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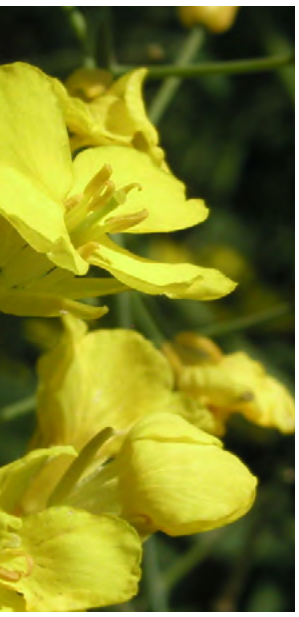

Winter Canola

Production Manual

Mid-South Edition — 2026

An agronomic guide for first-time and experienced winter canola growers across Arkansas, Tennessee, Kentucky, Northern Mississippi & Alabama, Southern Missouri, Southern Illinois & Indiana and Eastern Oklahoma.

FIELD-READY AGRONOMY ▪ EQUIPMENT GUIDANCE ▪ INPUT PLANNING ▪ HARVEST & STORAGE

Edition 2026

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General Disclaimer

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Foreword & How to Use This Manual

Winter canola has the potential to be one of the highest-value, most agronomically rewarding broadleaf crops a Mid-South producer can grow. It fits cleanly behind summer row crops, can break disease and weed cycles in a wheat-dominated rotation, supports pollinators, and delivers oil and meal demand that continues to grow across the region's expanding crush capacity.

This manual is organized to follow the production year from planning through marketing. Each chapter combines the underlying agronomy, the practical 'why,' and a Mid-South-specific action checklist. New growers should read the manual cover-to-cover before their first crop. Experienced growers can use it as a reference at each decision point.

How to read the icons:

☐ = action item to complete | ⚠ = critical risk to avoid | 💡 = practical tip from the field

Chapter 1 — Why Winter Canola in the Mid-South?

1.1 Agronomic Fit

The Mid-South's mild winters, long spring bloom window, and well-drained alluvial and loess soils create one of the most favorable winter canola environments in the United States. Winter canola is planted in late September through mid-October, establishes a rosette before dormancy, vernalizes through winter, bolts in late February to March, blooms April into May, and is harvested in late May through mid-June — typically 7-10 days ahead of soft red winter wheat.

1.2 Rotational Benefits

- Can break grass-on-grass disease cycles common in continuous wheat or corn-wheat systems.
- Excellent rotation option for cleanup of grass weeds (Italian ryegrass, annual bluegrass).
- Deep tap root improves soil structure and mines sub-soil nitrogen.
- Earlier harvest opens a wider window for double-crop soybeans or potentially cotton further south.
- Diversifying on-farm cash flow with a different commodity price cycle than corn or soybeans.

1.3 Market Drivers

Renewable diesel demand, expanding North American crush capacity (including new and expanded Mid-South facilities), and the high oil content (43–45%) of modern winter hybrids make canola a preferred low-carbon-intensity feedstock. Most Mid-South growers contract acres before planting;

Bottom line: Winter canola is a high-management, high-reward potential crop. Growers who treat it like wheat will be disappointed; growers who treat it like a row crop with the precision of corn or cotton will see success potential.

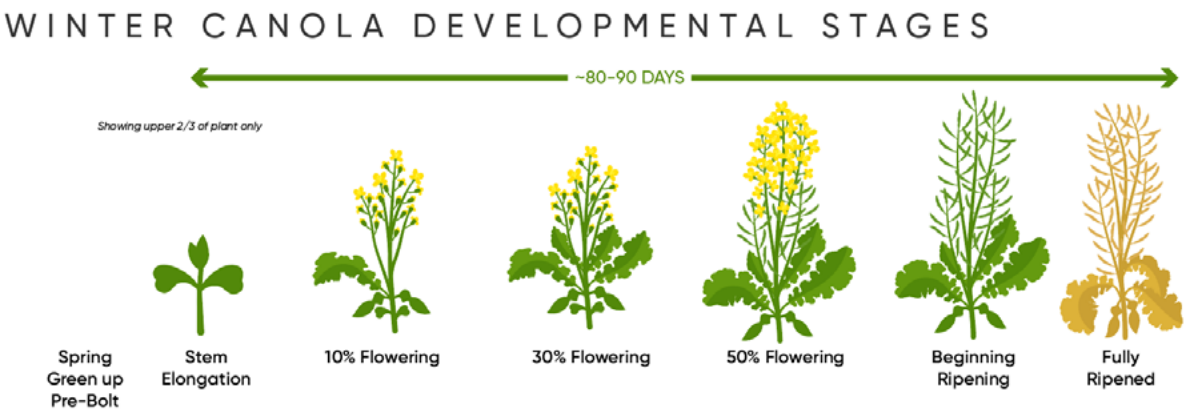
Chapter 2 — Crop Biology & Growth Stages

2.1 The Plant

Winter canola (*Brassica napus*) is a cool-season biennial. Unlike spring canola, it requires vernalization — a period of cold (typically 4–6 weeks below 41°F) — before it will bolt and flower. The plant establishes a leafy rosette in the fall, overwinters as a low-growing crown, then resumes growth in late winter. Yield potential is set in the fall (by stand and crown size), preserved through the winter (by cold tolerance and drainage) and finalized in the spring (by branching, pod number and seed fill).

