

Sugar Beet Seed Treatment

| Chemical | Application | Dosage ¹ | Disease Control ² | | | | Remarks |
|---|------------------|------------------------------|------------------------------|---------|-------|-------------|--|
| | | | Aphanomyces | Pythium | Phoma | Rhizoctonia | |
| Chloroneb (14) Chloroneb 65W, 65% | Liquid or slurry | 6 fl oz/cwt | | X | | X | For control of <i>Pythium</i> and <i>Rhizoctonia</i> . For use as a supplement to another fungicide. |
| Fludioxonil (12) Maxim 4 FS, 40.3% | Slurry | 0.08-0.16 fl oz/cwt | | | X | X | For control of seed-borne and soil-borne fungi. |
| Spirato 480FS 40.3% | Slurry | 0.08-0.16 fl oz/cwt | | | | X | Provides Suppression of <i>R. solani</i> |
| Hymexazol (32) Tachigaren, 70% | Pelleted seed | 20-90 g/unit of 100,000 seed | X | X | | | For control of <i>Pythium</i> and <i>Aphanomyces</i> . Use of rates greater than 45 g may result in phytotoxicity. In fields with known heavy disease pressure, use of Tachigaren and a tolerant variety is suggested. |
| Mefenoxam (4) Apron XL, 33.3% | Slurry or mist | 0.32-0.64 fl oz/cwt | | X | | | For control of <i>Pythium</i> . May be combined with other fungicides if products are known to be compatible. For use only with commercial seed treatment equipment. |
| Metalaxyl (4) Allegiance FL, 28.35% | Mist or slurry | 0.75 fl oz/cwt | | X | | | For control of <i>Pythium</i> . May be combined with other fungicides if products are known to be compatible. |
| Dyna-Shield 28.35% | Slurry | 0.75 fl oz/cwt | | X | | | |
| Sebring 318FS 30.14% | | 0.75 fl oz/cwt | | X | | | |
| Belmont 2.7 FS, 28.98% | Slurry or mist | 0.75 fl oz/cwt | | X | | | |

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Sugar Beet (continued) Seed Treatment

| Chemical | Application | Dosage ¹ | Disease Control ² | | | | Remarks |
|--|----------------------|---------------------------------------|------------------------------|---------|-------|-------------|---|
| | | | Aphanomyces | Pythium | Phoma | Rhizoctonia | |
| Penthiopyrad (7) Kabina ST | Commercially applied | 0.53-1.06 fl oz/unit of 100,000 seeds | | | | X | For control of <i>Rhizoctonia solani</i> . |
| Metconazole (3) Metlock, 40% | Mist or slurry | 0.008-0.016 fl oz/10,000 seed | | | | X | Provides Suppression of <i>R. solani</i> |
| Thiram (M3) 42-S Thiram, 42% Signet 480 FS, 42% | Liquid or slurry | 8 fl oz/cwt | | X | | X | |
| Tolclofos-methyl (14) Rizolex, 42% | Slurry or mist | 1.5 fl oz/cwt | | | | X | For seed-borne and soil-borne diseases. Controls <i>Rhizoctonia solani</i> . |
| Pyraclostrobin (11) Stamina, 18.4% | Slurry or mist | 1.7-2.5 fl oz/100,000 seeds | | | | X | Provides protection from seedling diseases caused by <i>Fusarium</i> spp. And <i>Rhizoctonia</i> spp. |

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Sugar Beet Soil Application

| Chemical (Fungicide Group) | Application | Dosage ¹ | Control ² of Pythium | Control ² of Rhizoctonia | Remarks |
|---|-----------------------|---------------------|---------------------------------|-------------------------------------|--|
| Bacillus subtilis strain QST 713 (44) Serenade ASO, 1.34% | In-furrow at planting | 2-6 fl qt/A | X | | Apply as directed spray in the seed furrow and to the covering soil at planting for management of <i>Rhizoctonia</i> . |

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³See fungicide resistance management statements on Pages 7-8.

