1.29 | 214.08 | 6.44 | |

Table 42. Moccasin Re-Crop Oat Multi-Year Yield Summary.
Central Agricultural Research Center, Moccasin, Montana.

| Variety | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | Avg. | Otana Same yr. |
|------------|------|------|------|------|------|------|------|------|------|------|-------------------|
| | | | | | | | | | | | |
| Otana | 3521 | 2917 | 1838 | 3402 | 2102 | 3262 | 2507 | 2372 | 2305 | 2692 | - |
| RioGrande | 3318 | 3098 | 1860 | 3405 | 2211 | 3156 | 2084 | 2547 | 2596 | 2697 | 2692 |
| Ajay | 3295 | 2378 | 1483 | 3322 | 1846 | 2978 | 2031 | 2184 | 2100 | 2402 | 2692 |
| Monida | 3728 | 3251 | 1809 | 3360 | 1850 | 3570 | 2827 | 2249 | 2602 | 2805 | 2692 |
| 90Ab1322 | | | 1935 | 3366 | 2016 | 3682 | 2516 | 2217 | 2391 | 2589 | 2541 |
| Whitestone | | | | 3373 | 1850 | 3519 | 2515 | 2248 | 2321 | 2638 | 2658 |
| Celsia | | | | 3152 | | 3119 | 2288 | 2146 | 2231 | 2587 | 2886 |
| 87AB5125 | | | | | | 3415 | 2236 | 2449 | 2318 | 2605 | 2714 |
| ABSP 9-2 | | | | | | 3556 | 1983 | 2455 | 2401 | 2599 | 2714 |
| Nursery | | | | | | | | | | | |
| Mean | 3426 | 2800 | 1926 | 3041 | 1799 | 3396 | 2361 | 2149 | 2114 | 2557 | |

Table 43. Moccasin Re-Crop Oat Multi-Year Grain Test Weight Summary.
Central Agricultural Research Center, Moccasin, Montana.

| Variety | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | Avg. | Otana Same yr. |
|------------|------|------|------|------|------|------|------|------|------|------|-------------------|
| | | | | | | | | | | | |
| Otana | 36.8 | 31.1 | 37.1 | 35.5 | 35.4 | 39.3 | 39.0 | 32.8 | 31.9 | 35.4 | - |
| RioGrande | 38.0 | 32.3 | 35.3 | 35.8 | 31.3 | 36.3 | 35.5 | 27.5 | 32.4 | 33.8 | 35.4 |
| Ajay | 37.8 | 30.5 | 33.7 | 36.6 | 33.9 | 37.4 | 37.6 | 28.0 | 31.7 | 34.1 | 35.4 |
| Monida | 36.0 | 31.3 | 35.4 | 33.1 | 31.5 | 37.9 | 36.5 | 27.4 | 35.1 | 33.8 | 35.4 |
| 90Ab1322 | | | 36.1 | 34.8 | 30.4 | 38.5 | 37.6 | 28.7 | 30.4 | 33.8 | 35.6 |
| Whitestone | | | | 34.9 | 34.3 | 37.8 | 37.8 | 27.3 | 30.6 | 33.4 | 35.6 |
| Celsia | | | | 35.5 | | 36.2 | 36.5 | 27.9 | 33.0 | 33.8 | 35.7 |
| 87AB5125 | | | | | | 37.2 | 38.2 | 28.1 | 29.3 | 33.2 | 35.7 |
| ABSP 9-2 | | | | | | 38.4 | 36.4 | 30.1 | 31.3 | 34.1 | 35.7 |
| Nursery | | | | | | | | | | | |
| Mean | 36.1 | 31.8 | 35.6 | 34.5 | 34.7 | 37.4 | 37.0 | 30.7 | 32.5 | 34.5 | |