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# North Dakota Canola Variety Trial Results for 2017 and Selection Guide

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## Introduction

Canola is a major oil crop in the northern Great Plains, particularly in North Dakota. In 2017, North Dakota accounted for approximately 79 percent of the 2.16 million canola acres planted in the U.S. This publication summarizes canola variety performance at the various North Dakota State University Research Extension Centers. The relative performance of the hybrids is presented in table form.

Give special attention to yield results of those trials nearest to your production area when evaluating varieties or hybrids in these trials. Also, attempt to view yield averages of several years rather than using only one year's data as a determining factor. In addition, consider other agronomic characteristics, such as maturity, lodging score and oil percentages, if available.

Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in typing respective portions of the document is very much appreciated. A special thank you goes to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

## 2017 Growing Season Update

Canola fieldwork began by the end of April. Planting progress was near normal, and by May 14, 44 percent of the acres had been planted, compared with the average of 45 percent on the same date. On May 15, the topsoil moisture was rated at 69 percent adequate and 9 percent surplus.

Early canola stands varied across the region, depending on soil moisture availability and rainfall after planting. By July 9, 82 percent of the canola crop was flowering, compared with the average of 80 percent on the same day. Many parts of the state experienced dry summer conditions. By the last week in July, the North Dakota office of the National Agricultural Statistics Service reported the canola crop condition as 32 percent "good" and 1 percent "excellent," compared with 69 "good" and 9 percent "excellent" in 2016.

By Sept. 17, 91 percent of the canola acres were harvested, which was ahead of the 85 percent average on the same date. In general, the 2017 season was dry and yield is estimated to be 1,410 pounds per acre for North Dakota.

NDSU EXTENSION SERVICE
NDSU NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION
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**List of Tables**



**Table 1. Canola Production, North Dakota 2008-2017.**

| Year | Acres Planted | Acres Harvested | Yield Per Acre | Production |
|---|---|---|---|---|
| | ----------(1,000 Acres)---------- | | (lb.) | (1,000 lb.) |
| 2008 | 910 | 895 | 1,460 | 1,306,700 |
| 2009 | 730 | 725 | 1,840 | 1,334,000 |
| 2010 | 1,280 | 1,270 | 1,720 | 2,184,400 |
| 2011 | 890 | 850 | 1,500 | 1,275,000 |
| 2012 | 1,460 | 1,455 | 1,380 | 2,007,900 |
| 2013 | 920 | 915 | 1,820 | 1,665,300 |
| 2014 | 1,190 | 1,180 | 1,800 | 2,142,000 |
| 2015 | 1,410 | 1,400 | 1,780 | 2,492,000 |
| 2016 | 1,460 | 1,445 | 1,840 | 2,618,000 |
| 2017[1] | 1,700 | 1,690 | 1,410 | 2,230,000 |
| Average | 1,195 | 1,182 | 1,655 | 1,925,530 |

[1] Forecast USDA.
Source: North Dakota Agricultural Statistics Service – USDA.

**Table 2. April-September 2017 Average Temperature, Precipitation and Rankings for Select North Dakota Locations.**

| Location | Average Temperature (Ranking) | Total Precipitation (Ranking) |
|---|---|---|
| Bowman | 59.4 F (44th Warmest Period Since 1915) | 7.4 inches (10th Driest Period Since 1915) |
| Bismarck | 62.3 F (12th Warmest Period Since 1875) | 11.1 inches (55th Driest Period Since 1875) |
| Cavalier | 58.2 F (43rd Warmest Period Since 1934) | 12.2 inches (32nd Driest Period Since 1927) |
| Fargo | 61.9 F (24th Warmest Period Since 1881) | 11.2 inches (20th Driest Period Since 1881) |
| Minot Exp. Station | 59.6 F (29th Warmest Period Since 1905) | 8.3 inches (14th Driest Period Since 1905) |
| Williston Exp. Station | 62.0 F (9th Warmest Period Since 1894) | 9.1 inches (41st Driest Period Since 1894) |
| North Dakota Average[1] | **59.7 F (33rd Warmest Period Since 1895)** | **10.7 inches (14th Driest Period Since 1894)** |

Source: Adnan Akyüz, NDSU, North Dakota state climatologist.
[1]Statewide values are calculated based on all available locations in North Dakota rather than the mathematical average of the list above.

## About This Publication

Variety trial data from all NDSU Research Extension Centers for all crops can be found at *www.ag.ndsu.edu/varietytrials*. The agronomic data presented in this publication are from replicated research plots using experimental designs that enable the use of statistical analysis. The LSD (least significant difference) numbers beneath the columns in tables are derived from the statistical analyses and only apply to the numbers in the column in which they appear.

If the difference between two varieties exceeds the LSD value, it means that with 95 or 90 percent probability (0.05 or 0.10 level), the higher-yielding variety has a significant yield advantage. If the difference between two varieties is less than the LSD value, then the variety yields are considered similar. The abbreviation NS is used to indicate "no significant difference" for that trait among any of the varieties.

The CV is a measure of variability in the trial. The CV stands for coefficient of variation and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the varieties. In the tables, the mean indicates the average of the observations in the column. Only compare values within the table and look for trends for the desired trait among different experimental sites and years. Oil and harvest yield were adjusted to 8.5 percent moisture. Tables 4 and 5 are summary tables, with yields expressed as a percentage of the trial mean (indicated on the bottom) of the various trials reported in subsequent tables.

Presentation of data for the varieties tested does not imply approval or endorsement by the authors or agencies conducting the tests. NDSU approves the reproduction of any table in this publication only if no portion is deleted, appropriate footnotes are given, the order of the data is not rearranged and NDSU is credited for the data.