2.2 Growth Stages — Mid-South Calendar

Growth Stage	Description	Typical Mid-South Timing
VE	Germination & emergence	5–10 days after planting (Sept–Oct)
V1 – V7	Leaf development (cotyledon to 6+ leaves)	October–November
Overwintering	Rosette / side-shoot formation	Late fall, then resumes Feb
Green Up and Elongation	Stem elongation (bolting)	Late February – March
Bud Formation	Inflorescence emergence (bud)	Mid- to late March
Bloom	Flowering (yellow bloom)	Late March – early May
Pod Set	Pod development	April – May
Max Dry Weight	Seed ripening (color change)	May – early June
Fully Ripened	Senescence & harvest	mid May – mid June



2.3 Yield-Building Windows

- V1 – V7 plant population, crown size, and tap-root depth set winter survival.
- Late winter / early spring branch number is determined by N availability and stand uniformity.
- Bloom pod number per plant — protected by fungicide timing and pollinator activity.
- Pod set/fill seed weight — driven by S, B, moisture disease control and preventing insect damage.

Chapter 3 — Field Selection, Rotation & Risk Management

3.1 The Ideal Field

Factor	Target	Why
Drainage	Well-drained; no winter ponding	Saturated soils kill canola crowns through freeze-thaw cycles
Soil texture	Silt loam, sandy loam, well-structured loam	Heavy gumbo clays crust and pond.
pH	5.8 – 6.8	Below 5.5 = aluminum stress; above 7.5 = micronutrient tie-up.
Organic matter	>1.5%	Better moisture-holding and nutrient cycling.
Slope	0 – 5%	Reduces winter erosion of rosette plants.
Field history	Wheat, corn, or soybean stubble	Best residue and rotation fit.

3.2 Rotation Rules

- Minimum 3-year break from canola, mustard cover crops, sunflower, and other Brassica species.
- Avoid fields with heavy soybean white mold (Sclerotinia sclerotium) history — same pathogen.
- Excellent fits: behind soft red winter wheat or behind early-harvested corn or soybeans.
- Caution: behind cotton (defoliant residues, late harvest) or rice (flooded soils, wet fall).

3.3 Risk Management

- Confirm crop insurance: verify county eligibility, written agreements (if needed), and final planting date.
- Diversify acres across two or more soil types and planting dates to spread weather risk.
- Start with 200-300 acres in year one; scale after a successful harvest.

⚠ **Risk:** Do not plant winter canola on a field with a documented Sclerotinia history without a fungicide budget already set aside.

Chapter 4 — Hybrid & Trait Selection

4.1 Selection Criteria

Trait	What to Look For	Priority
Winter hardiness	Proven survival in your hardiness zone (typically 6b–8a)	Critical; current commercial hybrids tested for winter hardiness in zone
Maturity	Mid to mid-late so harvest precedes June heat/storms	High
Standability / lodging	Strong stems for direct cutting	High
Pod shatter tolerance	Reduces field loss before/during harvest	Critical
Disease package	Blackleg resistance; tolerance to Sclerotinia or able to control	High
Oil content	≥43% — required by most crush contracts	High

4.2 Trait Platforms

Platform	Mode of Action	Best Use
Conventional	None	Relies on pre-emerge + selective Post-emergence chemistry

Tip: Order seed by mid-summer. Mid-South winter canola seed is allocated regionally and can sell out before September.

Chapter 5 — Equipment Preparation

Canola seed is small (~100,000 seeds/lb) and the mature crop shatters easily. Equipment preparation is the single biggest controllable factor separating profitable canola operations from frustrated ones.

5.1 Planter / Drill

(Always check with your equipment manufacturer for proper settings)

John Deere Setup Video

5.2 Sprayer

Task	Detail
☐ Triple-rinse and clean tank/booms	Trace dicamba, 2,4-D, or ALS residues will damage canola. Use ammonia or commercial cleaner.
☐ Replace filters and inspect nozzles	Flat-fan or AIXR for fungicide canopy coverage.
☐ Calibrate at field operating speed	Verify GPA at the speed and pressure you'll actually run.