Sugar Beet (continued) Soil Application

| Chemical (Fungicide Group) | Application | Dosage ¹ | Control ² of Pythium | Control ² of Rhizoctonia | Remarks |
|---|-------------------------------|---|---------------------------------------|--|--|
| QoIs Azoxystrobin (11) Quadris, 22.9% Satori, 22.9% Equation, 22.9% Pyraclostrobin (11) Headline EC, 23.6% Headline SC, 23.3% Trifloxystrobin (11) Gem 500 SC, 42.6% | Band 7" or less | 0.4-0.7 fl oz/1,000 ft. of row (9.5-15.4 fl oz/A as a band, not broadcast, with 22" row) | X | X | Resistance statement 5 ³ . Apply Quadris in a band (7" or less) over cotyledonary 4- to 8-leaf sugar beets before average daily temperatures at 4" soil depth reaches 65°F, using 5-15 gpa. Rate is already determined as a BAND spray, not broadcast. |
| | In-furrow spray | 0.4 -0.8 fl oz/1,000 ft. of row | | X | For suppression of <i>Rhizoctonia</i> . For 22" row, use maximum of 0.5 fl oz/1,000 ft. of row. For 30" row, use maximum of 0.7 ² fl ² oz/1,000 ft. of row. |
| | In-furrow spray | 2.9-3.6 oz/A in band | | | X |
| Mefenoxam (4) Ridomil Gold EC, 48% Ridomil Gold GR, 2.5% Ultra Flourish, 25.1% | 7" band preplant incorporated | 0.21-0.43 fl oz/1,000 ft. of row | X | | Resistance statement 4 ³ . See label for planting restrictions within 12 months of application. |
| | 7" band preplant incorporated | 4.3-8.6 oz/1,000 ft. of row | X | | |
| | 7" band preplant incorporated | 0.43-0.86 fl oz/1,000 ft. of row | X | | |
| Penthiopyrad (7) Vertisan, 20.6% | In-furrow spray | 0.7-1.6 fl oz/1,000 ft of row | | X | Maximum rate per acre per application is 30 fl oz. |

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³See fungicide resistance management statements on Pages 7-8.

Sugar Beet Nematicide Seed Treatment

| Chemical | Application | Dosage ¹ | Control | Remarks |
|---|-------------|------------------------------------|--------------------------|---------|
| <i>Pasteuria nishizawae</i> – Pn1 Clariva pn, 15.0% | Slurry | 0.034-1.35 fl oz per 100,000 seeds | Sugar beet cyst nematode | |

Sugar Beet Foliar Sprays

| Chemical (Fungicide Group) | Application ¹ | Dosage ² | Disease Control ³ | | Remarks |
|--|--------------------------|---------------------|--|-------------------|---|
| | | | Cercospor a Leaf Spot ⁴ | Powdery Mildew | |
| Bacillus pumilus strain 2808 (44) Sonata, 1.38% | Spray or fungigation | 2-4 qt/A | X | X | Begin applications when environmental conditions and plant stage are conducive to disease development. |
| Copper (M1) Basicop WP, 53% | Spray | 4 lb/A | X | | Does not provide adequate control of <i>Cercospora</i> leafspot. |
| Champ DP, 57.6% | Spray or fungigation | 1.33-3.33 lb/A | X | | |
| Champ WG, 77% | Spray or fungigation | 2-5 lb/A | X | | |
| Champ Formula 2 Flowable, 35.5% | Spray or fungigation | 1.33-3.33 pt/A | X | | |
| Champion++ 46.1% | Spray or fungigation | 0.75-2.0 lb/A | X | | |
| Cuprofix Ultra 40 Disperss, 71.1% | Spray or fungigation | 1.25-3.0 lb/A | X | | |
| Kocide 2000, 53.8% | Spray or fungigation | 1.5-3.75 lb/A | X | | |
| Kocide 3000, 46.1% | Spray or fungigation | 0.75-2.0 lb | X | | |
| Kocide 4.5 LF, 37.5% | Spray or fungigation | 1.33-2.66 pt/A | X | | |
| MasterCop, 21.46% | Spray or fungigation | 0.5-1.5 pt/A | X | | |
| Difenoconazole (3) + Propiconazole (3) 22.8%:22.8% Inspire XT, 23.2% | Spray or fungigation | 7 fl oz/A | X | X | Resistance statement 3 ⁵ . Do not apply within 21 days of harvest. Do not apply more than 21 fl oz/A/season. Do not apply more than 0.34 lb /ai /A of propiconazole products, and no more than 0.46 lb /ai /A of difenoconazole products per season. REI = 12 hours. |
| Fenbuconazole (3) Enable 2F, 23.5% | Spray | 8 fl oz/A | X | X | Preharvest interval of 14 days. Resistance statement 3 ⁵ . REI = 12 hours. |
| Flutriafol (3) Topguard 11.8% | Spray | 10-14 fl oz/A | X | X | Resistance statement 3 ⁵ Do not exceed 28 fl oz or 2 applications per season. PHI= 21 days. REI = 12 hours. |

¹Spray = ground or aerial; Fungigation = application through sprinkler irrigation system.