**Table 3. Company Name, Short Name Used in the Tables and URL With Company Information.**

| Company/Brand | Short | URL |
|---|---|---|
| Bayer CropScience | Bayer | www.bayercropscience.us/products/seeds/invigor-canola/ |
| BrettYoung | BrettYoung | www.brettyoung.ca/ |
| Canterra Seeds | Canterra | www.canterra.com/products/canola |
| Cargill | Cargill | www.cargillag.ca/grow-grain/cargill-specialty-canola |
| Cibus | Cibus | www.cibus.com |
| Dekalb | Dekalb | www.aganytime.com/dekalb/Pages/default.aspx |
| DuPont Pioneer | Pioneer | www.pioneer.com/home/site/us/products/canola/ |
| Dyna-Gro Seed | Dyna-Gro | www.dynagroseed.com/ |
| Integra Fortified Seed | Integra | http://integraseed.businesscatalyst.com/ |
| Mycogen Seeds | Mycogen | www.mycogen.com/ |
| Proseed Inc. | Proseed | www.proseed.net/ |
| Star Specialty | Star | www.starspecialtyseed.com/ |
| WinField Croplan | Croplan | www.croplan.com |

**Table 4. 2017 Summary of Liberty Link, Clearfield and Sulfonylurea Canola Hybrids in North Dakota.**

| Company/ Brand | Variety | Type[1] | Blackleg Rating[2] | Clubroot Resistance[3] | REC Carrington SU | REC Carrington CL | REC Langdon | REC Minot | REC Williston | Irr Williston |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (Yields Expressed as a Percentage of the Trial Mean) | | | | | |
| Bayer | InVigor L140P | H,LL,TR | R | No | -- | -- | 112 | 116 | -- | -- |
| Bayer | InVigor L230 | H,LL,TR | R | No | -- | -- | 99 | 125 | -- | -- |
| Bayer | InVigor L233P | H,LL,TR | R | No | -- | -- | 105 | 123 | -- | -- |
| Bayer | InVigor L241C | H,LL,TR | R | Yes | -- | -- | 106 | 95 | -- | -- |
| Bayer | InVigor L252 | H,LL,TR | R | No | -- | -- | 113 | 119 | -- | -- |
| Bayer | InVigor L255P | H,LL,TR | R | Yes | -- | -- | 106 | -- | -- | -- |
| Canterra | CS2200CL | H,CL,TR | R | No | -- | 98 | 103 | 96 | -- | -- |
| Cargill | V32-1CL | H,CL,HO | R | No | -- | -- | 100 | 116 | -- | -- |
| Cibus | C5507 | H,SU,TR | R | No | 100 | -- | 94 | 98 | 95 | 115 |
| Cibus | C5513 | H,SU,TR | R | No | 93 | -- | 74 | 64 | 81 | 81 |
| Cibus | C5522 | H,SU,TR | R | No | 107 | -- | 97 | 84 | 105 | 98 |
| Dyna-Gro | DG200CL | H,CL,TR | R | No | -- | -- | 112 | 93 | 119 | 106 |
| Mycogen | 2020 CL | H,CL,HO | R | Yes | -- | 113 | 97 | 73 | -- | -- |
| Mycogen | 2022 CL | H,CL,HO | R | No | -- | 90 | 90 | 94 | -- | -- |
| Mycogen | 2024 CL | H,CL,HO | R | No | -- | 99 | 94 | 87 | -- | -- |
| Croplan[4] | HyClass 955 | H,RR,TR | R | Yes | -- | -- | 99 | -- | -- | -- |
| Dekalb[4] | DKL70-10 | H,RR,TR | R | No | -- | -- | | 119 | -- | -- |
| Dekalb[4] | DKL71-14BL | H,RR,TR | R | No | -- | -- | 98 | -- | -- | -- |
| Trial mean in lb/a | | | | | 2,541 | 2,223 | 3,587 | 1,612 | 787 | 2,481 |

[1]H = Hybrid, Conv = open pollinated, LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready. TR = Traditional Oil Type, HO = High Oleic Oil Type.

[2]Blackleg: R = Resistant, MR = Moderate Resistant. Blackleg rating provided by company.

[3]Hybrid has Clubroot resistance. Rating provided by company.

[4]Roundup Ready checks in the trial.