5.3 Combine

(Always check with your equipment manufacturer for proper settings)

John Deere Combine Settings for Winter Canola Video

John Deere Header Settings for Winter Canola Video

Talk to your equipment dealer about exact settings.

Chapter 6 — Soil Fertility & Nutrient Management

With special focus on Sulfur and Boron — the two nutrients most often underapplied to Mid-South canola.

6.1 Nutrient Removal & Demand

Nutrient	Removal per bushel of seed	50 bu/ac removal
Nitrogen (N)	~3.0 lb	150 lb
Phosphorus (P_2O_5)	~1.4 lb	70 lb
Potassium (K_2O)	~1.0 lb (seed) + 3+ lb (stover)	50+ lb
Sulfur (S)	~0.5 lb	25 lb
Boron (B)	~0.005 lb	0.25 lb (very narrow tissue range)

6.2 Nitrogen Strategy

- Total season target: 120–150 lb N/ac depending on yield goal and prior crop.
- Topdress 100–120 lb N at green-up (typically mid- February). Split applications reduce N loss. Apply 50-60 lbs in mid-February and again in mid-March before bloom.

6.3 Phosphorus & Potassium

- Apply per soil test to maintain medium-high test levels.
- Avoid more than ~10 lb N+K_2O in furrow to prevent fertilizer burn
- Adequate K is directly linked to winter hardiness — do not skip on light soils.

Fall	Recommendation (lbs/ac)
Nitrogen (N)	20-30
Sulfur (S)	10
Boron (B)	1-1.5 lbs/ac
Phosphorus (P_2O_5) Soil Test (ppm)	
Low (<15)	80-90
Medium (15-30)	60-70
High (>30)	Maintenance (40-50)
Potassium (K_2O) Soil Test (ppm)	
Low (<120)	100-120
Medium (120-180)	60-80
High (>180)	Maintenance (20-30)

Late Winter/Early Spring	Recommendation (lbs/ac)	
Nitrogen (N)	**Split at 30 days apart**	
split application:	late winter	early spring
Low OM/No Residual N	60	60
Medium OM/Some Residual N	50	50
High OM/Legume previous crop	45	45
Sulfur (S)	20 (apply with first N app)	

6.4 Sulfur — The Most Often Missed Nutrient

Canola has roughly 5× the sulfur demand of wheat. Mid-South soils — particularly silt loams, sandy loams, and any field with low organic matter. A visible S deficiency at bolting often costs 5–15 bu/ac and cannot be fully recovered with a foliar application.

- **Total season target:** 30 lb S/ac (10 lbs fall and 20 lbs spring)
- **Apply with fall and spring N**

Source	Analysis	Notes
Ammonium sulfate (AMS)	21-0-0-24S	Excellent fall starter S; also acidifies
Ammonium thiosulfate (ATS)	12-0-0-26S	Liquid; blends easily with UAN for spring topdress
Elemental sulfur	0-0-0-90S	Slow conversion — apply months ahead, not in-season

6.5 Boron — The Pod-Set Nutrient

Boron is essential for pollen viability, flower retention, and pod set. Canola has a narrow window between deficient and toxic, so accurate placement and rate matter.

- Pre-plant broadcast: 1–1.5 lb B/ac as borate.
- OR foliar: 0.25–0.5 lb B/ac at bolting through early bloom; tank-mix-compatible with most fungicides.
- Do not exceed 2 lb B/ac total in one season — toxicity is real.
- Verify with tissue test at bolting (target 30–60 ppm B in young leaves).

Field Rule: If you are spending money on N and a fungicide, you cannot afford to skip S and B. The yield response is consistent and well-documented

6.6 Other Micronutrients

- Manganese: occasionally deficient on high-pH soils; tissue-test if growth is uneven.
- Zinc: rarely a primary issue but worth confirming in soil test.
- Calcium & magnesium: managed through pH and gypsum applications.

Chapter 7 — Residue Management & Seedbed Preparation

Residue and seedbed quality are the #1 cause of poor stands in Mid-South winter canola.

7.1 Residue Strategy by Previous Crop

Prior crop	Residue challenge	Recommended approach
Wheat	Moderate; uneven straw rows	Spread chaff at harvest; one shallow vertical-tillage pass.
Corn	Heavy stalks, slow breakdown	Stalk roller + vertical till + light disk; consider a residue-friendly drill.
Soybean	Light residue; possible Sclerotinia carryover	Easy seedbed but verify white-mold history before committing.

