

- YEAR: 1965
- TITLE: Small Grain Investigations (Winter Wheat) 5023
- LOCATION: Northwestern Montana Branch Station, Field No. E-1 and several off station locations
- DURATION: Indefinite
- OBJECTIVES:
 1. To obtain the information necessary for making varietal recommendation and for evaluating new varieties and selections.
 2. To conduct a breeding program in Northwestern Montana designed to produce high yielding varieties with particular emphasis on acceptable quality and resistance to dwarf bunt and stripe rust. Other agronomic characteristics such as straw strength, winter hardiness, etc, will be evaluated in this program.
 3. To determine the effect of seeding date, seeding depth and variety on the incidence of dwarf smut.

EXPERIMENTAL DESIGN AND PROCEDURE:

Standard nursery procedures were used in the variety testing program. In general station studies were four row plots, replicated four times. The design - complete randomized block. Description of a particular study and the procedures of each will be included in the results and discussion section.

RESULTS AND DISCUSSION:

Intrastate Hard Red

This nursery consisted of eleven commercial varieties and fourteen breeding lines. Nine entries were bulks of P.I. 178383 x Westmont². The remaining lines were from material originally supplied by W.S.U. staff.

Delmar was used as the check variety. There were no entries superior in yield to the check.

Stand reduction in this nursery was due primarily to the lack of snow cover during the winter, and "snow mold" in some cases. It was difficult to determine for sure if kill was due to the cold weather or disease.

Dwarf smut was noted on all but two entries, namely; C 63-16 and C 61-9. The percent smut on Delmar was 4% and 10% on Tendoy 61.

Most of the bulk lines of P.I. 178383 x Westmont² were somewhat susceptible to dwarf smut and very weak straw. Table 1.

-2-

Western Regional Hard Red

There were 29 entries in the western regional hard red winter wheat nursery located in the bunt area, Northwest of Kalispell. High yields were secured from this nursery due in part to the application of 200 pounds of 16-20-0 fertilizer per acre at seeding time and favorable moisture. Lodging was severe on susceptible varieties. Smut was noted on all entries except two.

McCall was the highest yielding entry, but had a 24% smut rating. See table 2.

Western Regional White Wheat

The western regional white wheat nursery contained 19 entries. Winter killing in this nursery was quite severe on all entries. Data showing stand percentage is found in table 3. No yield data was secured because of bird damage during the growing season.

Off station

Growing conditions, results and other information about each nursery will be discussed under the individual county headings. A total of four nurseries were seeded in the fall of 1964. Each nursery consisted of fourteen entries.

Missoula County - There were excellent growing conditions for this test. Yields were above average for the area. Generally stands were good in most varieties. Dwarf smut was most prevalent in Wanalta. C 61-9 was the highest yielding entry. See table 4, for complete data.

Ravalli County - Growing conditions were excellent in the area east of Stevensville where this nursery was grown. Yields are about average for the area. Cheyenne is the lead variety for yield. See table 5.

Lake County - Good fall emergence, but some stand loss in some entries during the winter. C 62-44 is the highest yielding entry, but not significantly better than Westmont which is used as a check. See table 6.

Mineral County - This nursery was "stubbled in". Emergence was fair, but stands were poor at harvest time. Dwarf smut was quite high in susceptible varieties. With the low incidence of smut in Westmont one could conclude that the race present is D-2. See table 7.

Protein determinations were made for all varieties grown off station. The lowest average protein was in Missoula, and the highest in Ravalli County. See table 8.

In all off station locations C 61-9 was the highest yielding entry of the commercial varieties, Westmont and Cheyenne are about equal. See table 9.

A summary of selected varieties grown in Western Montana is found in table 10. For the ten year period Cheyenne is the leading variety in yield. For the last four years, Delmar leads in yield.

-4-

In the off station locations C 61-9 was the highest yielding entry.

P. I. 178383 x Westmont² 7-14-5 was the most promising entry in the advance testing of breeding material.

Table 3. Heading date and stand data from uniform white winter wheat nursery grown at Creston, Montana in 1964-1965.