**Table 5. 2017 Summary of Roundup Ready Canola Hybrids in North Dakota.**

| Company/ Brand | Variety | Type[1] | Blackleg Rating[2] | Clubroot Resistance[3] | REC Carrington | REC Langdon | REC Minot | REC Williston | Irr Williston |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | (Yields Expressed as a Percentage of the Trial Mean) | | | | |
| BrettYoung | 4157RR | H, TR | R | Yes | 110 | 104 | 108 | -- | -- |
| BrettYoung | 4187RR | H, TR | R | Yes | 101 | 110 | 94 | -- | -- |
| BrettYoung | 6074RR | H, TR | R | No | 108 | 102 | 98 | 82 | 106 |
| BrettYoung | 6076RR | H, TR | R | Yes | 116 | 101 | 92 | -- | -- |
| BrettYoung | 6080RR | H, TR | R | No | 105 | 88 | 97 | 89 | 101 |
| BrettYoung | 6086CR | H, TR | R | Yes | 98 | 100 | 89 | -- | -- |
| Canterra | CS2000 | H, TR | R | Yes | 104 | 97 | 79 | 99 | -- |
| Canterra | CS2100 | H, TR | R | No | 101 | 102 | 97 | 106 | -- |
| Canterra | CS2300 | H, TR | R | No | 112 | 114 | 98 | 74 | -- |
| Cargill | V12-3 | H, HO | R | Yes | 99 | 98 | 112 | -- | -- |
| Cargill | V14-1 | H, HO | R | Yes | 102 | 102 | 89 | -- | -- |
| Croplan | HyCLASS 930 | H, TR | R | No | 106 | 95 | 123 | 118 | 108 |
| Croplan | HyCLASS 955 | H, TR | R | Yes | 100 | 92 | 117 | 123 | 109 |
| Croplan | HyCLASS 970 | H, TR | R | No | 97 | 94 | 109 | 96 | 92 |
| Dekalb | DKL35-23 | H, TR | MR | No | 96 | 86 | 124 | -- | -- |
| Dekalb | DKL70-10RR | H, TR | R | No | 107 | 99 | 93 | -- | -- |
| Dekalb | DKL71-14BL | H, TR | R | No | 92 | 94 | 122 | -- | -- |
| Dekalb | DKL75-42 CR | H, TR | R | Yes | -- | -- | 84 | -- | -- |
| Dyna-Gro | DG533G | H, TR | R | No | -- | 102 | 112 | 97 | 90 |
| Dyna-Gro | DG540G | H, TR | R | No | -- | 107 | -- | -- | -- |
| Integra | 7150RR | H, TR | R | No | 85 | 92 | 102 | 95 | 99 |
| Integra | 7257RR | H, TR | R | No | 89 | 107 | 96 | -- | -- |
| Mycogen | 1022RR | H, HO | R | No | 104 | 100 | 83 | -- | -- |
| Mycogen | 1024RR | H, HO | R | Yes | 89 | 87 | 100 | -- | -- |
| Pioneer | 45CM36 | H, TR | R | Yes | 105 | 111 | -- | -- | -- |
| Pioneer | 45CS40 | H, TR | R | Yes | 84 | 90 | -- | -- | -- |
| Pioneer | 45M35 | H, TR | R | No | 101 | 118 | -- | -- | -- |
| Proseed | 300 Mag | H, TR | R | No | 91 | 106 | 88 | 102 | 105 |
| Proseed | PS 5000 | H, TR | R | Yes | 99 | 96 | 93 | 107 | 87 |
| Star | Star 402 | H, TR | R | No | 103 | 107 | 101 | 112 | 103 |
| Trial mean in lb/a | | | | | 2,920 | 3,887 | 1,970 | 842 | 3,887 |

[1]H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type.

[2]Blackleg: R = Resistant, MR = Moderately Resistant. Blackleg rating provided by company.

[3]Hybrid has Clubroot resistance. Rating provided by company.

**Table 6. 2017 Canola - Roundup Ready - Carrington - Authors, M. Ostlie, B. Schatz and J. Nielsen.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Maturity | Plant Height | Plant Lodge[1] | 1000 Seed Weight | Test Weight | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (DAP)[2] | (days) | (DAP)[2] | (inch) | (0-9) | (gram) | (lb/bu) | (%) | -----(lb/a)----- | |
| BrettYoung | 4157RR | 48 | 20 | 95 | 53 | 2 | 3.3 | 51.4 | 44.8 | 3,215 | -- |
| BrettYoung | 4187RR | 48 | 19 | 94 | 56 | 2 | 3.2 | 51.6 | 45.7 | 2,951 | -- |
| BrettYoung | 6074RR | 45 | 22 | 93 | 54 | 1 | 3.1 | 51.6 | 45.0 | 3,141 | 2,644 |
| BrettYoung | 6076RR | 45 | 23 | 96 | 60 | 2 | 3.5 | 50.8 | 43.9 | 3,379 | -- |
| BrettYoung | 6080RR | 44 | 21 | 93 | 52 | 1 | 3.3 | 51.4 | 43.8 | 3,054 | -- |
| BrettYoung | 6086CR | 45 | 20 | 95 | 52 | 3 | 3.5 | 49.9 | 44.7 | 2,859 | -- |
| Canterra | CS2000 | 45 | 21 | 93 | 58 | 4 | 3.7 | 51.3 | 43.9 | 3,031 | -- |
| Canterra | CS2100 | 44 | 22 | 92 | 54 | 2 | 3.3 | 52.2 | 44.7 | 2,950 | -- |
| Canterra | CS2300 | 45 | 24 | 97 | 58 | 1 | 3.8 | 50.8 | 44.1 | 3,261 | -- |
| Cargill | V12-3 | 45 | 19 | 91 | 50 | 2 | 3.3 | 51.3 | 45.9 | 2,883 | -- |
| Cargill | V14-1 | 47 | 20 | 94 | 50 | 1 | 3.2 | 51.7 | 45.4 | 2,979 | -- |
| Croplan | HyCLASS 930 | 42 | 23 | 91 | 45 | 3 | 3.4 | 51.6 | 46.2 | 3,086 | 2,528 |
| Croplan | HyCLASS 955 | 43 | 22 | 90 | 47 | 3 | 3.7 | 51.8 | 45.3 | 2,909 | 2,465 |
| Croplan | HyCLASS 970 | 45 | 21 | 94 | 47 | 1 | 3.5 | 52.0 | 44.3 | 2,821 | 2,468 |
| Dekalb | DKL35-23 | 42 | 23 | 87 | 46 | 1 | 3.5 | 51.4 | 44.1 | 2,806 | -- |
| Dekalb | DKL70-10 | 44 | 21 | 88 | 49 | 1 | 3.5 | 51.3 | 44.1 | 3,130 | -- |
| Dekalb | DKL71-14BL | 43 | 21 | 91 | 52 | 2 | 3.1 | 52.1 | 45.3 | 2,695 | -- |
| Integra | 7150RR | 43 | 22 | 92 | 50 | 3 | 3.4 | 51.5 | 45.4 | 2,483 | -- |
| Integra | 7257RR | 44 | 21 | 89 | 48 | 2 | 3.0 | 52.2 | 45.1 | 2,594 | -- |
| Mycogen | 1022RR | 50 | 19 | 94 | 54 | 0 | 3.7 | 50.3 | 45.9 | 3,033 | 2,370 |
| Mycogen | 1024RR | 49 | 17 | 94 | 55 | 1 | 3.9 | 52.3 | 45.5 | 2,607 | -- |
| Pioneer | 45CM36 | 46 | 20 | 93 | 49 | 2 | 3.6 | 49.6 | 46.8 | 3,054 | -- |
| Pioneer | 45CS40 | 45 | 20 | 90 | 54 | 2 | 3.4 | 50.5 | 44.6 | 2,448 | -- |
| Pioneer | 45M35 | 45 | 20 | 90 | 46 | 2 | 3.2 | 51.7 | 46.1 | 2,939 | -- |
| Proseed | 300 Mag | 46 | 21 | 92 | 52 | 1 | 3.6 | 51.9 | 45.0 | 2,651 | 2,348 |
| Proseed | PS 5000 | 45 | 21 | 92 | 53 | 4 | 3.2 | 51.5 | 43.9 | 2,887 | 2,305 |
| Star | Star 402 | 43 | 21 | 91 | 54 | 2 | 3.4 | 51.4 | 47.5 | 3,000 | 2,478 |
| Mean | | 45 | 21 | 92 | 52 | 2 | 3.4 | 51.4 | 45.1 | 2,920 | 2,451 |
| CV % | | 1.5 | 6.1 | 2.1 | 8.0 | 76 | 10.8 | 0.7 | 2.4 | 12.6 | -- |
| LSD 0.05 | | 1.0 | 1.8 | 2.7 | 5.9 | 1.9 | 0.5 | 0.5 | 1.5 | NS | -- |
| LSD 0.10 | | 0.8 | 1.5 | 2.3 | 4.9 | 1.6 | 0.4 | 0.4 | 1.3 | NS | -- |