7.2 Tillage vs. No-Till

- Light tillage (vertical till or single shallow disk) is the most common Mid-South approach — it sizes residue, firms the seedbed, and warms the soil.
- No-till can be workable if able to provide a strip till or void of residue leaving a clean seedbed to plant into and consistent down-pressure.
- Avoid deep, loose seedbeds — they dry quickly, lose seed-to-soil contact, and reduce winter survival.

7.3 Seedbed Quality Checklist

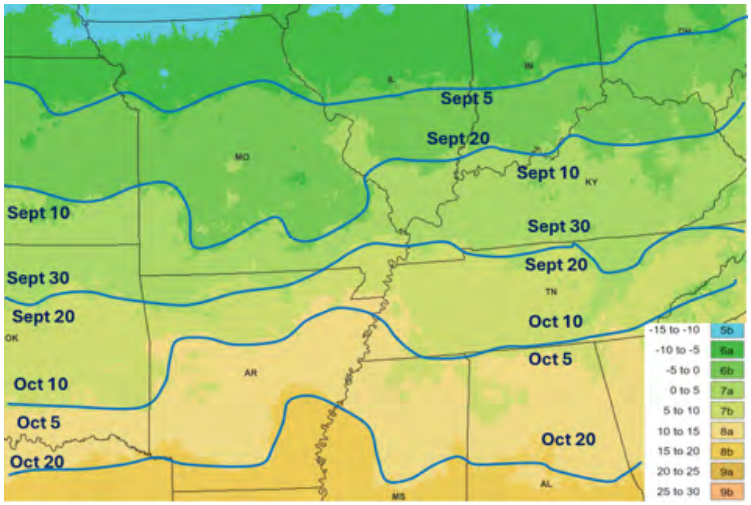
- ☐ Footprint sinks no more than ¼" — soil is firm.
- ☐ Surface is uniform; no clods larger than a golf ball.
- ☐ Residue is sized to <6" pieces and evenly distributed.
- ☐ Adequate moisture at ½" depth preferred.

Chapter 8 — Planting: Timing, Depth, Rate & Placement

8.1 The Mid-South Planting Window

Planting timeframes based on winter hardiness zones

- First planting north of the zone with later planting south of the zone
  - i.e. 6b = Sept 5 - Sept 20
- Goal is to reach V6-V8 before 28 degree day
- Increases risk of winterkill planting beyond recommended date
- If manure applied within the past 2 years delay planting by 5 days
  - No additional fertilizer required in the fall



8.2 Depth, Rate & Spacing

Parameter	Target	Notes
Depth	½ inch (max ¾")	Shallow wins.
Row spacing	7.5–15" or 20"	Narrow rows close canopy faster, suppress weeds, improve winter survival
Speed	≤5 mph	Faster speeds bounce the openers and create depth variability

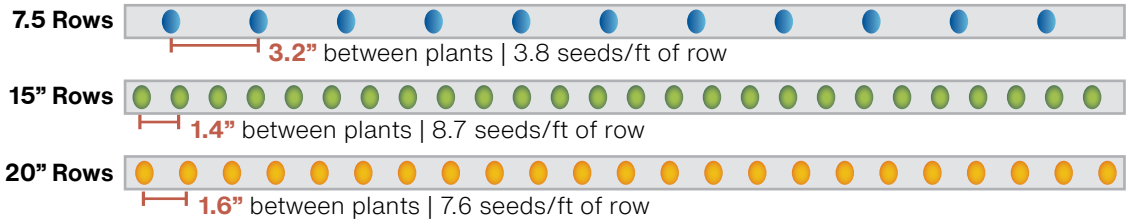
8.3 Fertilizer Placement at Planting

- Keep all fertilizer salts away from the seed row — canola is highly salt-sensitive.
- Maximum safe in-furrow: ~10 lb of $N+K_2O$ combined.
- Band P (and starter S) 2" below and 2" beside the seed where possible.

Risk: Planting too deep is unrecoverable. If your drill cannot consistently hold ½" depth across all rows, slow down or change openers before you start.

Target Population

Application Type	Target Seeds/Acre	Target Plants/ft²	Notes
7.5" Rows	~275,000	~6.3	Best canopy distribution
15" Rows	~305,000	~7.0	Compensates for wider row gaps
20" Rows	~200,000	~4.6	Limited canopy closure



Winter Canola - Field Seeding Reference Seeding Rates (lbs per acre)

Increase Amount Based on Planting Conditions and Timing

Seeds Per Pound	7.5" Rows	15" Rows	20" Rows
70,000-80,000	4.0	4.4	2.7
80,000-90,000	3.1	3.5	2.4
90,000-100,000	2.8	3.2	2.1
100,000-110,000	2.6	2.8	1.9
110,000-120,000	2.4	2.6	1.7