Date Seeded: September 19, 1964.

| Variety | C.I.No. | Heading Date | Stand in % Replications | | | | % Stand | Smut |
|---|---------|--------------|----------------------------|----|-----|----|---------|------|
| | | | I | II | III | IV | | |
| Kharkof | 1442 | 6-12 | 20 | 0 | 10 | 0 | 7 | x |
| Golden | 10063 | 6-15 | 10 | 10 | 20 | 5 | 11 | x |
| Omar | 13072 | 6-15 | 10 | 5 | 35 | 20 | 18 | x |
| Brevor | 12385 | 6-13 | 10 | 15 | 20 | 10 | 14 | x |
| Triplet | 5408 | 6-12 | 5 | 10 | 10 | 10 | 9 | x |
| Elgin | 11755 | 6-15 | 55 | 10 | -- | 5 | 18 | x |
| Burt | 12696 | 6-12 | 25 | 5 | 15 | 5 | 13 | x |
| Gaines | 13448 | 6-13 | 25 | 10 | 15 | 15 | 16 | x |
| (Elgin 19 x Elmar)- 111 x 1813, Sel. 4 | 13645 | 6-14 | 15 | 5 | 25 | 10 | 14 | x |
| Burt x K.F., 57-70136-86W | 13641 | 6-13 | 20 | 0 | 5 | 5 | 8 | x |
| Burt Mutant (27-15 x Rio-Rex, 53) x | 13728 | 6-13 | -- | 25 | 20 | 25 | 18 | x |
| Elgin, Sel. 11 | 13725 | 6-14 | 10 | 10 | 10 | 65 | 24 | x |
| P.I.178383xOmar ² , Sel.172 | 13740 | 6-15 | 0 | 5 | 5 | 0 | 2 | none |
| Alba Sel. (Roedel Sel.) | 13737 | -- | 0 | 1 | 0 | 5 | 1 | x |
| Delmar | 13442 | 6-16 | 40 | 55 | 20 | 50 | 41 | x |
| Suwon x Omar, BC 2-1 | 13748 | 6-15 | 40 | 55 | 25 | 30 | 35 | x |
| Suwon x Omar, BC 2-3 | 13749 | 6-14 | 20 | 65 | 40 | 15 | 35 | x |
| Omar x 1834-1 | 13750 | 6-15 | 15 | 15 | 20 | 35 | 21 | x |
| (14 x 50-3) x Burt Sel.7 | 13968 | 6-14 | 20 | 30 | 25 | 25 | 25 | x |

Table 4. Agronomic Data from Off Station Winter Wheat Nursery grown in Missoula County on the Al Goodan Farm, Missoula, Montana in 1964-1965. Single row plot, six replications.

Date Seeded: September 24, 1964 Date Harvested: August 18, 1965 Size of Plot: 16 Square Feet

| Variety | C.I.No. | Ht.in Inches | Dwarf Smut % | Survival % | Grams per Plot | | | | | | Total Grams | Yield Bu/A | Bushel Weight |
|---------------------|---------|-----------------|-----------------|---------------|----------------|-----|-----|-----|-----|-----|----------------|-------------------|------------------|
| | | | | | I | II | III | IV | V | VI | | | |
| Burt x P.I.178383 | | | | | | | | | | | | | |
| C61-9 | 13837 | 33 | | 94 | 300 | 450 | 350 | 380 | 410 | 310 | 2200 | 36.7* | 58.4 |
| Warrior | | 35 | 4 | 95 | 286 | 405 | 444 | 349 | 325 | 211 | 2020 | 33.7 | 58.6 |
| Cheyenne | 8885 | 33 | 2 | 92 | 330 | 449 | 289 | 315 | 295 | 220 | 1898 | 31.6 | 59.0 |
| Westmont | 12930 | 32 | | 93 | 272 | 462 | 290 | 303 | 215 | 240 | 1782 | 29.7 | 60.3 |
| Tripplet | 5408 | 35 | 2 | 91 | 265 | 310 | 260 | 320 | 295 | 265 | 1715 | 28.6 | 59.5 |
| Wanalta | | 33 | 7 | 94 | 240 | 355 | 366 | 205 | 270 | 220 | 1656 | 27.6 | 61.0 |
| Burt x P.I.178383 | | | | | | | | | | | | | |
| | C63-9 | 31 | | 80 | 164 | 265 | 355 | 335 | 286 | 217 | 1622 | 27.0 | 58.5 |
| Delmar | C62-44 | 31 | | 84 | 226 | 309 | 230 | 355 | 189 | 270 | 1579 | 26.3 | 57.3 |
| Rego | 13426 | 36 | .03 | 82 | 235 | 270 | 240 | 294 | 221 | 270 | 1530 | 25.5 | 60.5 |
| Omar | 13181 | 34 | 2 | 89 | 221 | 315 | 270 | 280 | 189 | 240 | 1515 | 25.2 | 58.6 |
| Burt | 13072 | 32 | | 81 | 205 | 391 | 190 | 252 | 265 | 144 | 1447 | 24.1 | 58.6 |
| Gaines | 12696 | 31 | 2 | 87 | 285 | 295 | 255 | 206 | 151 | 245 | 1437 | 23.9 ₁ | 60.0 |
| Purt x K.F.57-70136 | 13448 | 25 | .01 | 61 | 249 | 429 | 125 | 290 | 165 | 112 | 1370 | 22.8 ₁ | 59.5 |
| | 13641 | 32 | .01 | 51 | 110 | 80 | 169 | 260 | 204 | 160 | 983 | 16.4 ₁ | 58.9 |