Trial was planted on May 9 and harvested on Aug. 22. Previous crop was buckwheat.

[1]Lodging: 0 = none, 9 = lying flat on the ground.

[2]DAP = Days after planting.

**Table 7. 2017 Canola - Clearfield - Carrington - Authors, M. Ostlie, B. Schatz and J. Nielsen.**

| Brand | Variety | Type[1] | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Plant Lodge[2] | 1000 Seed Weight | Test Weight | Oil Content | Seed Yield 2017 | Seed Yield 2-yr Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (DAP)[3] | (days) | (DAP)[3] | (inch) | (0-9) | (gram) | (lbs/bu) | (%) | ---(lbs/a)--- | |
| Canterra | CS2200CL | TR | 46 | 22 | 101 | 56 | 3 | 3.35 | 52.3 | 41.6 | 2,181 | 2,074 |
| Mycogen | 2020 CL | HO | 47 | 20 | 101 | 56 | 4 | 4.1 | 52.5 | 43.2 | 2,505 | 2,059 |
| Mycogen | 2022 CL | HO | 46 | 20 | 101 | 51 | 2 | 4.26 | 52.1 | 42.4 | 2,004 | 1,693 |
| Mycogen | 2024 CL | HO | 46 | 21 | 100 | 52 | 3 | 4.20 | 52.1 | 43.1 | 2,201 | -- |
| Mean | | | 46 | 21 | 101 | 54 | 3 | 3.98 | 52.3 | 42.6 | 2,223 | 1,942 |
| CV % | | | 1.0 | 3.5 | 0.9 | 4.1 | 48 | 4.5 | 0.7 | 1.9 | 11.8 | -- |
| LSD 0.05 | | | 0.7 | 1.1 | 1.3 | 3.4 | NS | 0.25 | 0.5 | 1.2 | 417 | -- |
| LSD 0.10 | | | 0.6 | 0.9 | 1.1 | 2.8 | NS | 0.21 | 0.4 | 1.0 | 346 | -- |

Trial was planted on May 10 and harvested on Aug. 22. Previous crop was lentils.

[1]TR = Traditional Oil Type, HO = High Oleic Oil Type.

[2]Lodging: 0 = none, 9 = lying flat on the ground.

[3]DAP = Days after planting.

**Table 8. 2017 Canola - Sulfonylurea - Carrington - Authors, M. Ostlie, B. Schatz and J. Nielsen.**

| Brand | Variety | Type[1] | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Plant Lodge[2] | 1000 Seed Weight | Test Weight | Oil Content | Seed Yield 2017 | Seed Yield 2-yr Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (DAP)[3] | (days) | (DAP)[3] | (inch) | (0-9) | (gram) | (lbs/bu) | (%) | ---(lbs/a)--- | |
| Cibus | C5507 | TR | 45 | 21 | 101 | 58 | 5 | 3.64 | 50.2 | 41.5 | 2,534 | 2,122 |
| Cibus | C5513 | TR | 47 | 21 | 102 | 59 | 5 | 3.85 | 52.1 | 40.9 | 2,366 | 1,941 |
| Cibus | C5522 | TR | 45 | 22 | 102 | 60 | 5 | 3.81 | 50.5 | 41.1 | 2,722 | 2,053 |
| Mean | | | 46 | 21 | 102 | 59 | 5 | 3.77 | 50.9 | 41.2 | 2,541 | 2,039 |
| CV % | | | 1.0 | 3.5 | 0.9 | 4.1 | 48 | 4.5 | 0.7 | 1.9 | 11.8 | -- |
| LSD 0.05 | | | 0.7 | 1.1 | 1.3 | 3.4 | NS | 0.3 | 0.5 | 1.2 | 417 | -- |
| LSD 0.10 | | | 0.6 | 0.9 | 1.1 | 2.8 | NS | 0.2 | 0.4 | 1.0 | 346 | -- |

Trial was planted on May 10 and harvested on Aug. 22. Previous crop was lentils.

[1]TR = Traditional Oil Type.

[2]Lodging: 0 = none, 9 = lying flat on the ground.

[3]DAP = Days after planting.