Rate Adjustment Factors

Field Condition	Rate Adjustment	Reasoning
Late planting (after window)	+10 to +20%	Smaller plants need denser stand for canopy closure
Dry seedbed/marginal moisture	+10 to +15%	Compensate for emergence loss
Heavy residue	+15 to +20%	Poor seed-to-soil contact in residue
High winterkill risk zone	+15 to +20%	Insurance against winter losses
Excellent seedbed + on-time	No change	Use base recommended rate

Broadcasting seed is not recommended

Chapter 9 — Fall Establishment, Biomass Management & Winterization

9.1 Stand Assessment

- First check: 7–10 days after planting — confirm uniform emergence.
- Target stand: 5+ healthy plants per ft² across the field. *(See table)*
- Replant decision: <2 plants/ft² with bare patches >10 ft across, AND it is still inside the planting window.

Row Width	Seeds per Linear Foot	Plants per ft²	Within Row (in-row spacing)
7.5”	3.8	~6.1	**3.2” apart**
15”	8.7	~7.0	**1.4” apart**
20”	7.6	~4.6	**1.6” apart**

9.2 Fall Pest Pressure

Pest	Symptom	Threshold / Action
Flea beetle	Shot-hole feeding on cotyledons	25% leaf area lost OR seed-treatment failing
Aphids (cabbage, turnip)	Curling leaves; virus vector	Treat at colonies on 20% of plants
Fall armyworm	Foliar feeding, especially late plantings	1–2 larvae/ft² on small plants
Slugs	Slime trails, ragged feeding in heavy residue	Bait at first signs; worst in no-till

For additional Information scan the QR code:

Georgia Pest Management Handbook—2024 Commercial Edition (Vol. 2). University of Georgia Cooperative Extension.

9.3 Fall Weed Control

- Clean fields at planting; canola is a poor early competitor.
- Target winter annual grasses (ryegrass, annual bluegrass) and broadleaves (henbit, chickweed) before they overtop the rosette.

9.4 Disease Mitigation (Sclerotinia Pathogen Basal Infection)

- **Managing overall biomass** to prevent excessive growth during the fall is the most effective mitigation strategy.
  - ☐ Cut or eliminate fall N applications, especially on fields with high residual soil N or following legumes/manure
  - ☐ Target the latter half of the local planting window.
  - ☐ Do not overseed within the row and keep population closer to 4-5 plts/sq ft
  - ☐ Possible triazole fungicide (* No labeled products as of 2026) during the V4 stage to reduce overall biomass
- Terminate winter annual weeds (like henbit and chickweed) in the fall to destroy host plants

9.5 Winterization Checklist

- ☐ 6–8 true leaves and ½" crown diameter (Sharpie Pen size) before first hard freeze.
- ☐ Growing point at or below soil surface — verify by digging plants.
- ☐ Drainage ditches/water furrows clear; no ponding in low spots.
- ☐ Scout after each significant freeze for crown damage and adjust spring plans accordingly.

Chapter 10 — Spring Management: Green-Up to Bolting

10.1 Green-Up Stand Assessment

- Walk fields in February as soon as plants resume growth.
- Acceptable spring stand: 3+ live plants/ft^2, evenly distributed.
- Thin spots will branch heavily and partially compensate — do not panic.

10.2 Spring Nitrogen + Sulfur

- Split apply 30 days apart a total of 100–120 lb N + 20 lb S + as soon as fields are trafficable.
- UAN + ATS blend is the standard Mid-South spring application.
- Avoid burning leaves: dribble band or apply with stream nozzles.

10.3 Spring Weed Control

- Apply any remaining POST herbicide before bolting — after bolting, canopy and label restrictions limit options.
- Watch for late-emerging cool-season grasses; an early spring grass herbicide may pay back significantly.

Chapter 11 — Disease Management & White Mold (Sclerotinia) Control

11.1 The Disease Spectrum

Disease	Pathogen	Risk in Mid-South
Sclerotinia stem rot (white mold)	Sclerotinia sclerotiorum	Very high — primary disease threat
Blackleg	Leptosphaeria maculans	Moderate — manage with resistance + rotation
Alternaria black spot	Alternaria spp.	Moderate, especially in late wet seasons
Sclerotinia head/pod rot	Same pathogen, late infection	Late-season risk in wet years

11.2 Sclerotinia (White Mold)—Control Program

Sclerotinia is the #1 yield-limiting disease in Mid-South winter canola. High humidity and dense canopies create high risk every year.