NOTE: Westmont is used as a check in this nursery.

*: Varieties yielding significantly more than the check (.05)

₁: Varieties yielding significantly less than the check (.05)

| Source | D.F. | Mean Square | F. |
|--------------|------|-------------|--------|
| Replications | 5 | 25977.3900 | 7.75** |
| Varieties | 13 | 14901.98538 | 4.44** |
| Error | 65 | 3353.07769 | |
| Total | 83 | | |

| | |
|----------------------|---------|
| \bar{x} | 27.1 |
| S.E. \bar{x} | 2.36399 |
| L.S.D.(.05)... | 6.7 |
| L.S.D.(.01)... | 8.9 |
| C.V.%..... | 8.73 |

Table 5. Agronomic data from off station winter wheat nursery grown in Ravalli County on the L.S. Clark farm, Stevensville, Montana, 1964-1965. Single row plots, six replications.

Date Seeded: September 24, 1964 Date Harvested: September 3, 1965 Size of Plot: 16 sq. feet

| Variety | C.I.No. | Height Inches | Grams per Plot | | | | | | Total Grams | Yield Bu/A | Bu.Wt. Lbs. |
|---------------------|---------|------------------|----------------|-----|-----|-----|-----|-----|----------------|---------------|----------------|
| | | | I | II | III | IV | V | VI | | | |
| Cheyenne | 8885 | 28 | 385 | 389 | 360 | 344 | 356 | 280 | 2114 | 35.2** | 58.4 |
| Tripplet | 5408 | 29 | 372 | 404 | 330 | 225 | 295 | 305 | 1931 | 32.2** | 58.4 |
| Warrior | | 31 | 319 | 323 | 336 | 270 | 319 | 240 | 1807 | 30.1* | 58.1 |
| Rego | 13181 | 29 | 346 | 290 | 340 | 297 | 255 | 256 | 1784 | 29.7 | 57.1 |
| | C63-9 | 26 | 390 | 277 | 289 | 235 | 255 | 260 | 1706 | 28.4 | 55.9 |
| Gaines | 13448 | 22 | 320 | 305 | 280 | 270 | 249 | 275 | 1699 | 28.3 | 55.1 |
| Wanalta | | 27 | 360 | 294 | 280 | 205 | 265 | 292 | 1696 | 28.3 | 59.2 |
| Burt x P.I.178383 | C61-9 | 13837 | 270 | 286 | 365 | 210 | 270 | 299 | 1700 | 28.3 | 56.6 |
| Burt | 12696 | 25 | 385 | 252 | 245 | 235 | 230 | 280 | 1627 | 27.1 | 57.2 |
| Omar | 13072 | 25 | 309 | 251 | 355 | 255 | 234 | 206 | 1610 | 26.8 | 55.5 |
| Delmar | 13426 | 29 | 245 | 245 | 284 | 325 | 241 | 215 | 1555 | 25.9 | 58.0 |
| Westmont | 12930 | 28 | 236 | 275 | 259 | 259 | 250 | 246 | 1525 | 25.4 | 58.9 |
| Burt x P.I.178383 | C62-44 | 26 | 215 | 184 | 280 | 230 | 260 | 230 | 1399 | 23.3 | 56.0 |
| Burt x K.F.57-70136 | 13641 | 26 | 135 | 220 | 199 | 165 | 186 | 155 | 1060 | 17.7 | 55.9 |

