

Canola Production in Arkansas

Charles E. Parsons
Program Associate
Canola Production

John Kelly Program
Associate Breeding/
Genetics

Robert Bacon
Professor Breeding/
Genetics

Nathan Slaton
Associate Professor
Soil Fertility

Gus Lorenz
Professor
Insects

Tim Kring
Professor
Insects

Rick Cartwright
Professor
Diseases

*Arkansas Is
Our Campus*

Visit our web site at:
<https://www.uaex.uada.edu>

Introduction

The term “Canola” refers to a variety of oilseed rape that produces high quality oil and a high value animal feed. There are several species of rapeseed that produce canola varieties, but *Brassica napus* (mustard family) is the most common one in the U.S.



Canola plots in May in Arkansas
(Photo courtesy of C. Parsons)

To be classified as canola, the oil must contain less than 2 percent of total fatty acids as erucic acid and the meal must contain no more than 30 micromoles of glucosinolates per gram of air-dry, oil-free meal.

Rapeseed varieties and products not meeting these standards cannot be called canola and are considered unsafe for human or animal consumption.

Growing Canola

Field selection for canola production is critical and should start with a productive, well-drained, medium-textured soil with a soil pH of 6.0 to 7.0. **Heavy clay, poorly drained and sandy soils should be**

avoided. Canola should be grown in rotation with other crops to prevent buildup of pests (insects, diseases and weeds). Avoid planting canola on the same field more than once every four years. It is very important to avoid fields with difficult to control weed species including wild mustards.

Varieties

Varieties that will grow in Arkansas include ‘Jetton’ and ‘Ceres’ from Canada and ‘Wichita’ and ‘Plainsman’ from Kansas. However, the choice of variety may be determined by the end-use and the growing contract.

Planting

Planting date is slightly earlier than wheat, with a window of **September 20 through October 10 in North Arkansas and October 10 through October 30 in South Arkansas.** Late planting (after November 1) will result in poor stands and yields.

Canola seed is small and round, varying from 80,000 to 160,000 seed per pound, depending on the variety. Typically, canola should be drill-planted in 7-inch row spacings at 6 to 7 pounds per acre (varies from 4 to 8 pounds) at 1/2-inch seeding depth. Planting deeper than 1/2 inch is a common mistake and will result in poor stands due to the small seed size and poor emergence of canola seedlings. Initial stand should be 6 to 10 plants per square foot, but canola can compensate for thin stands with normal yields.

Good seedbed preparation is absolutely vital. A uniform, tilled seedbed is essential for germination, and a float should be used to eliminate any potholes in the field. **Standing water areas make canola production impossible.** A roller should be used prior to planting to firm the seedbed to allow proper seed placement in the soil. No-till or stale-seedbed systems are high risk for canola although they might be possible in certain instances where the fields are weed and pothole free.

Fertilization

A soil test prior to planting canola is highly recommended. For the most accurate fertilizer recommendations, soil samples should be collected from the 0- to 4-inch depth shortly before canola is to be seeded, especially if it follows the harvest of a summer-grown crop.

Canola may need added phosphorus (P), potassium (K), sulfur (S) and boron (B) on Arkansas soils. Soil test phosphorus values >35 ppm are sufficient for canola, and P fertilization should not be required. When the soil-test P level is below optimum, apply 50 pounds of P₂O₅ per acre for Medium soil-test P (26 to 35 ppm), 60 pounds P₂O₅ per acre for Low (16 to 25 ppm) soil-test P and 90 pounds P₂O₅ per acre for Very Low (<16 ppm) soil-test P.

Soil-test K values >130 ppm require no added potash; apply 60 pounds K₂O per acre when soil-test K is 91 to 130 ppm, 90 pounds K₂O per acre when soil-test K is 61 to 90 ppm and 140 pounds K₂O per

acre (apply in two or more split applications) when soil-test K is <61 ppm.

Topdress 60 pounds N per acre about 90 days (early January) after planting and 60 pounds N per acre again 30 days later (early February). Canola is a heavy user of S and often requires S fertilization. Soil-test S may not be a good indicator of S availability. Sulfur (20 pounds S per acre) should be applied with either the preplant or December/January N applications. Boron may also be needed on some soils, especially on alkaline silt loams west of Crowley's Ridge in northeast Arkansas. Boron may be supplied by blending 1 pound B per acre (granular B) with preplant applied fertilizers or foliar application of 0.3 pound B per acre in December or January.

Weed Control

Trifluralin (Treflan, etc.) and sethoxydim (Poast) are labeled for grass control in canola production fields. Please read and follow the label closely for rates for each soil type. Typically, trifluralin is applied preplant incorporated to canola fields. **Canola is very sensitive to broadleaf herbicides, so fields where these types of herbicides have been used the previous season should be avoided to minimize risk of carryover injury.** Since there are no good broadleaf control herbicides for canola, fields with historic broadleaf weed pressure or high wild mustard populations should be avoided. Be sure to read rotation restrictions for pesticides used prior to and during canola production.

Table 1. Insecticides labeled for Canola in Arkansas (Gus Lorenz and Tom Kring).