Product	Active Ingredient(s)	FRAC Group	Labeled Rate per Application
Endura®	Boscalid	7	5–6 oz/A
Zorina™	Mefentrifluconazole + Boscalid	3 + 7	15–20 fl oz/A
Miravis® Neo	Pydiflumetofen + Azoxystrobin + Propiconazole	7 + 11 + 3	13.7 fl oz/A
Propulse®	Prothioconazole + Fluopyram	3 + 7	9.0 fl oz/A
Proline® 480 SC	Prothioconazole	3	4.3–5.7 fl oz/A
Vertisan® fungicide	Penthiopyrad	7	14–20 fl oz/A
Viatude® fungicide	Picoxystrobin + Prothioconazole	11 + 3	10–16 fl oz/A
Priaxor®	Fluxapyroxad + Pyraclostrobin	7 + 11	4–8 fl oz/A
Quadris®	Azoxystrobin	11	7–15.5 fl oz/A
Aproach® fungicide	Picoxystrobin	11	8–12 fl oz/A
Quash®	Metconazole	3	2.0–4.0 oz/A

Application Checklist:

- ☐ Order fungicide by late winter (February) before spring rush.
- ☐ 20–30 GPA ground or 5+ GPA air for canopy penetration.
- ☐ Rotate FRAC groups year-to-year to manage resistance.
- ☐ Plan a second application if bloom extends >2 weeks or rainy weather persists.
- ☐ Confirm current label and state registration before purchase.

Tip: Apply either 2 or 3 MOA fungicide at 20%-30% bloom. Prothioconazole may assist with powdery mildew suppression.

11.3 Other Disease Tactics

- Choose hybrids with strong blackleg resistance ratings.
- Maintain 3–4 year rotation away from any Brassica.
- Bury infected residue with light tillage after harvest in white-mold years.
- Avoid excessive N — lush canopies trap humidity and fuel Sclerotinia.

Chapter 12 — Insect & Pollinator Management

12.1 Key Spring Insects

Canola Insect Thresholds

Pest	Damaging Stage	Crop Stage at Risk	Economic Threshold (ET)
Aphids	Nymphs & adults	Seedling	2 per plant
Aphids	Nymphs & adults	Rosette	5 per leaf
Aphids	Nymphs & adults	Bloom	20% of the heads infested
Cabbage Seedpod Weevil	Adults	20%-50% bloom	2 or more weevils per plant
Lygus Bug	Adults & older nymphs	Bolting → flowering → early pod	20–30 per 10 sweeps (lower for stressed crops)
Flea Beetle	Adults	Seedling / cotyledon	10% defoliation with beetles present
Diamondback Moth	Larvae	Veg → flowering → pod	10–15 larvae/ft² (veg/flower); 20–30 larvae/ft² (pod)
Thrips	Adults & nymphs	Bolting → pod fill	No formal ET

For additional Information scan the QR code:

Georgia Pest Management Handbook—2024 Commercial Edition (Vol. 2). University of Georgia Cooperative Extension.

12.2 Pollinator Stewardship

- Canola is highly attractive to honeybees and native pollinators — bloom is the most sensitive window.
- Do not apply insecticides during open bloom unless absolutely required by threshold.
- If a bloom-stage spray is unavoidable: apply in late evening, choose lower-toxicity products, and notify nearby beekeepers.
- Maintain communication with local beekeepers and state apiary inspectors; many counties keep registries.

Tip: Pollinator-friendly management is increasingly written into crush contracts and renewable-fuel feedstock standards. Document your bloom-stage decisions.

Chapter 13 — Harvest Aids, Desiccation & Direct Cutting

13.1 When and Why to Use a Harvest Aid

Direct cutting is the standard Mid-South harvest method. A harvest aid evens up maturity, dries down green stems, and helps you beat late-spring/early-summer thunderstorms that drive shatter loss.

13.2 Pre-Purchase Options

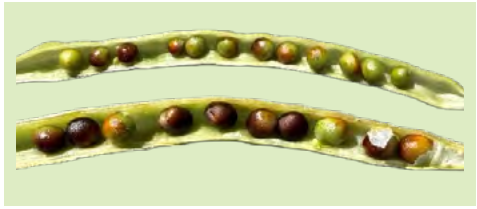
Product
Reglone
Manufacturer
Syngenta
EPA Reg. No.
100-1061

Pre-purchase Checklist:

- ☐ Confirm product is labeled for canola in your state.
- ☐ Order by early spring
- ☐ Plan 15–20 GPA ground or 5 GPA air with NIS or MSO per label.
- ☐ Verify PHI fits your harvest window AND buyer/ export requirements (buyers restrict glyphosate pre-harvest).