NOTE: Westmont is used as a check in this nursery

*: Varieties yielding significantly more than the check (.05)

** : Varieties yielding significantly more than the check (.01)

| Source | Analysis of Variance | | |
|--------------|----------------------|-------------|------|
| | D.F. | Mean Square | F. |
| Replications | 5 | 8147.726 | 5.52 |
| Varieties | 13 | 10051.06307 | 6.81 |
| Error | 65 | 1475.94677 | |
| Total | 83 | | |

| | |
|-----------------|---------|
| \bar{x} | 27.6 |
| S.E.x..... | 1.56841 |
| L.S.D. (.05) | 4.4 |
| L.S.D. (.01) | 5.9 |
| C.V.%..... | 5.68 |

Table 6. Agronomic data from off station winter wheat nursery grown in Lake County on the Fleming farm, Pablo, Montana, 1964-1965. Single row plots, six replications.

Date Seeded: September 24, 1964

Date Harvested: August 13, 1965

Size of Plot: 16 sq. feet

| Variety | C.I.No. | Height Inches | Dwarf Smut % | Survival % | Grams per Plot | | | | | | Total Grams | Yield Bu/A | Bushel Weight |
|---------------------|-------------|------------------|-----------------|---------------|----------------|-----|-----|-----|-----|-----|----------------|---------------|------------------|
| | | | | | I | II | III | IV | V | VI | | | |
| Burt x P.I.178383 | C62-44 | 29 | | 83 | 315 | 376 | 260 | 294 | 255 | 278 | 1778 | 29.6 | 57.5 |
| Burt x P.I.178383 | C61-9 13837 | 31 | | 85 | 245 | 245 | 270 | 325 | 195 | 285 | 1565 | 26.1 | 57.8 |
| Westmont | 12930 | 28 | 1 | 86 | 205 | 165 | 410 | 170 | 316 | 201 | 1467 | 24.4 | 60.2 |
| | C 63-9 | 30 | | 82 | 205 | 169 | 379 | 180 | 360 | 160 | 1453 | 24.2 | 56.5 |
| Omar | 13072 | 28 | | 77 | 325 | 235 | 165 | 192 | 285 | 237 | 1439 | 24.0 | 56.1 |
| Delmar | 13426 | 33 | 2 | 85 | 396 | 224 | 168 | 244 | 212 | 175 | 1419 | 23.6 | 58.9 |
| Tripplet | 5408 | 30 | 9 | 85 | 290 | 165 | 170 | 150 | 145 | 270 | 1190 | 19.8 | 58.7 |
| Warrior | | 30 | 4 | 86 | 185 | 229 | 230 | 156 | 180 | 144 | 1124 | 18.7 | 58.1 |
| Gaines | 13448 | 22 | 1 | 61 | 254 | 145 | 294 | 147 | 198 | 75 | 1113 | 18.5 | 58.5 |
| Rego | 13181 | 30 | 2 | 83 | 260 | 135 | 203 | 158 | 180 | 174 | 1110 | 18.5 | 56.9 |
| Burt | 12696 | 26 | | 81 | 166 | 189 | 232 | 136 | 145 | 220 | 1088 | 18.1 | 57.7 |
| Cheyenne | 8885 | 28 | 2 | 70 | 236 | 105 | 260 | 74 | 205 | 186 | 1066 | 17.8 | 57.4 |
| Wanalta | | 28 | 1 | 77 | 204 | 130 | 155 | 70 | 201 | 140 | 900 | 15.0* | 58.5 |
| Burt x K.F.57-70136 | 13641 | 30 | 7 | 47 | 115 | 75 | 154 | 125 | 195 | 136 | 800 | 13.3** | -- |

NOTE: Westmont is used as a check in this nursery.

*: Varieties yielding significantly less than the check (.05)

** : Varieties yielding significantly less than the check (.01)

| | |
|----------------------|--------|
| \bar{x} | 20.8 |
| S.E. \bar{x} | 2.4383 |
| L.S.D.(.05).. | 6.9 |
| L.S.D.(.01).. | 9.2 |
| C.V.%..... | 11.70 |

| Analysis of Variance | | | |
|----------------------|------|-------------|--------|
| Source | D.F. | Mean Square | F. |
| Replications | 5 | 1223.3792 | |
| Varieties | 13 | 12481.07384 | 3.50** |
| Error | 65 | 3567.26215 | |
| Total | 83 | | |

Table 7. Agronomic data from off station winter wheat nursery grown on the Charles Frey farm, Superior, Montana in Mineral County, 1964-1965. Single row plots, six replications.

