

## Canola (Rapeseed) SEED TREATMENT

| Chemical                                                                                                          | Application    | Dosage <sup>1</sup>    | Disease Control <sup>2</sup> |                                | Remarks                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------|----------------|------------------------|------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                   |                |                        | Seed-borne Blackleg          | Seedling Diseases <sup>3</sup> |                                                                                                                                                        |
| <b>Azoxystrobin</b><br>Dynasty, 9.6%                                                                              | Slurry         | 0.10-3.75<br>fl oz/cwt | X                            | X                              | Resistance statement 5. Seed-borne blackleg, seedling Rhizoctonia damping off, Alternaria seedling blight. Add Apron XL LS for Pythium spp.            |
| <b>Difenoconazole + Metalaxyl M + Fludioxonil + Thiamethoxam</b><br><br>Helix Xtra<br>1.25%:0.38%:<br>0.13%:20.7% | RTA slurry     | 23 fl<br>oz/cwt        | X                            | X                              | Commercial use only. Contains both insecticide and fungicide. Contains higher concentration of insecticide - to be used for high flea beetle pressure. |
| <b>Fludioxonil</b><br>Maxim 4FS, 40.3%                                                                            | Slurry         | 0.08-0.16<br>fl oz/cwt | X                            | X                              | For seed-borne and soil-borne fungi.                                                                                                                   |
| <b>Metalaxyl</b><br>Acquire, 28.35%                                                                               | Mist or slurry | 0.25-0.5 fl<br>oz/cwt  | X                            | X                              | For Pythium damping off <u>only</u> .                                                                                                                  |
| Allegiance FL,<br>28.35%<br><br>Sebring 318 FS,<br>28.35%                                                         | Mist or slurry | 0.25-0.5 fl.<br>oz/cwt | X                            | X                              |                                                                                                                                                        |
| <b>Thiram + Carboxin + Metalaxyl + Clothianidin</b><br>Prosper 400<br>9.49%:4.43%:<br>0.316%:9.49%                | Slurry         | 19.2-25.6<br>fl oz/cwt | X                            | X                              | Commercial use only. Contains both insecticide and fungicide.                                                                                          |
| <b>Trifloxistrobin + Carboxin + Metalaxyl + Clothianidin</b><br>Prosper FX<br>0.544%:3.81%:0.40<br>%:21.75%       | Slurry         | 21.5 fl<br>oz/cwt      | X                            | X                              | Commercial use only. Contains both insecticide and fungicide.                                                                                          |

<sup>1</sup>Dosage = amount of formulated product to apply.

<sup>2</sup>X = product labeled for crop and disease; Blank = product not labeled for specific disease.

<sup>3</sup>Seedling blights due to various fungal infections of seed.