²Dosage = amount of formulated product to apply.

³X = product labeled for crop and disease; Blank = product not labeled for specific disease.

⁴Begin when disease is first observed in field. Higher rates are used when disease is severe on susceptible varieties. Use 5-10 gal water with airplane or 20-40 gal water and at least 100 psi with ground equipment. Repeat tin or copper at 10-14 days. Repeat maneb or mancozeb at 7- 10 days.

⁵See fungicide resistance management statement on Pages 7-8.

Sugar Beet (continued) Foliar Sprays

| Chemical (Fungicide Group) | Application ¹ | Dosage ² | Disease Control ³ | | Remarks ⁵ |
|---|--------------------------|---------------------|--------------------------------------|-------------------|---|
| | | | Cercospora Leaf Spot ⁴ | Powdery Mildew | |
| Fluxapyroxad (7) + Pyraclostrobin (11) Priaxor 14.33%:28.58% | Spray or fungigation | 6 to 8 fl oz/A | X | X | Resistance statements 5 and 6 ⁵ For control of <i>Rhizoctonia</i> stem canker and crown rot use 8 fl oz. Do not exceed 3 applications or 24 fl oz/A per season PHI=7 days. REI = 12 hours. |
| Mancozeb (M3) Dithane DF Rainshield NT, 75% | Spray or fungigation | 1.5-2 lb/A | X | | Do not apply mancozeb within 14 days of harvest. Do not exceed 11.2 lb ai/A per season of total EBDC (mancozeb and/or maneb), i.e., do not exceed 14 lb/A of formulated WP or DF or 11.2 qt/A of formulated flowable product per season. Do not feed treated sugarbeets to livestock. |
| Dithane F-45, 37% | Spray or fungigation | 1.2-1.6 qt/A | X | | |
| Dithane M-45, 80% | Spray or fungigation | 1.5-2 lb/A | X | | |
| Koverall, 75% | Spray or fungigation | 1.5-2 lb/A | X | | |
| Manex II, 37% | Spray or fungigation | 1.2-1.6 qt/A | X | | |
| Manzate Flowable,37% | Spray or fungigation | 0.4-1.6 qts/A | X | | |
| Manzate ProStick, 75% | Spray or fungigation | 1.5-2 lb/A | X | | |
| Penncozeb, 80% | Spray or fungigation | 1.5-2 lb/A | X | | |
| Penncozeb DF, 75% | Spray or fungigation | 1.5-2 lb/A | X | | |
| Roper DF Rainshield, 75% | Spray or fungigation | 1-2 lb/A | X | | |
| Mancozeb (M3) + Copper (M1) ManKocide 15%: 46.1% | Spray or fungigation | 2.5-6.5 lbs/A | X | | Do not exceed 36.8 lbs product/acre/season. Do not apply within 14 days of harvest. |
| Metconazole (3) Caramba, 8.6% | Spray or fungigation | 9-14 fl oz/A | | X | For optimal powdery mildew control, begin application prior to disease development.14- day PHI. Maximum of 34 fl oz/season. REI = 12 hours. |

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⁴Begin when disease is first observed in field. Higher rates are used when disease is severe on susceptible varieties. Use 5-10 gal. water with airplane or 20-40 gal. water and at least 100 psi with ground equipment. Repeat tin or copper at 10-14 days. Repeat maneb or mancozeb at 7- 10 days.

⁵See **current "Sugar Beet Production Guide"** for management strategies.

⁶See fungicide resistance management statements on Pages 7-8.

