

Project Title: Statewide Lentil Variety Trial - 2017

Objective: To evaluate Lentils for yield and agronomic performance in Northwestern Montana.

Results:

Significant difference was observed for lentil yield with a mean yield of 60.3 bu/A (Table 2) and ranged from 45.9 bu/A for CDC Imigreen to 70.9 bu/A for Avondale. Test weights averaged 62.8 lb/bu. Thousand kernel weights averaged 40.4 grams. Plant stand averaged 10.8 plants per square foot and ranged from 4.6 plnts/sqft for CDC Impala CL to 14.7 plnts/sqft for CDC Imigreen. Days to 50 percent flowering averaged 185 days (July 4). Plant height at flowering averaged 15.9 inches yet no significant difference was observed at physiological maturity.

Summary:

The nursery was planted under rainfed condition with adequate subsurface moisture on silt loam soil. Weed was well controlled this season due to the pre-plant incorporated herbicide.

Table 1. Materials and Methods.

---

|                |                   |                 |  |
|----------------|-------------------|-----------------|--|
| Seeding Date:  | 5/11/2017         | Harvest Date:   | 9/11/2017  |
| Julian Date:   | 131               | Julian Date:    | 254  |
| Seeding rate:  | 12 plants/sqft    | Soil Test:      | 120-13-160   |
| Previous Crop: | Winter wheat      | Fertilizer:     | 6-30-30  |
| Tillage:       | Conventional      | Seed treatment: | Insecticide (Cruiser 5FS) and Fungicide (Apron Maxx RTA) |
| Irrigation:    | None              | Herbicide:      | Triflurex (pre-plant incorporated)                       |
| Soil Type:     | Creston silt loam | Insecticide:    | Warrior II (June 6)                                      |

---

Table 2. Lentil agronomic data.

| Cultivar          | PLNT<br>sqft | FLWR<br>Julian | HT FLWR<br>in | HT PF<br>in | HT PM<br>in | YLD<br>lb/A | YLD<br>bu/A | TWT<br>lb/bu | TKW<br>g |
|-------------------|--------------|----------------|---------------|-------------|-------------|-------------|-------------|--------------|----------|
| Avondale          | 12.4         | 182            | 15.0          | 21.8        | 20.8        | 4254.0      | 70.9        | 62.4         | 45.2     |
| CDC Richlea       | 14.3         | 185            | 16.8          | 22.0        | 20.0        | 4169.6      | 69.5        | 61.0         | 47.8     |
| CDC Maxim CL      | 11.5         | 185            | 14.0          | 21.0        | 22.0        | 3636.6      | 60.6        | 63.6         | 35.4     |
| CDC Invincible CL | 7.5          | 187            | 15.8          | 21.3        | 21.0        | 3628.8      | 60.5        | 63.5         | 31.7     |
| CDC Impala CL     | 4.6          | 188            | 14.8          | 18.8        | 19.3        | 3610.0      | 60.2        | 64.9         | 30.2     |
| CDC Viceroy       | 8.6          | 187            | 16.8          | 21.0        | 19.5        | 3582.0      | 59.7        | 64.2         | 32.1     |
| CDC Impress CL    | 12.6         | 185            | 16.3          | 24.0        | 20.0        | 3326.1      | 55.4        | 61.7         | 48.6     |
| CDC Imigreen      | 14.7         | 185            | 17.8          | 24.5        | 20.7        | 2754.4      | 45.9        | 61.2         | 52.5     |
| Mean              | 10.8         | 185            | 15.9          | 21.8        | 20.4        | 3620.2      | 60.3        | 62.8         | 40.4     |
| CV                | 24.4         | 0.2            | 9.7           | 8.1         | 6.7         | 11.2        | 11.2        | 0.6          | 3.1      |
| LSD               | 3.9          | 0.6            | 2.3           | 2.6         | ns          | 596.2       | 9.9         | 0.5          | 1.8      |
| Pr>F              | 0.0002       | 0.0001         | 0.0434        | 0.0053      | 0.1639      | 0.0012      | 0.0012      | 0.0001       | 0.0001   |

FLWR: 50% flower, HT FLWR: height at flowering, HT PF: height at pod fill, HT PM: height at physiological maturity, YLD: yield, TWT: test weight, TKW: thousand kernel weight, PRO: protein, ns: nonsignificant.