What is Canola?

Basic Canola Agronomics

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Great Plains Canola Association

- **GPCA** is a membership organization providing research support, industry news and information about canola programs and works to determine and implement a policy direction beneficial to the canola industry as a whole.
- Formed in July of 2007 by representatives from all sectors of the industry
- The goal of increasing acreage and consumption of canola in the Great Plains of the United States.
Winter Canola Discussion

- What is Canola?
  - Why?
- Canola Life Cycle
- Seedbed Prep.
- Planting
- Harvesting Options
What is Canola?

• Developed in the early 1970s using traditional breeding methods
  — “CAN” for Canada + “OLA” for oil low acid = CANOLA

• Canola is a special type of oilseed rape that has less than 2% erucic acid in the oil.

• This allows canola oil to be used as a cooking oil and the meal as a high quality protein for livestock.

• In 1985, the FDA ruled that rapeseed oil (Canola) is safe for human consumption.

• Spring and Winter canola is under USDA oil-seed crop price support program.
Canola Oil

• Canola oil (edible) contains two poly-unsaturated fatty acids that are essential in our diets
• Canola oil contains 6 percent saturated fat, the lowest level of any available vegetable oil.
• Canola seed contains approx. 40% oil.
• One bushel (50 lbs) makes 2.2 gal of edible oil
Demand

U.S. Canola Oil Production & Consumption

Million Lbs.

- Production
- Consumption

Years: 1991/92 to 2012/13

4/3/2014
Canola Meal

- Contains a minimum of 36% protein
  - Second only to high protein soybean meal at 47%.
- Sold as meal or pellets
- Excellent for dairy cattle
  - Increases butter fat
- Can be fed to all animals
- Used for human consumption, fish, animals and fertilizer for mushroom growers
Why Canola?

- Weed management
  - Winter broadleaf crop
  - More herbicide options
  - ALS Resistance issues
- Profitability
- Rotation benefits
  - Disease and insect cycles
- Wheat improvement
  - Quality
  - Quantity
- Market demand for healthy oil
Canola Seedling Growth and Development

• Seedling emerges 4 to 10 days after planting and develops a short stem.
• Unlike wheat, whose growing point is protected beneath the soil during development, the growing point of canola is above the soil between the two cotyledons.
• The exposed growing point makes seedlings more susceptible than wheat to environmental hazards.
Fall Growth
Winter Freeze Response

• Typical winter response during (rosette) semi dormant stage.
• Fall foliage is produced for over wintering.
• Spring foliage (bolting) is produced mainly for seed production.
Dormant

January 25, 2010
Spring Re-growth - Bolting
Canola Flowering

• Flowering begins with the opening of the lowest bud on the main stem and continues upward
  – Three to five flowers open each day and flowering continues for 2 to 3 weeks.
• Canola plants initiate more flower buds that can develop into productive pods
  – Only half the flowers that open will develop into productive pods.
Canola Seed Pods
Mature Plants
Field Selection

• Take a soil sample and get a soil test!!!!!!!!!!!
  – N, P, K, and S
  – Save money and time
  – Soil Grid Sampling
  – A soil pH between 6.0 and 7.0 is optimal. Yields may be reduced by pH below 5.5.
  – Varieties with pH tolerance
  – Grows best in medium-textured well drained soils, but producers are growing in a wide range of soils.

• Herbicide History - Sulfonylurea
  – SURT ™ varieties (SU. Residual Tolerance)
  – Sumner
Seedbed Preparation

• Apply pre-plant fertilizer before final tillage operation

• Need a firm seedbed
  – Harrows
  – Stale seedbed
  – Rollers (packers)

• No-till
  – Residue management!
  – Canola likes a clean row or furrow!
Best Planting Equipment?

- Older equipment - use rapeseed setting
- Drill Calibration
- Operators manual!
- Control planting depth to 0.5 to 1.25”
- Ability to plant small seed, without large furrows
- Make sure seed is covered
- Minimize potential for crusting
- Row Spacing?
- **Slow Down!!!**
Fertility

• Nitrogen: 2.5 lbs N/bu
  – Best to apply in fall and spring
  – 5lbs of N/100lbs
• P and K: Same as wheat
  – Banding in Furrow P
  – Low use rates
• Sulfur: 10-20 lb/A
  – If elemental put down in fall
  – Ammonium Sulfate (fertilizer grade)
  – Ammonium Thiophosphate (liquid fertilizer)
• Micronutrients:
  – Boron: soil sample
    • tissue sampling available
Influence of Fertility

- Adequate Fertility is needed
- N-Rich Strips
- Fertility Response
Pushing

- Lodges crop forward
- Closer to the ground
- Protects from wind
- Dries naturally

- Need height and thick crop
- Pods keep the crop down
- Push earlier than swath
  - 30-60% color change
- Faster
- 30-36ft widths
Harvesting Pushed Canola

- Harvest in opposite dir.
- 2-3 weeks after pushed
- Evens maturity

- 2-3 mph, 30-36ft widths
- Harvest more of plant
- