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# North Dakota Flax

## *Variety Trial Results for 2020 and Selection Guide*

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This selection guide summarizes flax variety performance at the various North Dakota State University Research Extension Centers. Give special attention to flax yield results of those trials nearest to your production area when evaluating varieties 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, disease tolerance, lodging score and oil percentages, if available.

The agronomic data presented 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% probability (LSD 0.05 or 0.10), 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. 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 content and harvested seed yield were adjusted to 9% moisture. The oil content data are not intended to be compared between locations. In the table headings (Tables 4 to 11), the lead scientists are acknowledged. 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. Research specialists and technicians helped with the field work and data compilation.

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**Table 1. Selected Flax Variety Descriptions Tested in 2020 in North Dakota.**

| Variety <sup>1</sup> | Origin <sup>2</sup>    | Year Released | Days to Flower Avg. <sup>3</sup> | Seed Color | Plant Height | Plant Height |                   | Fusarium Wilt <sup>4</sup> |
|----------------------|------------------------|---------------|----------------------------------|------------|--------------|--------------|-------------------|----------------------------|
|                      |                        |               |                                  |            |              | inch         | Avg. <sup>3</sup> |                            |
| AAC Bright           | Can.                   | 2017          | 46                               | Yellow     | Tall         | 24           |                   | MS/S <sup>5</sup>          |
| Aquarius             | Pulse USA <sup>6</sup> | --            | 41                               | Brown      | Med.short    | 17           |                   | MR                         |
| Bison                | ND                     | 1926          | 47                               | Brown      | Med.tall     | 22           |                   | MR                         |
| Carter               | ND                     | 2004          | 47                               | Yellow     | Med.tall     | 19           |                   | MS/S <sup>5</sup>          |
| CDC Buryu            | Can.                   | 2016          | 47                               | Brown      | Med.tall     | 22           |                   | MR                         |
| CDC Dorado           | Can.                   | 2017          | 42                               | Yellow     | Med.tall     | 19           |                   | MS <sup>5</sup>            |
| CDC Glas             | Can.                   | 2012          | 49                               | Brown      | Tall         | 23           |                   | MS <sup>5</sup>            |
| CDC Neela            | Can.                   | 2013          | 47                               | Brown      | Med.tall     | 20           |                   | MR                         |
| CDC Plava            | Can.                   | 2015          | 46                               | Brown      | Med.tall     | 20           |                   | MR                         |
| CDC Rowland          | Can.                   | 2018          | 46                               | Brown      | Med.tall     | 22           |                   | MR                         |
| Gold ND              | ND                     | 2014          | 48                               | Yellow     | Med.tall     | 22           |                   | MR/R                       |
| Lion                 | Pulse USA <sup>6</sup> | --            | 44                               | Brown      | Med.short    | 17           |                   | MR                         |
| ND Hammond           | ND                     | 2018          | 46                               | Brown      | Med.         | 19           |                   | MS                         |
| Omega                | ND                     | 1989          | 47                               | Yellow     | Med.         | 18           |                   | MS <sup>5</sup>            |
| Prairie Thunder      | Can.                   | 2006          | 48                               | Brown      | Med.tall     | 22           |                   | MR                         |
| Webster              | SD                     | 1998          | 48                               | Brown      | Med.tall     | 21           |                   | MR                         |
| York                 | ND                     | 2002          | 45                               | Brown      | Med.tall     | 21           |                   | MR/R                       |

<sup>1</sup>All varieties have resistance to prevalent races of rust; all have good oil yield and oil quality.

<sup>2</sup>Can. = Canada; ND = North Dakota State University; SD = South Dakota State University.

<sup>3</sup>Based on Carrington in 2020.

<sup>4</sup>R = resistant; MR = moderately resistant; MS = moderately susceptible; S = susceptible.

<sup>5</sup>This variety had fusarium wilt within the 2020 CREC flax variety trial, and rating has been adjusted to a lower rating.

<sup>6</sup>Company entering variety into the trial at Carrington.