13.3 Desiccation Timing

- Apply desiccant when seed color change – seed goes from green to mottled color approximately 2/3 up the main stem
- Too early of an application will reduce yield and overall grain filling
- Late application will allow later pods to fully mature – especially if using hybrids with improved pod shatter
- Late application will delay maturity – balance later desiccation with timing of crop removal for main crop planting



Chapter 14 — Harvest, Drying & On-Farm Storage

14.1 When to Cut

- Seeds on the main stem turn brown to black as the plants dry
- Seed moisture: 8–10% for binning.
- Roll seed between fingers — should crush, not smear.

14.2 Combine Settings

John Deere Combine Settings for Winter Canola Video

John Deere Header Settings for Winter Canola Video

Talk to your equipment dealer about exact settings.

Setting	Starting value
Cylinder/rotor speed	450–650 rpm
Concave clearance	Wide — open one full step beyond wheat, Pod Shatter tolerant hybrids require narrower opening to ensure seed is extracted from pod
Top sieve	~⅜" (10 mm)
Bottom sieve	~¼" (6 mm)
Fan speed	Moderate — high enough to clean, low enough to keep seed in
Ground speed	2–3 mph

14.3 Drying & Storage

- Target storage moisture: ≤8% in the Mid-South for summer-long binning.
- Aerate immediately after binning to remove field heat.
- Use temperature cables; check weekly through summer and after every weather change.
- Watch for sidewall condensation in the first 4–6 weeks — a leading cause of spoilage.
- Canola can self-heat quickly; bin only what you can manage.

⚠ **Risk:** Canola at 10%+ moisture going into storage in May/June Mid-South humidity will heat. Dry first, store second.

Chapter 15 —Contracts & Recordkeeping

15.1 Pre-Plant

- Contract acres with Bunge/Chevon Ag Renewables (BCAR)
- Complete certification
- Order Pioneer® Winter Canola after contract is completed
- Order Planter parts

15.2 Records to Keep

- Variety, planting date, seeding rate, drill calibration logs.
- Fertility plan and actual applications (rate, source, date).
- Pesticide applications (product, rate, GPA, conditions, applicator).
- Scouting notes and yield-by-field (calibrated yield monitor preferred).
- Harvest moisture, drying time, storage conditions.

15.3 After Harvest

- Manage volunteer canola in the next 1–2 crops with a planned herbicide program.
- Debrief with your agronomist and seed rep — what to keep, what to change.
- Soil-test post-harvest to baseline next rotation's fertility.

Chapter 16 — Top 10 Pitfalls to Avoid

Uniform Stand Establishment

Maximum Yield Potential

1. Wet feet

- Well-drained fields only, no ponding of water

2. Heavy/Uneven Residue

- Even spread chaff at harvest; vertical-till, avoid excessive residue, which can cause the crown to extend above the soil surface

3. Equipment Settings to Handle Very Small Seed

- Install small seed kits, modify settings, drive slow. No broadcasting seed

4. Planting Too Late

- Stay within the planting window for your geography

5. Planting Too Deep and Too Fast

- Stay within ½–¾" — verify every row

6. Timeliness of Applications

- Nitrogen (split app), Fungicides, Insecticides, Desiccants

7. Skipping Sulfur

- 10lb S/ac in fall and, 20 lb S/ac in the spring w/N app

8. Skipping Boron

- 1–1.5 lb fall broadcast OR 0.25–0.5 lb foliar

9. Missing Disease Window

- Spray at green-up (option) + 20–30% bloom

10. Harvest Timing and Combine Settings

- Correct timing and application of desiccate and ensuring combine settings while validating minimal passthrough

Appendix A — Season-Long Calendar (Aug – June)

Month	Activities
August	Field selection; soil sampling; book seed; order S, B, fungicide, desiccant; service drill.
September	Pre-plant fertility + residue management; calibrate drill; begin planting (north Mid-South).
October	Continue planting (central/south Mid-South); fall stand checks; fall weed control.
November	Final fall pest scouting; verify pre-dormancy crown size; clear water furrows.
December – January	Rest; review records; finalize fungicide and topdress N orders.
February	Green-up stand check; topdress N + S; Pre-purchase desiccant;
March	Bolting; spring weed cleanup; finalize fungicide plan; insect scouting begins.
April	Bloom; Sclerotinia fungicide at 20–30% bloom; pollinator stewardship.
May	Pod fill; insect scouting; combine prep; apply harvest aid at color change.
June	Harvest, dry to ≤8%, bin and aerate; document yield; plant double-crop.