Date Seeded: September 24, 1964

Date Harvested: August 18, 1965

Size of Plot: 16 sq. feet

| Variety | C.I.No. | Height Inches | Dwarf Smut % | Survival % | Grams per Plot | | | | | | Total Grams | Yield Bu/A | Bushel Weight |
|---------------------|---------|------------------|-----------------|---------------|----------------|-----|-----|-----|-----|-----|----------------|---------------|------------------|
| | | | | | I | II | III | IV | V | VI | | | |
| | C 63-9 | 26 | .05 | 52 | 181 | 165 | 340 | 145 | 211 | 200 | 1242 | 20.7 | 57.0 |
| Burt x P.I.178383 | C 62-44 | 26 | | 64 | 185 | 228 | 130 | 200 | 215 | 211 | 1169 | 19.5 | 56.1 |
| Gaines | 13448 | 22 | 2 | 55 | 280 | 174 | 155 | 200 | 175 | 183 | 1167 | 19.4 | 58.5 |
| Burt x P.I.178383 | C61-9 | 13837 | 3 | 64 | 199 | 180 | 190 | 195 | 159 | 224 | 1147 | 19.1 | 57.9 |
| Westmont | 12930 | 24 | 6 | 61 | 236 | 190 | 245 | 125 | 145 | 200 | 1141 | 19.0 | 59.0 |
| Delmar | 13426 | 30 | 16 | 63 | 180 | 190 | 190 | 165 | 164 | 215 | 1104 | 18.4 | 58.0 |
| Omar | 13072 | 24 | 1 | 57 | 260 | 161 | 155 | 155 | 155 | 165 | 1051 | 17.5 | 57.4 |
| Burt | 12696 | 24 | 9 | 53 | 120 | 110 | 205 | 165 | 135 | 190 | 925 | 15.4 | 57.5 |
| Cheyenne | 8885 | 26 | 39 | 64 | 155 | 151 | 161 | 160 | 145 | 125 | 897 | 14.9 | 57.6 |
| Rego | 13181 | 18 | 23 | 60 | 102 | 165 | 174 | 120 | 110 | 185 | 856 | 14.2* | 56.2 |
| Warrior | | 29 | 43 | 52 | 136 | 120 | 120 | 135 | 160 | 172 | 843 | 14.0* | -- |
| Triplet | 5408 | 18 | 57 | 59 | 120 | 140 | 150 | 140 | 75 | 189 | 814 | 13.6* | -- |
| Burt x K.F.57-70136 | 13641 | 21 | 10 | 49 | 80 | 145 | 110 | 189 | 145 | 130 | 799 | 13.3** | -- |
| Wanalta | | 25 | 38 | 56 | 125 | 155 | 110 | 75 | 130 | 110 | 705 | 11.7** | -- |

NOTE: Westmont is used as a check in this nursery.

*: Varieties yielding significantly less than the check (.05)

** : Varieties yielding significantly less than the check (.01)

| | |
|----------------------|--------|
| \bar{x} | 16.5 |
| S.E. \bar{x} | 1.5270 |
| L.S.D.(.05).. | 4.3 |
| L.S.D.(.01).. | 5.7 |
| C.V.%..... | 9.25 |

| Source | Analysis of Variance | | |
|--------------|----------------------|-------------|--------|
| | D.F. | Mean Square | F. |
| Replications | 5 | 1564.5714 | 1.12 |
| Varieties | 13 | 5027.69485 | 3.59** |
| Error | 65 | 1399.06323 | |
| Total | 83 | | |

-13-

Table 8. Protein data from winter wheat varieties grown off station in 1964-1965.