**Table 2. Yield of Flax Varieties at Six Locations in North Dakota, 2018-2020.**

| Variety                 | <u>Carrington</u> |            | <u>Dickinson</u> |            | <u>Hettinger</u> |            | <u>Langdon</u> |            | <u>Minot</u>   |            | <u>Williston dryland</u> |            | <u>Average N.D.</u> |            |
|-------------------------|-------------------|------------|------------------|------------|------------------|------------|----------------|------------|----------------|------------|--------------------------|------------|---------------------|------------|
|                         | 2020              | 3 Yr. Avg. | 2020             | 3 Yr. Avg. | 2020             | 3 Yr. Avg. | 2020           | 3 Yr. Avg. | 2020           | 3 Yr. Avg. | 2020                     | 3 Yr. Avg. | 2020                | 3 Yr. Avg. |
|                         | ----(bu/a)----    |            | ---(bu/a)---     |            | ----(bu/a)----   |            | ----(bu/a)---- |            | ----(bu/a)---- |            | ---(bu/a)---             |            | ----(bu/a)---       |            |
| AAC Bright <sup>1</sup> | 25.1              | --         | 20.1             | 12.5       | --               | 51.4       | --             | 22.9       | --             | 14.9       | --                       | 24.5       | --                  |            |
| Bison                   | 18.4              | 26.1       | 22.1             | 14.9       | 18.4             | 40.6       | 40.2           | 22.5       | 22.1           | 17.8       | 15.3                     | 22.7       | 24.4                |            |
| Carter <sup>1</sup>     | 19.9              | 27.0       | 20.0             | 14.1       | 18.9             | 43.4       | 41.1           | 22.5       | 21.2           | 14.2       | 14.7                     | 22.3       | 24.6                |            |
| CDC Buryu               | 17.9              | --         | 22.9             | 13.1       | --               | 39.7       | --             | 18.3       | --             | 17.3       | 22.1                     | 21.5       | --                  |            |
| CDC Dorado <sup>1</sup> | 16.2              | --         | 17.9             | 13.9       | --               | 37.6       | --             | 26.0       | --             | 18.2       | --                       | 21.6       | --                  |            |
| CDC Glas                | 21.3              | --         | 19.7             | 15.0       | 20.1             | 49.6       | 44.7           | 23.4       | 24.3           | 16.3       | 17.6                     | 24.2       | --                  |            |
| CDC Neela               | 22.8              | 30.0       | 22.7             | 16.1       | 20.9             | 43.4       | 41.4           | 25.1       | 26.4           | 14.6       | 15.9                     | 24.1       | 26.9                |            |
| CDC Plava               | 22.0              | --         | 18.4             | 16.2       | --               | 38.7       | --             | 22.3       | --             | 19.9       | --                       | 22.9       | --                  |            |
| Gold ND <sup>1</sup>    | 19.2              | 24.5       | 19.1             | 13.9       | 18.4             | 47.7       | 44.0           | 23.8       | 21.7           | 12.7       | 14.3                     | 22.7       | 24.6                |            |
| ND Hammond              | 19.1              | 27.7       | 19.2             | 13.2       | --               | 39.5       | 39.0           | 23.6       | 21.2           | 16.2       | 14.6                     | 21.8       | --                  |            |
| Omega <sup>1</sup>      | 12.7              | 20.6       | 19.0             | 16.3       | 18.2             | 40.2       | 39.1           | 20.2       | 20.3           | 15.0       | 19.2                     | 20.6       | 23.5                |            |
| Prairie Thunder         | 19.0              | 26.3       | 22.8             | 17.9       | 21.3             | 43.7       | 43.1           | 21.6       | 21.7           | 18.5       | 16.3                     | 23.9       | 25.7                |            |
| Webster                 | 22.6              | 27.5       | 22.2             | 14.8       | 19.6             | 45.5       | 43.9           | 20.0       | 20.6           | 18.7       | 15.1                     | 24.0       | 25.3                |            |
| York                    | 19.7              | 27.8       | 20.6             | 17.2       | 20.2             | 47.9       | 44.3           | 19.1       | 19.3           | 17.0       | 17.1                     | 23.6       | 25.7                |            |
| Mean                    | 19.7              | 26.4       | 20.5             | 14.9       | 19.6             | 43.5       | 42.1           | 22.2       | 21.9           | 16.5       | 16.6                     | 22.9       | 25.1                |            |
| CV %                    | 18.7              | --         | 10.9             | 11.3       | --               | 5.2        | --             | 14.0       | --             | 19.0       | --                       | 11.5       | 7.5                 |            |
| LSD 0.05                | 5.9               | --         | 3.7              | 2.4        | --               | 3.9        | --             | NS         | --             | 1.4        | --                       | 3.0        | 2.5                 |            |
| LSD 0.10                | 5.0               | --         | 3.1              | 2.0        | --               | 3.3        | --             | NS         | --             | 1.2        | --                       | 2.5        | 2.0                 |            |

<sup>1</sup>Yellow seeded.**Table 3. Test Weight and Oil Content of Flax Varieties at Six Locations in North Dakota, 2020.**

| Variety                 | <u>Carrington</u> |      | <u>Dickinson</u> |      | <u>Hettinger</u> | <u>Langdon</u> | <u>Minot</u> |      | <u>Williston dryland</u> |      | <u>Average N.D.</u> <sup>2</sup> |      |
|-------------------------|-------------------|------|------------------|------|------------------|----------------|--------------|------|--------------------------|------|----------------------------------|------|
|                         | Test Wt.          | Oil  | Test Wt.         | Oil  | Oil              | Test Wt.       | Test Wt.     | Oil  | Test Wt.                 | Oil  | Test Wt.                         | Oil  |
|                         | (lb/bu)           | (%)  | (lb/bu)          | (%)  | (%)              | (lb/bu)        | (lb/bu)      | (%)  | (lb/bu)                  | (%)  | (lb/bu)                          | (%)  |
| AAC Bright <sup>1</sup> | 48.4              | 41.7 | 52.1             | 46.6 | 46.4             | 51.1           | 53.4         | 43.6 | 50.7                     | 46.2 | 51.1                             | 44.9 |
| Bison                   | 51.8              | 39.7 | 53.6             | 43.5 | 43.8             | 53.3           | 54.0         | 44.0 | 52.7                     | 43.7 | 53.1                             | 42.9 |
| Carter <sup>1</sup>     | 52.2              | 40.1 | 53.4             | 44.0 | 43.2             | 53.1           | 53.9         | 44.1 | 52.3                     | 43.5 | 53.0                             | 43.0 |
| CDC Buryu               | 50.1              | 38.7 | 53.1             | 44.0 | 43.1             | 53.1           | 52.5         | 45.7 | 52.9                     | 43.8 | 52.3                             | 43.1 |
| CDC Dorado <sup>1</sup> | 49.9              | 40.7 | 53.1             | 44.6 | 44.6             | 52.8           | 53.4         | 44.2 | 52.3                     | 44.0 | 52.3                             | 43.6 |
| CDC Glas                | 49.3              | 41.0 | 52.2             | 44.2 | 44.5             | 52.0           | 53.4         | 42.8 | 51.9                     | 44.6 | 51.8                             | 43.4 |
| CDC Neela               | 51.2              | 40.7 | 53.1             | 44.6 | 43.4             | 53.0           | 53.9         | 45.2 | 51.7                     | 44.2 | 52.6                             | 43.6 |
| CDC Plava               | 51.1              | 41.4 | 52.8             | 44.2 | 44.8             | 52.1           | 53.6         | 42.3 | 53.0                     | 44.5 | 52.5                             | 43.4 |
| Gold ND <sup>1</sup>    | 52.0              | 41.0 | 53.3             | 45.2 | 44.1             | 53.4           | 52.4         | 43.8 | 52.4                     | 44.4 | 52.7                             | 43.7 |
| ND Hammond              | 51.4              | 39.1 | 53.0             | 42.3 | 41.0             | 52.9           | 53.3         | 43.1 | 52.5                     | 42.5 | 52.6                             | 41.6 |
| Omega <sup>1</sup>      | 49.3              | 38.9 | 53.7             | 43.8 | 42.7             | 53.2           | 53.7         | 44.4 | 53.0                     | 43.2 | 52.6                             | 42.6 |
| Prairie Thunder         | 50.8              | 39.0 | 53.5             | 43.6 | 43.9             | 53.2           | 53.2         | 44.6 | 53.2                     | 43.1 | 52.8                             | 42.8 |
| Webster                 | 52.2              | 40.4 | 53.2             | 44.6 | 44.2             | 53.7           | 53.3         | 44.4 | 52.8                     | 44.4 | 53.0                             | 43.6 |
| York                    | 52.0              | 40.0 | 53.2             | 43.9 | 43.7             | 53.4           | 53.7         | 46.9 | 53.0                     | 43.6 | 53.0                             | 43.6 |
| Mean                    | 50.8              | 40.2 | 53.1             | 44.2 | 43.8             | 52.9           | 53.4         | 44.2 | 52.4                     | 44.0 | 52.5                             | 43.3 |
| CV %                    | 2.4               | 1.6  | 0.8              | 0.9  | 1.0              | 0.5            | 2.2          | 1.4  | 1.0                      | 0.7  | 1.2                              | 1.9  |
| LSD 0.05                | 1.7               | 0.9  | 0.7              | 0.6  | 0.6              | 0.4            | NS           | 1.0  | 0.2                      | 0.1  | 0.8                              | 1.1  |
| LSD 0.10                | 1.4               | 0.7  | 0.6              | 0.5  | 0.5              | 0.4            | NS           | 0.8  | 0.2                      | 0.1  | 0.6                              | 0.9  |

<sup>1</sup>Yellow seeded.<sup>2</sup>Test weight average of five dryland trials and oil average of five dryland trials.