## Canola FOLIAR SPRAYS

| Chemical<br>(Fungicide Group)                                                          | Application <sup>1</sup> | Dosage <sup>2</sup> | Disease Control <sup>3</sup> |               |                                            | Remarks                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------|--------------------------|---------------------|------------------------------|---------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                        |                          |                     | Alternaria<br>Black<br>Spot  | Black-<br>leg | Sclerotinia<br>Stem Rot<br>(white<br>mold) |                                                                                                                                                                                                                                                                                             |
| <b>Azoxystrobin (11)</b><br>Quadris, 22.9%                                             | Spray or<br>fungigation  | 6.2-15.4<br>fl oz/A | X                            | X             | X                                          | Resistance statement 5 <sup>4</sup><br>Alternaria Black Spot alone: 8.0 fl oz/A at<br>pod stage (95% petal fall)<br>Blackleg: 6.2 fl oz/A at 2- to 4-leaf stage<br>Alternaria Black Spot or Sclerotinia Stem rot:<br>9.2-15.4 fl oz/A at 10-25% flowering (3-7<br>days after first flower). |
| <b>Bacillus subtilis</b><br>strain QST 2808<br>(44)<br>Serenade ASO                    | Spray or<br>fungigation  | 2-6 qt/A            |                              |               | X                                          | Begin applications when environmental<br>conditions and plant stage are conducive to<br>disease development. For disease<br>suppression.                                                                                                                                                    |
| <b>Boscalid (7)</b><br>Endura, 70%                                                     | Spray or<br>fungigation  | 5-6 oz/A            |                              |               | X                                          | Apply at 20-50% flowering prior to the onset<br>of disease. Apply a second application if<br>conditions continue to be favorable for<br>disease development.                                                                                                                                |
| <b>Metconazole (3)</b><br>Quash WDG, 50%                                               | Wettable<br>Granule      | 2-4 oz/A            |                              |               | X                                          | Apply at 20-50% bloom, 10-20 gpa by<br>ground, 5 gpa by air. 35-day PHI. Do not<br>make more than 1 application or apply more<br>than 4 fl oz/A.                                                                                                                                            |
| <b>Prothioconazole</b><br>(3)<br>Proline 480 SC,<br>41%                                | Spray                    | 4.3-5.7 fl<br>oz/A  |                              |               | X                                          | Apply at 20-50% flowering. Do not make<br>more than 2 applications per year. For<br>maximum disease control, apply in 15-20<br>gpa by ground or 5 gpa by air. Do not apply<br>within 36 days of harvest.                                                                                    |
| <b>Pyraclostrobin</b><br>(11)<br>Headline, 23.6%<br>Headline SC,<br>23.3%              | Spray                    | 6-12 fl<br>oz/A     | X                            | X             |                                            | Resistance statement 5 <sup>4</sup> . For blackleg<br>control, apply at 2- to 4-leaf stage. For black<br>spot control, apply at early pod development.<br>A second application 7-10 days later may be<br>made if disease persists or weather is<br>favorable for disease.                   |
| <b>Pythium</b><br><b>oligandrum DV 74</b><br>Polyversum (44)<br>1.0%                   | Spray or<br>fungigation  | 1.5-3 fl<br>oz      |                              |               | X                                          | Research at NDSU showed efficacy against<br>white mold when applied at 1.5 fl oz, 30 days<br>before flowering and at 3 fl oz at flowering.<br>Do not mix with chemical fungicides.                                                                                                          |
| <b>Thiophanate</b><br><b>Methyl (1)</b><br>Topsin M WSB, T-<br>Methyl 70 W<br>WSB, 70% | Spray or<br>fungigation  | 1-2 lb/A            |                              |               | X                                          | Resistance statement 1 <sup>4</sup><br>Apply 1-2 lb once at 20-50% flowering, or<br>apply 1 lb twice with the first application at<br>20-30% flowering and the second application<br>at 40-50% flowering. Do not apply more than<br>2 lbs product/acre/season.                              |
| Thiophanate<br>Methyl, WDG 85%                                                         | Spray or<br>fungigation  | 0.8-1.6<br>lb/A     |                              |               | X                                          | Apply 0.8-1.6 lb once at 20-50% flowering, or<br>apply 0.8 lb twice, with the first application at<br>20-30% flowering and the second application<br>at 40-50% flowering. Do not apply more than<br>1.6 lbs product/acre/season.                                                            |
| T-Methyl E-AG 4.5F                                                                     | Spray or<br>fungigation  | 20-40 fl<br>oz/A    |                              |               | X                                          | See label for specific application timings. Do<br>not apply more than 40 fl oz of T-Methyl E-<br>AG per acre per season.                                                                                                                                                                    |

<sup>1</sup>Spray = ground or aerial; Fungigation = application through sprinkler irrigation system. <sup>2</sup>Dosage = amount of formulated product to apply.  
<sup>3</sup>X = product labeled for crop and disease; Blank = product not labeled for specific disease. <sup>4</sup>See fungicide resistance management statements.