Appendix B — Field Scouting Quick-Reference

Stage	What to scout for	Threshold / Action
Emergence (7–10 DAP)	Stand count, depth uniformity	<2 plants/ft² + window open = consider replant
4–6 leaf	Flea beetle, aphids, weeds	25% leaf area lost / 20% plants infested / weeds at 2–4"
Pre-dormancy	Crown size, growing point depth	6–8 leaves, ½" crown, GP at/below soil
Green-up	Live stand, winter damage	3+ live plants/ft² acceptable
Bolting	S deficiency, weed escapes, weevil	Tissue test; final POST herbicide window
Bloom (20–50%)	Sclerotinia risk, pollinator activity	Apply fungicide; avoid insecticides
Pod fill	Aphids, Lygus, Alternaria	Treat at threshold; avoid late-season sprays near PHI
Color change	Maturity uniformity	Plan harvest aid timing (60–90% color change)

Appendix C — Glossary

Term	Definition
Bolting	Rapid stem elongation following vernalization; transition from rosette to reproductive growth.
Crown	Compact stem base of the rosette plant; site of winter survival and spring regrowth.
Direct cut	Combining standing canola without prior swathing.
FRAC group	Fungicide Resistance Action Committee classification by mode of action.
PHI	Pre-harvest interval — required days between application and harvest.
Rosette	Compact, low-growing fall growth stage of winter canola.
Sclerotinia	Sclerotinia sclerotiorum — pathogen causing white mold/stem rot.
Shatter	Pod opening and seed loss before or during harvest.
Vernalization	Required cold period that triggers reproductive development.

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Crop Insurance Notice

Crop insurance programs, coverage availability, final planting dates, and written agreement requirements vary by county and crop year. Contact your crop insurance agent and confirm county eligibility before planting. Refer to your policy and applicable USDA Risk Management Agency (RMA) regulations.

Herbicide Carryover / Rotation Restrictions

Users should evaluate fields for potential herbicide carryover from previous crops, particularly defoliant residues following cotton, before planting winter canola. Always consult the herbicide label of previously applied products for rotational crop restrictions and plant-back intervals.

Seed Technology / Stewardship Notice

Purchase of Pioneer® brand winter canola seed includes a limited license to use the seed for production of a commercial crop only. Saving seed from any hybrid or variety containing patented traits for replanting, transferring, or selling is prohibited without the prior written authorization of Pioneer Hi-Bred International, Inc. Growers should contact their Pioneer sales representative for current stewardship requirements applicable to the trait package purchased.

Contact Pioneer Hi-Bred International, Inc., 7200 NW 62nd Ave, Johnston, IA 50131 www.corteva.com | www.pioneer.com

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Product	Trademark Owner	Active Ingredient(s)	FRAC Group
Endura®	BASF	Boscalid	Group 7
Zorina™	BASF	Boscalid + Mefentrifluconazole (Revysol®)	Group 7 + Group 3
Miravis® Neo	Syngenta	Azoxystrobin + Propiconazole + Pydiflumetofen (ADEPIDYN®)	Group 11 + Group 3 + Group 7
Propulse®	Bayer Crop Science	Fluopyram + Prothioconazole	Group 7 + Group 3
Proline® 480 SC	Bayer Crop Science	Prothioconazole	Group 3
Vertisan®	Corteva Agriscience	Penthiopyrad	Group 7
Viatude®	Corteva Agriscience	Picoxystrobin (Onmira™ active) + Prothioconazole	Group 11 + Group 3
Priaxor®	BASF	Fluxapyroxad (Xemium®) + Pyraclostrobin	Group 7 + Group 11
Quadris®	Syngenta	Azoxystrobin	Group 11
Aproach®	Corteva Agriscience	Picoxystrobin (Onmira™ active)	Group 11
Quash®	Valent U.S.A.	Metconazole	Group 3

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Desiccant / Harvest Aid Products Referenced in This Manual

Product Quick Reference

Product	Trademark Owner / Registrant	Active Ingredient	EPA Reg. #	WSSA Mode of Action
Reglone®	Syngenta LLC	Diquat dibromide 37.3%	100-1061	Group 22

General Desiccant / Harvest Aid Disclaimer

All products listed are desiccants and/or harvest aids containing diquat dibromide as the active ingredient (WSSA Herbicide Mode of Action Group 22 — Photosystem I electron diversion). These products are classified as **Restricted Use Pesticides** and may only be purchased and applied by or under the direct supervision of a certified applicator. Always read and follow label directions. It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. Not all products are registered for sale or use in all states. Before purchasing or applying any desiccant product referenced in this publication, confirm current registration status, labeled canola use instructions, pre-harvest intervals (PHI), and applicable export/buyer market restrictions with your state pesticide regulatory agency, local extension service, and your canola buyer or contract. Buyers and export markets may impose additional restrictions beyond the product label — including restrictions on diquat residues in harvested seed — that are more stringent than federal labeling requirements. Growers are solely responsible for compliance with all applicable label requirements, buyer contracts, and residue standards.

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