**Table 4. 2020 Flax - Carrington - Authors, M. Ostlie and B. Schatz.**

| Variety                 | Days to                      | Days to                        | Plant            | Oil            | Test              | Seed Yield         |            |            |
|-------------------------|------------------------------|--------------------------------|------------------|----------------|-------------------|--------------------|------------|------------|
|                         | Flower<br>(DAP) <sup>1</sup> | Maturity<br>(DAP) <sup>1</sup> | Height<br>(inch) | Content<br>(%) | Weight<br>(lb/bu) | 2020               | 2-yr. Avg. | 3-yr. Avg. |
|                         |                              |                                |                  |                |                   | ----- (bu/a) ----- |            |            |
| AAC Bright <sup>2</sup> | 46                           | 73                             | 24               | 41.7           | 48.4              | 25.1               | 28.6       | --         |
| Aquarius                | 41                           | 71                             | 17               | 41.8           | 48.6              | 23.4               | --         | --         |
| Bison                   | 47                           | 77                             | 22               | 39.7           | 51.8              | 18.4               | 22.8       | 26.1       |
| Carter <sup>2</sup>     | 47                           | 77                             | 19               | 40.1           | 52.2              | 19.9               | 26.3       | 27.0       |
| CDC Buryu               | 47                           | 73                             | 22               | 38.7           | 50.1              | 17.9               | 19.1       | --         |
| CDC Dorado <sup>2</sup> | 42                           | 71                             | 19               | 40.7           | 49.9              | 16.2               | --         | --         |
| CDC Glas                | 49                           | 75                             | 23               | 41.0           | 49.3              | 21.3               | 28.2       | --         |
| CDC Neela               | 47                           | 75                             | 20               | 40.7           | 51.2              | 22.8               | 27.2       | 30.0       |
| CDC Plava               | 46                           | 75                             | 20               | 41.4           | 51.1              | 22.0               | 22.8       | --         |
| CDC Rowland             | 46                           | 77                             | 22               | 40.4           | 51.7              | 26.5               | --         | --         |
| Gold ND <sup>2</sup>    | 48                           | 79                             | 22               | 41.0           | 52.0              | 19.2               | 20.2       | 24.5       |
| Lion                    | 44                           | 78                             | 17               | 42.1           | 52.1              | 29.7               | --         | --         |
| ND Hammond              | 46                           | 75                             | 19               | 39.1           | 51.4              | 19.1               | 23.8       | 27.7       |
| Omega <sup>2</sup>      | 47                           | 72                             | 18               | 38.9           | 49.3              | 12.7               | 15.9       | 20.6       |
| Prairie Thunder         | 48                           | 80                             | 22               | 39.0           | 50.8              | 19.0               | 21.7       | 26.3       |
| Webster                 | 48                           | 78                             | 21               | 40.4           | 52.2              | 22.6               | 22.6       | 27.5       |
| York                    | 45                           | 76                             | 21               | 40.0           | 52.0              | 19.7               | 24.6       | 27.8       |
| Mean                    | 46                           | 75                             | 20               | 40.4           | 50.8              | 20.9               | 23.4       | 26.4       |
| CV %                    | 2.0                          | 2.6                            | 10.6             | 1.6            | 2.4               | 18.7               | --         | --         |
| LSD 0.05                | 1.3                          | 2.8                            | 3.1              | 0.9            | 1.7               | 5.9                | --         | --         |
| LSD 0.10                | 1.1                          | 2.3                            | 2.6              | 0.7            | 1.4               | 5.0                | --         | --         |

Planted: May 15. Harvested: Sept. 1. Previous crop: barley.

<sup>1</sup>DAP = Days after planting.<sup>2</sup>Yellow seeded.**Table 5. 2020 Flax - Organic - Carrington - Authors, S. Zwinger and S. Schaubert.**

| Variety              | Days to                      | Days to                        | Plant            | Test              | Seed Yield         |            |            |
|----------------------|------------------------------|--------------------------------|------------------|-------------------|--------------------|------------|------------|
|                      | Flower<br>(DAP) <sup>1</sup> | Maturity<br>(DAP) <sup>1</sup> | Height<br>(inch) | Weight<br>(lb/bu) | 2020               | 2-yr. Avg. | 3-yr. Avg. |
|                      |                              |                                |                  |                   | ----- (bu/a) ----- |            |            |
| CDC Melyn            | 47                           | 86                             | 25               | 50.6              | 8.3                | 7.1        | 10.0       |
| CDC Neela            | 43                           | 79                             | 22               | 51.0              | 10.2               | 7.6        | 11.6       |
| Gold ND <sup>2</sup> | 45                           | 83                             | 26               | 51.3              | 9.9                | 8.4        | 12.0       |
| ND Hammond           | 43                           | 80                             | 23               | 50.3              | 10.0               | 8.1        | 10.7       |
| Omega <sup>2</sup>   | 40                           | 76                             | 21               | 51.8              | 9.5                | 8.1        | 10.0       |
| Pembina              | 44                           | 82                             | 26               | 50.6              | 8.2                | 6.6        | 9.6        |
| Prairie Thunder      | 41                           | 78                             | 20               | 51.0              | 6.3                | 5.6        | 9.1        |
| York                 | 43                           | 83                             | 21               | 51.9              | 12.1               | 10.5       | 13.5       |
| Mean                 | 43                           | 81                             | 23               | 51.1              | 9.3                | 7.8        | 10.8       |
| CV %                 | 0.9                          | 0.9                            | 3.6              | 1.0               | 9.3                | 9.6        | 11.7       |
| LSD 0.05             | 0.6                          | 1.1                            | 1.2              | 0.7               | 1.3                | 1.8        | 2.2        |
| LSD 0.10             | 0.5                          | 0.9                            | 1.0              | 0.6               | 1.1                | 1.4        | 1.8        |

Planted: May 18. Harvested: Aug. 20. Previous crop: oat.