**Table 9. 2017 Canola - Roundup Ready - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Plant Lodge[1] | Cover[2] | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (DAP)[3] | (days) | (DAP)[3] | (inch) | (0-9) | (%) | (%) | -----(lb/a)----- | |
| BrettYoung | 4157RR | 52 | 19 | 101 | 55 | 0 | 78 | 49.3 | 4,034 | -- |
| BrettYoung | 4187RR | 52 | 20 | 102 | 54 | 0 | 74 | 49.8 | 4,257 | -- |
| BrettYoung | 6074RR | 48 | 22 | 99 | 48 | 0 | 75 | 50.4 | 3,949 | 3,450 |
| BrettYoung | 6076CR | 48 | 21 | 99 | 52 | 0 | 71 | 49.6 | 3,919 | -- |
| BrettYoung | 6080RR | 47 | 19 | 96 | 45 | 0 | 70 | 49.4 | 3,404 | -- |
| BrettYoung | 6086CR | 48 | 19 | 99 | 46 | 2 | 70 | 49.2 | 3,897 | -- |
| Canterra | CS2000 | 48 | 19 | 96 | 48 | 2 | 74 | 49.1 | 3,788 | -- |
| Canterra | CS2100 | 46 | 19 | 97 | 45 | 1 | 77 | 50.5 | 3,959 | -- |
| Canterra | CS2300 | 49 | 22 | 101 | 53 | 0 | 74 | 49.9 | 4,430 | -- |
| Cargill | V12-3 | 49 | 19 | 100 | 48 | 1 | 73 | 48.9 | 3,824 | -- |
| Cargill | V14-1 | 51 | 20 | 101 | 52 | 0 | 77 | 49.0 | 3,979 | -- |
| Croplan | HyCLASS 930 | 45 | 19 | 96 | 41 | 1 | 63 | 52.2 | 3,676 | 3,396 |
| Croplan | HyCLASS 955 | 46 | 18 | 96 | 41 | 2 | 67 | 51.8 | 3,575 | 3,380 |
| Croplan | HyCLASS 970 | 48 | 20 | 97 | 47 | 0 | 64 | 51.3 | 3,643 | 3,351 |
| Dekalb | DKL35-23 | 46 | 20 | 95 | 48 | 2 | 70 | 49.8 | 3,356 | -- |
| Dekalb | DKL70-10 | 47 | 20 | 96 | 45 | 1 | 72 | 49.2 | 3,853 | 3,510 |
| Dekalb | DKL71-14BL | 45 | 20 | 95 | 42 | 1 | 70 | 51.2 | 3,656 | -- |
| Dyna-Gro | DG533G | 48 | 21 | 98 | 48 | 0 | 73 | 49.3 | 3,951 | -- |
| Dyna-Gro | DG540G | 49 | 21 | 100 | 46 | 1 | 74 | 49.5 | 4,165 | -- |
| Integra | 7150RR | 45 | 19 | 96 | 42 | 1 | 71 | 52.4 | 3,580 | 3,338 |
| Integra | 7257RR | 47 | 20 | 96 | 49 | 1 | 79 | 50.9 | 4,144 | -- |
| Mycogen | 1022RR | 52 | 19 | 102 | 49 | 0 | 71 | 49.2 | 3,899 | 3,109 |
| Mycogen | 1024RR | 52 | 19 | 102 | 53 | 0 | 66 | 49.5 | 3,391 | -- |
| Pioneer | 45CM36 | 47 | 21 | 99 | 45 | 0 | 74 | 52.0 | 4,303 | -- |
| Pioneer | 45CS40 | 48 | 21 | 99 | 47 | 1 | 65 | 49.7 | 3,510 | -- |
| Pioneer | 45M35 | 48 | 20 | 97 | 49 | 1 | 86 | 51.9 | 4,583 | -- |
| Proseed | 300 Mag | 47 | 21 | 99 | 47 | 1 | 68 | 50.0 | 4,119 | 3,429 |
| Proseed | PS 5000 | 46 | 18 | 96 | 46 | 2 | 74 | 48.9 | 3,725 | 3,330 |
| Star | Star 402 | 45 | 19 | 98 | 45 | 0 | 69 | 53.2 | 4,155 | 3,518 |
| Mean | | 48 | 20 | 98 | 47 | 1 | 72 | 50.2 | 3,887 | 3,381 |
| CV % | | 1.8 | 6.5 | 1.1 | 7.8 | 114 | 15.6 | 1.7 | 9.4 | -- |
| LSD 0.05 | | 1.2 | 1.8 | 1.5 | 5.2 | 1.1 | NS | 1.2 | 512 | -- |
| LSD 0.10 | | 1.0 | 1.5 | 1.2 | 4.4 | 0.9 | NS | 1.0 | 428 | -- |

Trial was planted on May 15 and harvested on Sept. 5.

[1]Lodging: 0 = none, 9 = lying flat on the ground.

[2]Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor. Plants were at 5- to 6-leaf stage.

[3]DAP = Days after planting.

**Table 10. 2017 Canola - Liberty Link, Clearfield and Sulfonylurea - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

| Company/ Brand | Variety | Type[1] | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Plant Lodge[2] | Cover[3] | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (DAP)[4] | (days) | (DAP)[3] | (inch) | (0-9) | (%) | (%) | -----(lb/a)----- | |
| Bayer | InVigor L140P | LL, TR | 48 | 19 | 97 | 47 | 2 | 85 | 49.5 | 4,032 | 3,415 |
| Bayer | InVigor L230 | LL, TR | 46 | 17 | 96 | 45 | 0 | 88 | 52.3 | 3,559 | -- |
| Bayer | InVigor L233P | LL, TR | 47 | 17 | 95 | 47 | 1 | 86 | 50.9 | 3,770 | -- |
| Bayer | InVigor L241C | LL, TR | 49 | 20 | 98 | 47 | 0 | 86 | 49.8 | 3,815 | 3,236 |
| Bayer | InVigor L252 | LL, TR | 49 | 19 | 98 | 46 | 0 | 88 | 53.3 | 4,047 | 3,411 |
| Bayer | InVigor L255P | LL, TR | 53 | 18 | 102 | 51 | 0 | 75 | 53.5 | 3,807 | -- |
| Canterra | CS2200CL | CL, TR | 49 | 21 | 98 | 48 | 1 | 82 | 51.9 | 3,694 | -- |
| Cargill | V32-1CL | CL, HO | 47 | 17 | 95 | 44 | 1 | 90 | 48.8 | 3,602 | -- |
| Cibus | C5507 | SU, TR | 50 | 20 | 101 | 48 | 1 | 92 | 49.2 | 3,363 | -- |
| Cibus | C5513 | SU, TR | 52 | 19 | 102 | 50 | 1 | 73 | 50.5 | 2,655 | -- |
| Cibus | C5522 | SU, TR | 49 | 22 | 101 | 48 | 1 | 94 | 49.5 | 3,478 | -- |
| Dyna-Gro | DG200CL | CL, TR | 48 | 20 | 97 | 47 | 0 | 96 | 51.1 | 4,008 | -- |
| Mycogen | 2020 CL | CL, HO | 51 | 18 | 100 | 45 | 0 | 75 | 52.6 | 3,497 | 2,705 |
| Mycogen | 2022 CL | CL, HO | 50 | 19 | 100 | 42 | 0 | 76 | 52.0 | 3,242 | -- |
| Mycogen | 2024 CL | CL, HO | 49 | 21 | 99 | 44 | 1 | 82 | 51.3 | 3,367 | -- |
| RR Check | HyClass 955 | RR, TR | 46 | 18 | 95 | 37 | 1 | 78 | 55.0 | 3,547 | 3,207 |
| RR Check | DKL71-14BL | RR, TR | 46 | 19 | 97 | 42 | 1 | 79 | 54.7 | 3,499 | -- |
| Mean | | | 49 | 19 | 98 | 46 | 1 | 84 | 51.5 | 3,587 | 3,195 |
| CV % | | | 1.7 | 6.0 | 1.3 | 8.7 | 187 | 12.0 | 2.1 | 9.7 | -- |
| LSD 0.05 | | | 1.2 | 1.6 | 1.8 | 5.5 | NS | 13.5 | 1.6 | 479 | -- |
| LSD 0.10 | | | 1.0 | 1.3 | 1.5 | 4.6 | NS | 11.3 | 1.3 | 400 | -- |

Trial was planted on May 15 and harvested on Sept. 5.

[1]LL = Liberty Link, SU = Sulfonylurea, CL = Clearfield System, RR = Roundup Ready, TR = Tradional Oil Type, HO = High Oleic Oil Type.

[2]Lodging: 0 = none, 9 = lying flat on the ground.

[3]Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor. Plants were at 5- to 6-leaf stage.

[4]DAP = Days after planting.

**Table 11. 2017 Canola - Liberty Link, Clearfield and Sulfonylurea - Minot - Authors, E. Eriksmoen and J. Effertz.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|
| | | (DAP)[1] | (days) | (DAP)[1] | (inch) | (%) | (lb/a) | (lb/a) |
| Bayer | InVigor L140P | 46 | 18 | 78 | 39 | 46.3 | 1,876 | 2,474 |
| Bayer | InVigor L230 | 45 | 18 | 78 | 40 | 46.6 | 2,012 | -- |
| Bayer | InVigor L233P | 45 | 18 | 78 | 40 | 46.5 | 1,977 | -- |
| Bayer | InVigor L241C | 49 | 16 | 79 | 42 | 44.9 | 1,530 | -- |
| Bayer | InVigor L252 | 47 | 16 | 78 | 40 | 48.9 | 1,911 | 2,330 |
| Canterra | CS2200CL | 48 | 17 | 79 | 38 | 49.0 | 1,541 | -- |
| Cargill | V32-1CL | 46 | 17 | 81 | 39 | 45.3 | 1,875 | -- |
| Cibus | C5507 | 48 | 15 | 79 | 39 | 47.1 | 1,585 | -- |
| Cibus | C5513 | 48 | 16 | 78 | 36 | 47.8 | 1,031 | -- |
| Cibus | C5522 | 47 | 16 | 80 | 37 | 48.9 | 1,347 | -- |
| Dyna-Gro | DG 200CL | 49 | 17 | 83 | 39 | 47.1 | 1,492 | -- |
| Mycogen | 2020 CL | 49 | 16 | 86 | 40 | 48.5 | 1,172 | 1,921 |
| Mycogen | 2022 CL | 49 | 15 | 87 | 37 | 47.8 | 1,511 | -- |
| Mycogen | 2024 CL | 47 | 17 | 86 | 38 | 49.5 | 1,395 | -- |
| RR Check | DKL70-10 | 45 | 18 | 77 | 38 | 47.3 | 1,926 | -- |
| Mean | | 47 | 17 | 81 | 39 | 47.4 | 1,612 | 2,242 |
| CV % | | 1.3 | 3.9 | 1.3 | 5.6 | 2.5 | 15.2 | -- |
| LSD 0.05 | | 1.0 | 1.0 | 2.0 | 4.0 | 1.9 | 372 | -- |
| LSD 0.10 | | 1.0 | 1.0 | 1.0 | 3.0 | 1.6 | 310 | -- |

Trial was planted on May 10 with a seeding rate of 8 lb/A and harvested on Aug. 21. Previous crop was soybean.

[1]DAP = Days after planting.