Sugar Beet (continued) Foliar Sprays

| Chemical (Fungicide Group) | Application ¹ | Dosage ² | Disease Control ³ | | Remarks |
|--|--------------------------|---------------------|------------------------------|----------------|---|
| | | | Leaf Spot ⁴ | Powdery Mildew | |
| Propiconazole (3) Tilt 3.6 E.C. 41.8% or Propiconazole E-AG 41.8% Bumper 41.8 EC, 41.8% Topaz 41.8% Bumper ES, 40.85% | Spray or fungigation | 4 fl oz/A | X | X | Resistance statement 3 ⁶ . Begin application at first sign of disease. Do not exceed 12 fl oz/year. PHI = 21 days. REI = 12 hours. |
| Prothioconazole (3) Proline 480 SC, 41.0% | Spray | 5.0-5.7 fl oz/A | X | X | Resistance statement 3 ⁶ . Proline at 5.7 fl oz/A in a 7" or less band at the 4-leaf stage also manages Rhizoctonia stem and crown canker. Do not apply more than 17.1 fl oz of Proline per year. Do not apply within 7 days of harvest. REI = 12 hours. |
| Qols | | | | | Resistance statement 5 ⁶ . |
| Azoxystrobin (11) Quadris, 22.9% Satori, 22.9% | Spray or fungigation | 6.2-15.4 fl oz/A | X | X | 123 fl oz Quadris/Acre/season maximum. May be applied the day of harvest. REI = 4 hours. |
| Pyraclostrobin (11) Headline EC, 23.6% Headline SC, 23.3% | Spray or fungigation | 9-12 fl oz/A | X | X | Band application at 4-leaf stage for management of Rhizoctonia stem and crown canker. |
| Trifloxystrobin (11) Gem 500 SC, 42.6% | Spray only | 2.9-3.6oz/A | X | X | 10.0 oz Gem/Acre/season maximum. Has a 21-day PHI. REI = 12 hours. |
| Sulfur (M) Super Six, 52% | Spray or fungigation | 8 pt/A | | X | Apply sulfur fungicide if mildew appears prior to mid-September. One application gives protection for 4 weeks. Degree of control depends on amount of sulfur used (if less than 5 lb ai is used, only partial control may result). |
| Microthiol Disperss 80% | Spray or fungigation | 5-10 lb/A | | X | |
| Micro Sulf, 80% | Spray or fungigation | 5-10 lb/A | | X | |

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⁴Begin when disease is first observed in field. Higher rates are used when disease is severe on susceptible varieties. Use 5-10 gal. water with airplane or 20-40 gal. water and at least 100 psi with ground equipment. Repeat tin or copper at 10-14 days. Repeat maneb or mancozeb at 7-10 days.

⁵Because benzimidazole (Topsin M)-resistant strains of *Cercospora beticola* have developed in many sugar beet-growing areas, Topsin M should be used only once per season and only in combination with a nonbenzimidazole fungicide.

⁶See **current "Sugar Beet Production Guide"** for management strategies.

⁷See fungicide resistance management statements on Pages 7-8.

***Designates restricted-use pesticide.**

Sugar Beet (continued) Foliar Sprays

| Chemical (Fungicide Group) | Application ¹ | Dosage ² | Disease Control ³ | | Remarks |
|---|--------------------------|---------------------|------------------------------|----------------|--|
| | | | Leaf Spot ⁴ | Powdery Mildew | |
| Tetraconazole (3) Eminent, 11.6% | Spray or fungigation | 13 fl oz/A | X | X | Preharvest interval of 14 days. Do not apply more than 13 fl oz/A per season. Resistance statement 3 ⁷ . REI = 12 hours. |
| Penthiopyrad (7) Vertisan, 20.6% | Spray or fungigation | 14-30 fl oz/A | X | X | Maximum of 61 fl oz/acre per season. PHI = 7 days. REI = 12 hours. |
| Thiophanate Methyl (1) + Propiconazole (3) Protocol 23.7% : 7.1% | Spray or fungigation | 1.25-1.33 pt/A | X ⁶ | X ⁶ | Resistance statement 1 and 3 ⁶ . For management of leaf spot and powdery mildew. Do not make more than 1 application for <i>Cercospora</i> leaf spot. PHI = 21 days. REI = 1 day. |
| Triphenyltin Hydroxide (TPTH) RUP* (30) Super Tin 80WP AgPak, 80% or Agri Tin, 80% | Spray | 2.5-5.0 oz/A | X ⁶ | | RESTRICTED-USE PESTICIDE. Do not exceed 15 oz/A of Super Tin 80WP per season. Do not feed treated tops to livestock. Do not enter treated areas within 48 hours of treatment without protective clothing specified on label. Ground application must be with closed cabs. A Sec 24 (c) state label allows treatment up to 7 days before harvest. Do not exceed 24 fl oz/A/season for Super Tin 4L. |
| Super Tin 4L or Agri Tin 4L, 40% | Spray | 4.0-8.0 fl oz/A | X ⁶ | | |

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⁶See fungicide resistance management statements on Pages 7-8.