| Variety | C.I. No. | County | | | | \bar{x} Western Montana Rank |
|-----------------------------------|----------|--------------------|---------|------|---------|--------------------------------------|
| | | Protein Percentage | | | | |
| | | Missoula | Ravalli | Lake | Mineral | |
| Westmont | 12930 | 8.0 | 14.0 | 11.4 | 11.2 | 11.2 3 |
| Gaines ¹ | 13448 | 7.6 | 12.8 | 10.9 | 9.8 | 10.3 7 |
| Cheyenne | 8885 | 8.1 | 13.2 | 12.3 | 11.9 | 11.4 2 |
| Delmar | 13426 | 8.1 | 12.7 | 11.3 | 11.4 | 10.9 4 |
| Omar ¹ | 13072 | 7.4 | -- | 9.6 | 9.7 | 8.9 8 |
| Warrior | | 8.5 | 12.8 | 12.2 | 12.0 | 11.4 2 |
| Wanalta | | 9.1 | 13.2 | 13.0 | 12.4 | 11.9 1 |
| Burt x K.F. 57-70136 ¹ | 13641 | 8.7 | 13.8 | 11.9 | 11.3 | 11.4 2 |
| Tripplet | 5408 | 8.2 | 12.6 | 11.3 | 11.5 | 10.9 4 |
| Rego | 13181 | 8.8 | 12.0 | 10.4 | 10.9 | 10.3 7 |
| Burt x P.I. 178383 (C-61-9) | 13837 | 8.1 | 13.1 | 9.7 | 11.5 | 10.6 6 |
| Burt x P.I. 178383 | 062-44 | 8.1 | 13.3 | 9.7 | 10.0 | 10.3 7 |
| Burt x P.I. 178383 | 063-9 | 8.3 | 11.9 | 10.7 | 10.4 | 10.3 7 |
| Burt ¹ | 12696 | 8.2 | 12.3 | 11.3 | 11.1 | 10.7 5 |
| \bar{x} | | 8.2 | 12.9 | 11.1 | 11.1 | 10.8 |
| \bar{x} Hard Red | | 8.3 | 12.9 | 11.2 | 11.3 | 10.9 |
| \bar{x} White | | 8.0 | 13.0 | 10.9 | 10.5 | 10.6 |
| \bar{x} Soft Red | | 8.2 | 12.6 | 11.3 | 11.5 | |

¹ White Wheat

-14-

Table 9. Summary of winter wheat varieties grown in Western Montana in 1964-1965.

| Variety | C.I.No. | Yields in Bushels/A Locations (County) | | | | \bar{x} | Average Protein % |
|----------------------------------|---------|---|---------|------|---------|-----------|-------------------------|
| | | Missoula | Ravalli | Lake | Mineral | | |
| Westmont | 12930 | 29.7 | 25.4 | 24.4 | 19.0 | 24.6 | 11.2 |
| Gaines ¹ | 13448 | 22.8 | 28.3 | 18.5 | 19.4 | 22.3 | 10.3 |
| Cheyenne | 8885 | 31.6 | 35.2 | 17.8 | 14.9 | 24.9 | 11.4 |
| Delmar | 13426 | 25.2 | 25.9 | 23.6 | 18.4 | 23.3 | 10.9 |
| Omar ¹ | 13072 | 24.1 | 26.8 | 24.0 | 17.5 | 23.1 | 8.9 |
| Warrior | 13190 | 33.7 | 30.1 | 18.7 | 14.0 | 24.1 | 11.4 |
| Wanalta | 13670 | 27.6 | 28.3 | 15.0 | 11.7 | 20.7 | 11.9 |
| Burt x K.F.57-70136 ¹ | 13641 | 16.4 | 17.7 | 13.3 | 13.3 | 15.2 | 11.4 |
| Triplet | 5408 | 28.6 | 32.2 | 19.8 | 13.6 | 23.6 | 10.9 |
| Rego | 13181 | 25.2 | 29.7 | 18.5 | 14.2 | 21.9 | 10.3 |
| Burt x P.I.178383(c61-9) | 13837 | 36.7 | 28.3 | 26.1 | 19.1 | 27.6 | 10.6 |
| Burt x P.I.178383 | C62-44 | 26.3 | 23.3 | 29.6 | 19.5 | 24.7 | 10.3 |
| Burt x P.I.178383 | C63- 9 | 27.0 | 28.4 | 24.2 | 20.7 | 25.1 | 10.3 |
| Burt ¹ | 12696 | 23.9 | 27.1 | 18.1 | 15.4 | 21.1 | 10.7 |