Pest	Insecticide*	Rate of Product/A	Comments	PHI
Aphids – Treat seedling and rosette stage plants when aphids exceed five per leaf or 20% infested plants. Treat bud and early bloom stage when infested plants (racemes) exceed 15%. Do not treat at late flower or pod stage.	Capture 2EC Proaxis 0.5CS Warrior Z Methyl Parathion	2.1-2.6 oz 3.84 oz 3.84 oz 1 pt	Do not graze treated forage	35 days 30 days 30 days 28 days
Caterpillars – Beet armyworm, loopers, other: Treat when defoliation becomes severe and larvae are present.	Capture 2EC Proaxis 0.5CS Warrior Z Methyl Parathion	2.1-2.6 oz 3.84 oz 3.84 oz 1 pt	Do not graze treated forage	35 days 30 days 30 days 28 days
False Chinch Bug – Flowering: Treat when there is an AVERAGE of five to 10 per head. Early seed pod: Treat when there is an AVERAGE of 10 to 20 per head.	Capture 2EC Proaxis 0.5CS Warrior Z Methyl Parathion	2.1-2.6 oz 3.84 oz 3.84 oz 1 pt	Do not graze treated forage	35 days 30 days 30 days 28 days
Grasshopper – Threshold: 15 to 20 per square yard.	Capture 2EC Proaxis 0.5CS Warrior Z Methyl Parathion	2.1-2.6 oz 3.84 oz 3.84 oz 1 pt	Do not graze treated forage	35 days 30 days 30 days 28 days

*Always consult the label for further information regarding usage and restrictions for any pesticide.

Insects

Aphids and a seedpod weevil have the greatest potential for concern in southern canola production. Other insects including several caterpillar species, plant bugs, stink bugs and flea beetles may be common in the crop but are rarely cause for concern. Aphids colonize the crop in the fall and continue feeding during the winter and spring.

While these insects may not commonly reduce yield, producers should prevent stand loss from early aphid infestations through careful scouting.

Start scouting the entire field 40 to 60 days after planting and treat if you find 5 aphids per leaf (up to 4-leaf stage) or 10+ per plant (4- to 8-leaf stage). Insecticide spray products labeled for canola are listed in Table 1.

Diseases

Canola is susceptible to a number of diseases but usually only after the crop has been grown in an area for a number of years, allowing pathogens to build up.

A major concern in new canola areas is blackleg, caused by a *Leptosphaeria* fungus. The fungus is seedborne so all planting seed should be certified as “blackleg-free,” if possible, and all seed treated with an effective fungicide to minimize the risk of introducing blackleg into an area. Once canola is established in an area, crop rotation and the destruction of crop residue and wild mustard plants become important, since the blackleg fungus survives on both.

Blackleg causes a dark lesion at the base of affected plants, causing death or lodging.



Varieties resistant to blackleg are known and should be used if the disease becomes a problem.

Another important disease is Sclerotinia stem rot – or simply stem rot – caused by the fungus *Sclerotinia sclerotiorum*. Again, this disease becomes more troublesome over time as canola production in an area increases, giving the fungus a chance to build up. Stem rot is mostly a springtime disease, favored by wet conditions during flowering. Symptoms include light tan to grey lesions on the lower stem that may be more than a foot long (Figure 1).



If split open, the affected stems contain “sclerotia” of the fungus that are black, 1/4 inch or more in length and irregular in shape (Figure 2).



Plants infected early during flowering will produce fewer and shrunken seed, while if infected later, they may lodge and break over (Figure 3).

The primary fungicide used to prevent stem rot is azoxystrobin (Quadris) and it must be applied prior to infection (first flowering) for best control.

Harvest

Harvesting starts in late May in southern Arkansas and early June in the northern half of the state. It is very important to harvest canola when ready – DO NOT leave it in the field too long! Harvesting equipment is the same as used in other grain crops; **however, air flow on the combine must be turned down and screens adjusted to capture the small seed.** Ground speed may have to be slower than for small grains. The small, round seed (Figure 4) flow freely, **so any leaks in combines, trucks, grain bins or other equipment must be sealed or the seed will flow out and escape.**



Storage of canola seed can be a problem. Screens in the bottom of drying bins may be too big for the small seed, so smaller screens may have to be placed over the floors. Also, canola seed must be dried to 8 to 9 percent moisture for extended storage periods.

Yields of 40 to 60 bushels per acre have been achieved in southern canola production fields in the past.

References

- 1996 Canola Production Guide*, The University of Georgia Cooperative Extension Service College of Agricultural and Life Sciences.
- Okanola Program*, Department of Plant and Soil Sciences, Oklahoma State University.
- Royer, T. A., and K. L. Giles. *Management of Insect and Mite Pests of Canola*. Oklahoma Cooperative Extension Service FS CR7667 (0406 rev).

Printed by University of Arkansas Cooperative Extension Service Printing Services.

CHARLES E. PARSONS is program associate - canola production with the University of Arkansas Division of Agriculture, Extension and Applied Research Center, Lonoke. **DR. JOHN KELLY** is program associate - breeding/genetics, **DR. ROBERT BACON** is professor - breeding/genetics and **DR. NATHAN SLATON** is associate professor - soil fertility. Kelly, Bacon and Slaton are with the University of Arkansas, Fayetteville. **DR. GUS LORENZ** is professor - insects with the University of Arkansas Department of Agriculture, Cooperative Extension Service, Little Rock. **DR. TIM KRING** is professor - insects and **DR. RICK CARTWRIGHT** is professor - diseases. Kring and Cartwright are with the University of Arkansas, Fayetteville.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director, Cooperative Extension Service, University of Arkansas. The Arkansas Cooperative Extension Service offers its programs to all eligible persons regardless of race, color, national origin, religion, gender, age, disability, marital or veteran status, or any other legally protected status, and is an Equal Opportunity Employer.