**Table 12. 2017 Canola - Roundup Ready - Minot - Authors, E. Eriksmoen and J. Effertz.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|
| | | (DAP)[1] | (days) | (DAP)[1] | (inch) | (%) | -----(lb/a)---- | |
| BrettYoung | 4157RR | 49 | 20 | 89 | 45 | 51.1 | 2,120 | -- |
| BrettYoung | 4187RR | 49 | 20 | 87 | 47 | 50.0 | 1,858 | -- |
| BrettYoung | 6074RR | 49 | 21 | 88 | 45 | 48.4 | 1,932 | 2,494 |
| BrettYoung | 6076CR | 46 | 23 | 88 | 51 | 48.9 | 1,811 | -- |
| BrettYoung | 6080RR | 46 | 22 | 87 | 44 | 49.2 | 1,915 | -- |
| BrettYoung | 6086CR | 49 | 20 | 87 | 46 | 49.3 | 1,747 | -- |
| Canterra | CS2000 | 47 | 21 | 82 | 48 | 47.1 | 1,548 | -- |
| Canterra | CS2100 | 45 | 22 | 85 | 45 | 49.6 | 1,919 | -- |
| Canterra | CS2300 | 48 | 22 | 87 | 49 | 51.2 | 1,933 | -- |
| Cargill | V12-3 | 47 | 21 | 83 | 43 | 49.0 | 2,213 | -- |
| Cargill | V14-1 | 48 | 20 | 85 | 46 | 49.6 | 1,751 | -- |
| Croplan | HyCLASS 930 | 42 | 23 | 83 | 41 | 52.4 | 2,423 | 2,665 |
| Croplan | HyCLASS 955 | 43 | 22 | 83 | 41 | 52.4 | 2,298 | 2,560 |
| Croplan | HyCLASS 970 | 44 | 23 | 87 | 46 | 52.0 | 2,147 | 2,830 |
| Dekalb | DKL35-23 | 43 | 24 | 83 | 42 | 51.2 | 2,445 | -- |
| Dekalb | DKL70-10 | 44 | 21 | 82 | 43 | 50.1 | 1,826 | 2,660 |
| Dekalb | DKL71-14BL | 43 | 22 | 83 | 41 | 52.5 | 2,399 | -- |
| Dekalb | DKL75-42CR | 47 | 19 | 84 | 42 | 51.3 | 1,654 | -- |
| Dyna-Gro | DG533G | 47 | 21 | 84 | 45 | 50.3 | 2,209 | -- |
| Integra | 7150RR | 43 | 22 | 82 | 41 | 52.4 | 2,011 | 2,428 |
| Integra | 7257RR | 43 | 22 | 81 | 42 | 45.6 | 1,901 | -- |
| Mycogen | 1022RR | 50 | 20 | 93 | 48 | 49.4 | 1,643 | 1,997 |
| Mycogen | 1024RR | 49 | 20 | 91 | 44 | 51.6 | 1,972 | -- |
| Proseed | 300 Mag | 44 | 23 | 83 | 42 | 49.8 | 1,734 | 2,659 |
| Proseed | PS 5000 | 44 | 22 | 81 | 47 | 50.0 | 1,832 | 2,377 |
| Star | Star 402 | 44 | 22 | 84 | 44 | 53.9 | 1,985 | -- |
| Mean | | 46 | 21 | 85 | 45 | 50.3 | 1,970 | 2,519 |
| CV % | | 2.4 | 4.8 | 2.2 | 4.4 | 3.5 | 18 | -- |
| LSD 0.05 | | 2.0 | 2.0 | 3.0 | 3.0 | 2.8 | 551 | -- |
| LSD 0.10 | | 2.0 | 1.0 | 3.0 | 3.0 | 2.4 | 460 | -- |

Trial was planted on May 2 with a seeding rate of 8 lb/A and harvested on Aug. 19. Previous crop was soybean.

[1]DAP = Days after planting.

**Table 13. 2017 Canola - Roundup Ready - Williston - Authors, J. Bergman, G. Pradhan and E. Link.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Oil Content | Seed Yield 2017 | Seed Yield 3-yr. Avg. |
|---|---|---|---|---|---|---|---|---|
| | | (DAP)[1] | (days) | (DAP)[1] | (inch) | (%) | -----(lb/a)----- | |
| BrettYoung | 6074RR | 55 | 7 | 101 | 31 | 36.8 | 693 | -- |
| BrettYoung | 6080RR | 53 | 7 | 96 | 32 | 38.4 | 748 | -- |
| Canterra | CS2000 | 54 | 6 | 97 | 33 | 37.8 | 832 | -- |
| Canterra | CS2100 | 54 | 6 | 95 | 32 | 37.9 | 891 | -- |
| Canterra | CS2300 | 56 | 6 | 100 | 34 | 37.2 | 621 | -- |
| Croplan | HyCLASS 930 | 51 | 8 | 92 | 31 | 41.1 | 995 | 1,480 |
| Croplan | HyCLASS 955 | 52 | 8 | 92 | 33 | 41.0 | 1,035 | 1,518 |
| Croplan | HyCLASS 970 | 53 | 7 | 98 | 32 | 39.6 | 804 | -- |
| Dyna-Gro | DG533G | 54 | 6 | 97 | 31 | 38.8 | 820 | -- |
| Integra | 7150RR | 51 | 7 | 90 | 32 | 39.4 | 800 | 1,422 |
| Proseed | 300 Mag | 53 | 7 | 97 | 32 | 40.3 | 862 | -- |
| Proseed | PS 5000 | 53 | 8 | 95 | 36 | 38.9 | 905 | -- |
| Star | Star 402 | 52 | 8 | 93 | 31 | 42.1 | 944 | 1,552 |
| Mean | | 53 | 7 | 95 | 32 | 39.2 | 842 | 1,493 |
| CV % | | 0.9 | 9.8 | 1.8 | 5.6 | 2.3 | 14.0 | -- |
| LSD 0.05 | | 0.7 | NS | 2.4 | 2.5 | 1.3 | 162 | -- |
| LSD 0.10 | | 0.6 | NS | 2.0 | 2.1 | 1.1 | 135 | -- |

Trial was planted on May 4 and harvested on Aug. 14. Previous crop was oat/hard red spring wheat.