## Canola SOIL APPLICATION

| Organism                                         | Application        | Dosage <sup>1</sup> | Whitemold <sup>2</sup><br>( <i>Sclerotinia sclerotiorum</i> ) | Remarks                                             |
|--------------------------------------------------|--------------------|---------------------|---------------------------------------------------------------|-----------------------------------------------------|
| <i>Coniothyrium minitans</i><br>Contans WG, 5.3% | Soil incorporation | 1-2 lb/A            | X                                                             | Fungus attacks sclerotia of the fungus in the soil. |

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<sup>2</sup>X = product labeled for crop and disease; Blank = product not labeled for specific disease.

<sup>3</sup>See fungicide resistance management statements on Page 10.

## Chickpea (Garbanzo Bean) SEED TREATMENT

| Chemical                                                                                                                            | Application                                          | Dosage <sup>1</sup>                                                          | Control <sup>2</sup> of<br>Seedling Diseases <sup>3</sup> | Remarks                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>Azoxystrobin</b><br>Dynasty 9.6%                                                                                                 | Slurry                                               | 0.153-0.765 fl oz/cwt                                                        | X                                                         | For seed-borne and soil-borne fungi.                                                                                   |
| <b>Fludioxonil</b><br>Maxim 4FS, 40.3%                                                                                              | Slurry                                               | 0.08-0.16 fl oz/cwt                                                          | X                                                         | For seed-borne and soil-borne fungi.                                                                                   |
| <b>Fludioxonil + Mefenoxam</b><br>Apron Maxx RFC<br>2.31%:3.46%                                                                     | Slurry                                               | 1.5 fl oz/cwt                                                                | X                                                         |                                                                                                                        |
| <b>Mefenoxam</b><br>Apron XL-LS, 32.3%                                                                                              | Slurry or mist                                       | 0.32-0.64 fl oz/cwt                                                          | X                                                         | For Pythium damping off.                                                                                               |
| <b>Mefenoxam + Fludioxonil + Thiamethoxam</b><br>Cruiser Maxx,<br>1.7%:1.12%:22.61%                                                 | Slurry or mist                                       | 3 fl oz/cwt                                                                  | X                                                         | For seed-borne and soil-borne fungi and insect.                                                                        |
| <b>Metalaxyl</b><br>Allegiance, 28.35%<br>Allegiance, FL 28.35%<br>Acquire, 28.35%<br>Sebring 318 FS, 28.35%<br>Dyna-Shield, 28.35% | Slurry or mist<br>Slurry or mist<br>Slurry<br>Slurry | 0.75-1.0 fl oz/cwt<br>0.25-0.5 fl oz/cwt<br>0.75 fl oz/cwt<br>0.75 fl oz/cwt | X<br>X<br>X<br>X                                          | For Pythium damping off.                                                                                               |
| <b>Pyraclostrobin</b><br>Stamina 18.4%                                                                                              | Slurry or mist                                       | 0.4-1.5 fl oz/cwt                                                            | X                                                         | For seed-borne and soil-borne fungi and for control of seed and seedling disease caused by <i>Rhizoctonia solani</i> . |
| <b>Thiabendazole</b><br>LSP, 30%                                                                                                    | Liquid, mist or slurry                               | 3.3 fl oz/cwt                                                                | X                                                         | For seed-borne Ascochyta.                                                                                              |
| Mertect 340-F, 42.3%                                                                                                                | Slurry                                               | 2.04 fl oz/cwt                                                               | X                                                         |                                                                                                                        |
| <b>Trifloxystrobin</b><br>Trilex, 22%                                                                                               | Slurry                                               | 0.32 fl oz/cwt                                                               | X                                                         | For seed-borne and soil-borne fungi.                                                                                   |
| <b>Trifloxystrobin + Metalaxyl</b><br>Trilex 2000, 7.12%:5.69%                                                                      | RTU or slurry or mist                                | 1.0 fl oz/cwt                                                                | X                                                         | For seed-borne and soil-borne fungi.                                                                                   |

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<sup>2</sup>X = product labeled for crop and disease; Blank = product not labeled for specific disease.

<sup>3</sup>Seedling blights due to various fungal infections of seed.

Note: Some seed treatments may affect Rhizobia inoculants; read inoculant label for specific information.