

**Project Title:**

2023 Intrastate Winter Cereal Forage Variety Trial

**Objective:**

To test forage yield, grain yield, and quality of fifteen winter cereal forages.

**Personnel:**

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**Summary:**

Fifteen cereal forage lines were tested for 2023 in a randomized complete block trial replicated four times. This trial had varying stand count by variety due to late planting which is reflected in yield data. For detailed management information see Table 1.

Forage yield ranged from 2.2 tons/A (MTWF6[F2]\_51-5) to 4.4 tons/A (FX1001). Grain protein ranged from 11.0% (MTF22137) to 16.4% (MTWF6[F2]\_50-1). MTF22137 had the highest grain yield (62.4 Bu/A) and MTWF6(F2)\_50-1 had the lowest (22.1 Bu/A). Forage yield ranged from 2.2 tons/A (MTWF6(F2)\_51-5) to 4.4 tons/A (FX1001). See Table 2 for agronomic performance.

**Table 1.** Management Information

|                       |                         |  |                            |
|-----------------------|-------------------------|--|----------------------------|
| <b>Seeding date:</b>  | 10/17/2022 (290 Julian) | <b>Field Location:</b>   | R4                         |
| <b>Seeding rate:</b>  | Standard                | <b>Harvest date:</b>   | 7/31/2023 (212 Julian)     |
| <b>Previous crop:</b> | Canola                  | <b>Soil type:</b>  | Fine sandy loam            |
| <b>Herbicide:</b>     | N/A                     | <b>Tillage:</b>  | Conventional               |
| <b>Insecticide:</b>   | N/A                     | <b>Soil residual nutrient (NO<sub>3</sub><sup>-</sup>, P, K lb/A):</b>                   | 29.5-8-38 (Fall, 2022)     |
| <b>Fungicide:</b>     | N/A                     | <b>Nutrient fertilizer applied (N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O lb/A):</b> | 18.26 lbs N (Spring, 2023) |

**Table 2. Agronomic Performance**

| Line/ Cultivars  | Entry | Type | Forage  |             |            | Seed Yield and Quality |        |                    |       |                        |
|------------------|-------|------|---------|-------------|------------|------------------------|--------|--------------------|-------|------------------------|
|                  |       |      | FOR t/A | Head Julian | FOR HT, in | YLD <sup>1</sup> Bu/A  | TKW, g | % PRO <sup>2</sup> | % MC  | TWT <sup>1</sup> lb/bu |
| FX1001           | 1     | Trit | 4.4     | 159         | 53.4       | 53.2                   | 42.5   | 11.7               | 9.8   | 43.1                   |
| MTF23410         | 13    | WW   | 4.2     | 163         | 36.4       | 55.8                   | 36.1   | 12.2               | 9.7   | 61.4                   |
| MTF23409         | 12    | WW   | 4.2     | 162         | 32.6       | 51.1                   | 36.9   | 11.4               | 9.4   | 61.2                   |
| Willow Creek     | 8     | WW   | 3.9     | 160         | 26.3       | 57.8                   | 34.5   | 12.3               | 8.8   | 62.1                   |
| MTF23408         | 11    | WW   | 3.7     | 160         | 33.2       | 42.4                   | 42.7   | 13.5               | 9.4   | 61.2                   |
| MTF23407         | 10    | WW   | 3.7     | 163         | 27.2       | 54.8                   | 32.4   | 12.1               | 9.3   | 47.0                   |
| MTF22137         | 6     | WW   | 3.6     | 162         | 29.1       | 62.4                   | 33.5   | 11.0               | 9.4   | 63.3                   |
| MTF23406         | 9     | WW   | 3.6     | 159         | 35.3       | 41.1                   | 37.2   | 13.2               | 9.3   | 63.8                   |
| MTF23404         | 7     | WW   | 3.5     | 164         | 28.8       | 43.3                   | 31.8   | 12.8               | 9.8   | 47.3                   |
| Ray              | 2     | WW   | 3.5     | 165         | 28.1       | 48.9                   | 33.8   | 12.4               | 9.4   | 45.8                   |
| MTF20189         | 5     | WW   | 3.5     | 159         | 38.7       | 49.4                   | 41.5   | 14.5               | 9.7   | 63.1                   |
| Willow Creek     | 3     | WW   | 3.5     | 165         | 43.5       | 41.5                   | 35.0   | 13.7               | 10.9  | 60.1                   |
| MTF21207         | 4     | WW   | 3.3     | 164         | 31.0       | 56.4                   | 36.5   | 11.6               | 9.9   | 62.4                   |
| MTWF6(F2)_50-1   | 14    | WB   | 3.1     | 169         | 26.4       | 22.1                   | 35.8   | 16.4               | 10.5  | 48.2                   |
| MTWF6(F2)_51-5   | 15    | WB   | 2.2     | 176         | 27.0       | 25.5                   | 35.5   | 15.1               | 12.3  | 42.9                   |
| <b>Mean</b>      |       |      | 3.6     | 163.2       | 33.1       | 47.0                   | 36.4   | 12.9               | 9.8   | 55.5                   |
| <b>CV</b>        |       |      | 17.3    | 2.3         | 3.4        | 12.7                   | 3.3    | 2.5                | 5.6   | 29.4                   |
| <b>LSD</b>       |       |      | 0.9     | 5.3         | 1.6        | 8.5                    | 1.7    | 0.5                | 0.8   | ns                     |
| <b>PR &gt; F</b> |       |      | 0.004   | 0.001       | 0.001      | 0.001                  | 0.001  | 0.001              | 0.001 | 0.42                   |

Trit: triticale, WW: winter wheat, WB: winter barley, YLD: yield, FOR: forage, HT: plant height, PM: physiological maturity, TKW: thousand kernel weight, PRO: protein, MC: moisture content, TWT: test weight

1 adjusted to 13% moisture

2 adjusted to 12% moisture

ns: not significant