[1]DAP = Days after planting.

**Table 14. 2017 Canola - Clearfield and Sulfonylurea - Williston - Authors, J. Bergman, G. Pradhan and E. Link.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Oil Content | Seed Yield 2017 | Seed Yield 2-yr. Avg. |
|---|---|---|---|---|---|---|---|---|
| | | (DAP)[1] | (days) | (DAP)[1] | (inch) | (%) | -------(lb/a)------- | |
| Cibus | C5507 | 55 | 6 | 99 | 34 | 39.5 | 748 | 1,318 |
| Cibus | C5513 | 56 | 6 | 99 | 33 | 40.2 | 637 | 1,240 |
| Cibus | C5522 | 54 | 6 | 98 | 34 | 39.2 | 825 | 1,241 |
| Dyna-Gro | DG 200CL | 56 | 6 | 98 | 32 | 36.8 | 936 | -- |
| Mean | | 55 | 6 | 99 | 33 | 38.9 | 787 | 1,266 |
| CV % | | 0.8 | 9.8 | 0.9 | 4.8 | 1.5 | 10.1 | -- |
| LSD 0.05 | | 0.6 | NS | 1.3 | 2.2 | 0.8 | 109 | -- |
| LSD 0.10 | | 0.5 | NS | 1.1 | 1.8 | 0.7 | 90 | -- |

Trial was planted on May 4 and harvested on Aug. 16. Previous crop was oat/hard red spring wheat.

[1]DAP = Days after planting.

**Table 15. 2017 Canola - Irrigated - Roundup Ready - Williston. Authors, J. Jacobs and T. Tjelde.**

| Company/ Brand | Variety | Days to Flower | Flower Duration | Days to Mature | Plant Height | Plant Lodge[1] | Oil Content | Seed Yield 2017 | Seed Yield 2-yr. Avg.[2] |
|---|---|---|---|---|---|---|---|---|---|
| | | (DAP)[3] | (days) | (DAP)[3] | (inch) | (0-9) | (%) | --------(lb/a)-------- | |
| BrettYoung | 6074 RR | 51 | 54 | 19 | 40 | 0 | 40.8 | 4,114 | 4,391 |
| BrettYoung | 6080 RR | 49 | 51 | 19 | 38 | 1 | 39.3 | 3,922 | -- |
| Croplan | HyCLASS 930 | 44 | 50 | 21 | 38 | 0 | 41.2 | 4,200 | -- |
| Croplan | HyCLASS 955 | 46 | 49 | 23 | 38 | 1 | 41.1 | 4,246 | -- |
| Croplan | HyCLASS 970 | 47 | 51 | 22 | 39 | 0 | 40.6 | 3,560 | -- |
| Dyna-Gro | DG 533G | 46 | 52 | 19 | 39 | 0 | 39.9 | 3,515 | -- |
| Integra | 7150RR | 45 | 51 | 21 | 38 | 1 | 40.4 | 3,834 | -- |
| Proseed | 300 Mag | 47 | 52 | 21 | 40 | 1 | 40.8 | 4,073 | -- |
| Proseed | PS 5000 | 48 | 52 | 20 | 38 | 1 | 40.0 | 3,401 | -- |
| Star | Star 402 | 48 | 51 | 21 | 39 | 1 | 42.8 | 4,002 | 4,458 |
| Mean | | 47 | 51 | 21 | 39 | 1 | 40.7 | 3,887 | 4,425 |
| CV % | | 5.1 | 17.2 | 3.5 | 6.0 | 112 | 1.9 | 19.5 | -- |
| LSD 0.05 | | 3.8 | 5.1 | 5.0 | 1.6 | 0.9 | 1.1 | 1094 | -- |
| LSD 0.10 | | 3.2 | 4.2 | 4.1 | 1.3 | 0.7 | 0.9 | 909 | -- |

Trial was planted on May 2 and harvested on Aug 23. Previous crop was barley.

[1]Lodging: 0 = none, 9 = lying flat on the ground.

[2]The 2-yr. Avg is 2015 and 2017 data.

[3]DAP = Days after planting.

**Table 16. 2017 Canola - Irrigated - Clearfield and Sulfonylurea - Williston. Authors, J. Jacobs and T. Tjelde.**

| Brand | Variety | Days to Flower | Flower Duration | Days to Maturity | Plant Height | Plant Lodge[1] | Oil Content | Seed Yield 2017 |
|---|---|---|---|---|---|---|---|---|
| | | (DAP)[2] | (days) | (DAP)[2] | (inch) | (0-9) | (%) | (lb/a) |
| Cibus | C5507 | 45 | 47 | 20 | 37 | 1 | 38.4 | 2,857 |
| Cibus | C5513 | 47 | 54 | 14 | 39 | 1 | 37.7 | 2,009 |
| Cibus | C5522 | 46 | 50 | 19 | 37 | 0 | 37.7 | 2,440 |
| Dyna-Gro | DG 200CL | 45 | 52 | 16 | 38 | 0 | 36.6 | 2,619 |
| Mean | | 46 | 51 | 17 | 38 | 0.3 | 37.6 | 2,481 |
| CV % | | -- | -- | -- | 5.2 | 298 | 1.5 | 13.6 |
| LSD 0.05 | | -- | -- | -- | 1.5 | 0.6 | 0.9 | 104 |
| LSD 0.10 | | -- | -- | -- | 1.2 | 0.5 | 0.7 | 129 |

Trial was planted on May 2 and harvested on Aug. 23. Previous crop was barley.

[1]Lodging: 0 = none, 9 = lying flat on the ground.

[2]DAP = Days after planting.



700-10-17