<sup>1</sup>DAP = Days after planting.<sup>2</sup>Yellow seeded.

**Table 6. 2020 Flax - Dickinson - Author, G. Martin.**

| Variety                 | Days to Flower<br>(DAP) <sup>1</sup> | Days to Mature<br>(DAP) <sup>1</sup> | Plant Height<br>(inch) | Oil Content<br>(%) | Test Weight<br>(lb/bu) | Seed Yield |      |            |
|-------------------------|--------------------------------------|--------------------------------------|------------------------|--------------------|------------------------|------------|------|------------|
|                         |                                      |                                      |                        |                    |                        | 2019       | 2020 | 2-yr. Avg. |
| AAC Bright <sup>2</sup> | 56                                   | 103                                  | 14                     | 46.6               | 52.1                   | 13.6       | 20.1 | 16.9       |
| Bison                   | 55                                   | 102                                  | 16                     | 43.5               | 53.6                   | 16.2       | 22.1 | 19.2       |
| Carter <sup>2</sup>     | 55                                   | 104                                  | 16                     | 44.0               | 53.4                   | 14.7       | 20.0 | 17.3       |
| CDC Buryu               | 57                                   | 103                                  | 15                     | 44.0               | 53.1                   | 15.4       | 22.9 | 19.2       |
| CDC Dorado              | 50                                   | 104                                  | 14                     | 44.6               | 53.1                   | --         | 17.9 | --         |
| CDC Glas                | 57                                   | 103                                  | 15                     | 44.2               | 52.2                   | 13.3       | 19.7 | 16.5       |
| CDC Neela               | 55                                   | 103                                  | 15                     | 44.6               | 53.1                   | 13.9       | 22.7 | 18.3       |
| CDC Plava               | 56                                   | 102                                  | 14                     | 44.2               | 52.8                   | 9.9        | 18.4 | 14.2       |
| Gold ND <sup>2</sup>    | 57                                   | 105                                  | 16                     | 45.2               | 53.3                   | 14.1       | 19.1 | 16.6       |
| ND Hammond              | 56                                   | 105                                  | 17                     | 42.3               | 53.0                   | 11.0       | 19.2 | 15.1       |
| Omega <sup>2</sup>      | 57                                   | 104                                  | 15                     | 43.8               | 53.7                   | 13.3       | 19.0 | 16.2       |
| Prairie Thunder         | 56                                   | 105                                  | 18                     | 43.6               | 53.5                   | 15.9       | 22.8 | 19.4       |
| Webster                 | 55                                   | 105                                  | 17                     | 44.6               | 53.2                   | 13.9       | 22.2 | 18.1       |
| York                    | 55                                   | 103                                  | 15                     | 43.9               | 53.2                   | 18.4       | 20.6 | 19.5       |
| Mean                    | 55                                   | 104                                  | 16                     | 44.2               | 53.1                   | 14.1       | 20.5 | 17.4       |
| CV %                    | 1.1                                  | 1.3                                  | 7.1                    | 0.9                | 0.8                    | 15.0       | 10.9 | 7.4        |
| LSD 0.05                | 1.0                                  | 2.1                                  | 1.8                    | 0.6                | 0.7                    | 3.6        | 3.7  | 2.8        |
| LSD 0.10                | 0.8                                  | 1.8                                  | 1.5                    | 0.5                | 0.6                    | 3.0        | 3.1  | 2.3        |

Planted: April 30. Harvested: Sept. 3. Previous crop: oat.

<sup>1</sup>DAP = Days after planting.<sup>2</sup>Yellow seeded.**Table 7. 2020 Flax - Langdon - Authors, B. Hanson and L. Henry.**