¹ White Wheat

Table 10. Summary of selected winter wheat data from varieties grown at the Northwestern Montana Branch Station in 1956-1965

| Variety | C.I.No. | Yield in Bushels per Acre | | | | | | | | | | | No. Years | Long Term % of Westmont | Average Bushel/Acre | | | |
|-----------------------|---------|---------------------------|------|------|------|------|------|------|------|------|------|-----------|-----------|-------------------------|---------------------|------|------|-------|
| | | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | \bar{x} | | | 2yr. | 3yr. | 4yr. | 10yr. |
| Cheyenne | 8885 | 71.0 | 59.3 | 49.0 | 51.8 | 41.4 | 49.5 | 55.5 | 61.9 | 57.5 | 48.7 | 54.6 | 10 | 105 | 53.1 | 56.2 | 55.9 | 54.6 |
| Westmont | 12930 | 68.6 | 60.7 | 64.9 | 53.3 | 34.3 | 51.1 | 57.2 | 45.6 | 41.5 | 42.4 | 52.0 | 10 | 100 | 42.0 | 43.2 | 46.7 | 52.0 |
| Itana | 12933 | 73.0 | 58.1 | 55.6 | 50.5 | 32.6 | 48.0 | 50.3 | 54.5 | 46.8 | 38.3 | 50.8 | 10 | 98 | 42.6 | 46.5 | 47.5 | 50.8 |
| Rego | 13181 | 66.7 | 50.0 | 59.8 | 55.6 | 35.5 | 46.7 | 60.6 | 60.2 | 49.9 | 42.5 | 52.8 | 10 | 102 | 46.2 | 50.9 | 53.3 | 52.8 |
| Tendoy | 13426 | | | 54.0 | 52.4 | 38.6 | 47.8 | 54.2 | 62.2 | 58.1 | 35.5 | 50.4 | 8 | 103 | 46.8 | 51.9 | 52.5 | |
| Delmar | 13442 | | | | | | | 55.3 | 71.8 | 51.4 | 47.3 | 56.5 | 4 | 121 | 49.4 | 56.8 | 56.4 | |
| Gaines | 13448 | | | | | | | | 91.7 | 68.0 | 24.7 | 61.5 | 3 | 142 | 46.4 | 61.5 | | |
| Tendoy 61 | 13675 | | | | | | | | | 47.4 | 55.3 | 51.4 | 2 | 122 | 51.4 | | | |
| Itana Sel.W-1 | 13816 | | | | | | | | 76.6 | 54.1 | 42.0 | 57.6 | 3 | 133 | 48.1 | 57.5 | | |
| BurtxP.I.178383 | 13837 | | | | | | | | | 44.4 | 43.7 | 44.1 | 2 | 105 | 44.1 | | | |
| Warrior | 13190 | | | | | | | | | 45.8 | 37.1 | 41.5 | 2 | 99 | 41.5 | | | |
| Winalt | 13670 | | | | | | | | | 54.4 | 31.4 | 42.9 | 2 | 102 | 42.9 | | | |
| BurtxP.I.178383 | 062-44 | | | | | | | | | 48.1 | 43.1 | 45.6 | 2 | 109 | 45.6 | | | |
| C 63-9 | | | | | | | | | | | 51.6 | 51.6 | 1 | 123 | | | | |
| C 62-31 | | | | | | | | | | 44.1 | 49.3 | 46.7 | 2 | 111 | 46.7 | | | |
| P.I.178383xIt. Bk.2 | | | | | | | | | | | 43.7 | 43.7 | 1 | 103 | | | | |
| P.I.178383xWest. Bk.1 | | | | | | | | | | | 42.4 | 42.4 | 1 | 100 | | | | |
| " " Bk.3 | | | | | | | | | | | 42.2 | 42.2 | 1 | 100 | | | | |
| " " Bk.7 | | | | | | | | | | | 40.4 | 40.4 | 1 | 95 | | | | |
| " " Bk.5 | | | | | | | | | | | 39.9 | 39.9 | 1 | 94 | | | | |
| P.I.178383x It. Bk.1 | | | | | | | | | | | 38.9 | 38.9 | 1 | 92 | | | | |
| P.I.178383xWest. Bk.2 | | | | | | | | | | | 37.4 | 37.4 | 1 | 88 | | | | |
| " " Bk.6 | | | | | | | | | | | 36.9 | 36.9 | 1 | 87 | | | | |
| " " Bk.4 | | | | | | | | | | | 36.5 | 36.5 | 1 | 86 | | | | |
| C 63-16 | | | | | | | | | | | 20.5 | 20.5 | 1 | 48 | | | | |

-15-

KS
VRS