| Variety                 | Days to Flower<br>(DAP) <sup>1</sup> | Plant Height<br>(inch) | Test Weight<br>(lb/bu) | Seed Yield |      |      |            |            |
|-------------------------|--------------------------------------|------------------------|------------------------|------------|------|------|------------|------------|
|                         |                                      |                        |                        | 2018       | 2019 | 2020 | 2-yr. Avg. | 3-yr. Avg. |
| AAC Bright <sup>2</sup> | 49                                   | 25                     | 51.1                   | --         | 38.0 | 51.4 | 44.7       | --         |
| Bison                   | 46                                   | 26                     | 53.3                   | 40.0       | 40.1 | 40.6 | 40.4       | 40.2       |
| Carter <sup>2</sup>     | 47                                   | 25                     | 53.1                   | 37.6       | 42.3 | 43.4 | 42.9       | 41.1       |
| CDC Buryu               | 48                                   | 26                     | 53.1                   | --         | 41.6 | 39.7 | 40.7       | --         |
| CDC Dorado <sup>2</sup> | 43                                   | 23                     | 52.8                   | --         | --   | 37.6 | --         | --         |
| CDC Glas                | 51                                   | 25                     | 52.0                   | 43.0       | 41.6 | 49.6 | 45.6       | 44.7       |
| CDC Neela               | 50                                   | 24                     | 53.0                   | 37.6       | 43.2 | 43.4 | 43.3       | 41.4       |
| CDC Plava               | 46                                   | 26                     | 52.1                   | --         | 39.7 | 38.7 | 39.2       | --         |
| Gold ND <sup>2</sup>    | 49                                   | 23                     | 53.4                   | 43         | 41.2 | 47.7 | 44.5       | 44.0       |
| ND Hammond              | 46                                   | 23                     | 52.9                   | 39.2       | 38.4 | 39.5 | 39.0       | 39.0       |
| Omega <sup>2</sup>      | 45                                   | 20                     | 53.2                   | 38.5       | 38.5 | 40.2 | 39.4       | 39.1       |
| Prairie Thunder         | 50                                   | 28                     | 53.2                   | 43.1       | 42.6 | 43.7 | 43.2       | 43.1       |
| Webster                 | 50                                   | 26                     | 53.7                   | 44.2       | 42.0 | 45.5 | 43.8       | 43.9       |
| York                    | 47                                   | 25                     | 53.4                   | 41.7       | 43.2 | 47.9 | 45.6       | 44.3       |
| Mean                    | 48                                   | 25                     | 53.1                   | 42.2       | 40.8 | 45.4 | 42.5       | 42.1       |
| CV %                    | 1.8                                  | 6.9                    | 0.5                    | 7.9        | 5.8  | 5.2  | 7.1        | 4.5        |
| LSD 0.05                | 1.4                                  | 2.8                    | 0.4                    | NS         | 3.9  | 3.9  | 6.5        | 3.3        |
| LSD 0.10                | 1.2                                  | 2.4                    | 0.4                    | NS         | 3.2  | 3.3  | 5.3        | 2.7        |

Planted: May 20. Harvested: Sept. 22.

<sup>1</sup>DAP = Days after planting.<sup>2</sup>Yellow seeded.

**Table 8. 2020 Flax - Dryland - Williston - Authors, M. Miller, C. Wahlstrom, J. Bergman and G. Pradhan.**

| Cultivar                | Days to Flower<br>(DAP) <sup>1</sup> | Days to Maturity<br>(DAP) <sup>1</sup> | Plant Height<br>(inch) | Test Weight<br>(lb/bu) | Oil Content<br>(%) | Seed Yield |            |            |
|-------------------------|--------------------------------------|--|------------------------|------------------------|--------------------|------------|------------|------------|
|                         |                                      |  |                        |                        |                    | 2020       | 2-yr. Avg. | 3-yr. Avg. |
| AAC Bright <sup>2</sup> | 51                                   | 94                                     | 20                     | 50.7                   | 46.2               | 14.9       | --         | --         |
| Bison                   | 50                                   | 93                                     | 21                     | 52.7                   | 43.7               | 17.8       | 15.2       | 15.3       |
| Carter <sup>2</sup>     | 50                                   | 97                                     | 22                     | 52.3                   | 43.5               | 14.2       | 14.0       | 14.7       |
| CDC Buryu               | 50                                   | 94                                     | 20                     | 52.9                   | 43.8               | 17.3       | 22.1       | 22.1       |
| CDC Dorado <sup>2</sup> | 46                                   | 92                                     | 19                     | 52.3                   | 44.0               | 18.2       | --         | --         |
| CDC Glas                | 51                                   | 94                                     | 23                     | 51.9                   | 44.6               | 16.3       | 18.8       | 17.6       |
| CDC Neela               | 52                                   | 96                                     | 21                     | 51.7                   | 44.2               | 14.6       | 15.4       | 15.9       |
| CDC Plava               | 52                                   | 94                                     | 20                     | 53.0                   | 44.5               | 19.9       | 24.3       | --         |
| Gold ND <sup>2</sup>    | 52                                   | 96                                     | 23                     | 52.4                   | 44.4               | 12.7       | 13.3       | 14.3       |
| ND Hammond              | 51                                   | 95                                     | 23                     | 52.5                   | 42.5               | 16.2       | 16.1       | 14.6       |
| Omega <sup>2</sup>      | 53                                   | 95                                     | 22                     | 53.0                   | 43.2               | 15.0       | 18.4       | 19.2       |
| Prairie Thunder         | 52                                   | 95                                     | 23                     | 53.2                   | 43.1               | 18.5       | 18.9       | 16.3       |
| Webster                 | 51                                   | 94                                     | 21                     | 52.8                   | 44.4               | 18.7       | 15.9       | 15.1       |
| York                    | 50                                   | 94                                     | 22                     | 53.0                   | 43.6               | 17.0       | 16.6       | 17.1       |
| Mean                    | 51                                   | 94                                     | 21                     | 52.4                   | 44.0               | 16.5       | 17.4       | 16.6       |
| CV %                    | 1.9                                  | 1.8                                    | 8.3                    | 1.0                    | 0.7                | 19.0       | --         | --         |
| LSD 0.05                | 0.5                                  | 0.8                                    | 0.8                    | 0.2                    | 0.1                | 1.4        | --         | --         |
| LSD 0.10                | 0.4                                  | 0.7                                    | 0.7                    | 0.2                    | 0.1                | 1.2        | --         | --         |

Planted: May 5. Harvested: Aug. 25. Previous crop: wheat.

<sup>1</sup>DAP = Days after planting.<sup>2</sup>Yellow seeded.**Table 9. 2020 Flax - Irrigated - Williston - Authors, T. Tjelde, J. Jacobs and A. Turnquist.**

| Cultivar                | Days to Flower<br>(DAP) <sup>2</sup> | Days to Maturity<br>(DAP) <sup>2</sup> | Plant Lodging <sup>1</sup><br>(0-9) | Plant Height<br>(inch) | Test Weight<br>(lb/bu) | Seed Yield |            |            |
|-------------------------|--------------------------------------|--|-------------------------------------|------------------------|------------------------|------------|------------|------------|
|                         |                                      |  |                                     |                        |                        | 2020       | 2-yr. Avg. | 3-yr. Avg. |
| AAC Bright <sup>3</sup> | 55                                   | 93                                     | 0                                   | 28                     | 49.9                   | 41.6       | --         | --         |
| Bison                   | 54                                   | 95                                     | 0                                   | 29                     | 51.4                   | 44.7       | 41.7       | 35.1       |
| CDC Buryu               | 51                                   | 91                                     | 1                                   | 28                     | 50.8                   | 46.0       | --         | --         |
| CDC Dorado <sup>3</sup> | 52                                   | 91                                     | 0                                   | 24                     | 51.4                   | 42.0       | --         | --         |
| CDC Glas                | 57                                   | 94                                     | 0                                   | 29                     | 50.1                   | 45.3       | 33.2       | 30.1       |
| CDC Neela               | 54                                   | 93                                     | 0                                   | 28                     | 51.7                   | 44.2       | --         | --         |
| CDC Playa               | 54                                   | 91                                     | 1                                   | 26                     | 51.1                   | 44.9       | --         | --         |
| Gold ND <sup>3</sup>    | 59                                   | 96                                     | 0                                   | 30                     | 52.7                   | 41.1       | 36.1       | 31.5       |
| ND Hammond              | 53                                   | 96                                     | 0                                   | 27                     | 51.7                   | 41.6       | 38.4       | 33.4       |
| Omega <sup>3</sup>      | 54                                   | 94                                     | 0                                   | 25                     | 52.7                   | 41.5       | --         | --         |
| Prairie Thunder         | 55                                   | 96                                     | 0                                   | 30                     | 52.0                   | 41.9       | 40.0       | 33.2       |
| Webster                 | 56                                   | 96                                     | 1                                   | 31                     | 52.0                   | 38.5       | --         | --         |
| York                    | 54                                   | 94                                     | 1                                   | 28                     | 52.2                   | 41.9       | 37.3       | 32.5       |
| Mean                    | 54                                   | 94                                     | 0.3                                 | 28                     | 51.5                   | 42.7       | 37.8       | 30.6       |
| CV %                    | 4.8                                  | 2.7                                    | 159                                 | 5.1                    | 1.3                    | 8.8        | --         | --         |
| LSD 0.05                | 3.7                                  | 3.7                                    | 0.6                                 | 2.1                    | 1.1                    | 5.4        | --         | --         |
| LSD 0.10                | 3.1                                  | 3.0                                    | 0.5                                 | 1.7                    | 0.9                    | 4.5        | --         | --         |

Planted: May 5. Harvested: Aug. 24. Previous crop: durum.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.<sup>2</sup>DAP = Days after planting.<sup>3</sup>Yellow seeded.

**Table 10. 2020 Flax - Minot - Authors, E. Eriksmoen, A. Kraklau and D. Howat.**

| Variety                 | Days to Flower<br>(DAP) <sup>2</sup> | Plant Height<br>(inch) | Oil Content<br>(%) | Test Weight<br>(lb/bu) | Seed Yield        |                         |
|-------------------------|--------------------------------------|------------------------|--------------------|------------------------|-------------------|-------------------------|
|                         |                                      |                        |                    |                        | 2020              | 3-yr. Avg. <sup>1</sup> |
|                         |                                      |                        |                    |                        | ------(bu/a)----- |                         |
| AAC Bright <sup>3</sup> | 44                                   | 22                     | 43.6               | 53.4                   | 22.9              | --                      |
| Bison                   | 46                                   | 23                     | 44.0               | 54.0                   | 22.5              | 22.1                    |
| Carter <sup>3</sup>     | 46                                   | 22                     | 44.1               | 53.9                   | 22.5              | 21.2                    |
| CDC Buryu               | 43                                   | 19                     | 45.7               | 52.5                   | 18.3              | --                      |
| CDC Dorado <sup>3</sup> | 45                                   | 20                     | 44.2               | 53.4                   | 26.0              | --                      |
| CDC Glas                | 45                                   | 20                     | 42.8               | 53.4                   | 23.4              | 24.3                    |
| CDC Neela               | 46                                   | 23                     | 45.2               | 53.9                   | 25.1              | 26.4                    |
| CDC Plava               | 44                                   | 20                     | 42.3               | 53.6                   | 22.3              | --                      |
| CDC Rowland             | 46                                   | 23                     | 44.7               | 54.2                   | 22.6              | --                      |
| Gold ND <sup>3</sup>    | 45                                   | 19                     | 43.8               | 52.4                   | 23.8              | 21.7                    |
| ND Hammond              | 46                                   | 25                     | 43.1               | 53.3                   | 23.6              | 21.2                    |
| Omega <sup>3</sup>      | 47                                   | 25                     | 44.4               | 53.7                   | 20.2              | 20.3                    |
| Prairie Thunder         | 44                                   | 23                     | 44.6               | 53.2                   | 21.6              | 21.7                    |
| Webster                 | 45                                   | 20                     | 44.4               | 53.3                   | 20.0              | 20.6                    |
| York                    | 46                                   | 24                     | 46.9               | 53.7                   | 19.1              | 19.3                    |
| Mean                    | 45                                   | 22                     | 44.2               | 53.5                   | 22.3              | 21.9                    |
| CV %                    | 1.2                                  | 7.7                    | 1.4                | 2.2                    | 14.0              | 9.1                     |
| LSD 0.05                | 1.0                                  | 3.0                    | 1.0                | NS                     | NS                | 3.4                     |
| LSD 0.10                | 1.0                                  | 2.0                    | 0.8                | NS                     | NS                | 2.8                     |

Planted: May 14. Harvested: Aug. 29. Previous crop: spring wheat.

<sup>1</sup>Average of 2017, 2018 and 2020.<sup>2</sup>DAP = Days after planting.<sup>3</sup>Yellow seeded.**Table 11. 2020 Flax - Hettinger - Authors, J. Rickertson and Michael Wells.**

| Variety                 | Days to Flower<br>(DAP) <sup>3</sup> | Plant Height<br>(inch) | Oil Content<br>(%) | Seed Yield        |                         |                         |
|-------------------------|--------------------------------------|------------------------|--------------------|-------------------|-------------------------|-------------------------|
|                         |                                      |                        |                    | 2020              | 2-yr. Avg. <sup>1</sup> | 3-yr. Avg. <sup>2</sup> |
|                         |                                      |                        |                    | ------(bu/a)----- |                         |                         |
| AAC Bright <sup>4</sup> | 51                                   | 20                     | 46.4               | 12.5              | --                      | --                      |
| Bison                   | 47                                   | 21                     | 43.8               | 14.9              | 18.3                    | 18.4                    |
| Carter <sup>4</sup>     | 49                                   | 21                     | 43.2               | 14.1              | 19.3                    | 18.9                    |
| CDC Buryu               | 47                                   | 19                     | 43.1               | 13.1              | --                      | --                      |
| CDC Dorado <sup>4</sup> | 46                                   | 17                     | 44.6               | 13.9              | --                      | --                      |
| CDC Glas                | 50                                   | 22                     | 44.5               | 15.0              | 19.6                    | 20.1                    |
| CDC Neela               | 48                                   | 19                     | 43.4               | 16.1              | 20.6                    | 20.9                    |
| CDC Plava               | 51                                   | 21                     | 44.8               | 16.2              | --                      | --                      |
| Gold ND <sup>4</sup>    | 50                                   | 21                     | 44.1               | 13.9              | 18.0                    | 18.4                    |
| ND Hammond              | 50                                   | 20                     | 41.0               | 13.2              | 17.6                    | --                      |
| Omega <sup>4</sup>      | 51                                   | 21                     | 42.7               | 16.3              | 17.6                    | 18.2                    |
| Prairie Thunder         | 51                                   | 23                     | 43.9               | 17.9              | 22.5                    | 21.3                    |
| Webster                 | 50                                   | 21                     | 44.2               | 14.8              | 19.4                    | 19.6                    |
| York                    | 50                                   | 19                     | 43.7               | 17.2              | 20.6                    | 20.2                    |
| Mean                    | 49                                   | 20                     | 43.8               | 14.9              | 19.3                    | 19.6                    |
| CV %                    | 1.6                                  | 7.1                    | 1.0                | 11.3              | 8.0                     | 7.9                     |
| LSD 0.05                | 1.2                                  | 2.1                    | 0.6                | 2.4               | 3.5                     | 2.7                     |
| LSD 0.10                | 1.0                                  | 1.7                    | 0.5                | 2.0               | 2.8                     | 2.2                     |

Planted: May 6. Harvested: Sept. 4. Previous crop: dry pea.

<sup>1</sup>Average of 2018 and 2020.<sup>2</sup>Average of 2016, 2018 and 2020.<sup>3</sup>DAP = Days after planting.<sup>4</sup>Yellow seeded.

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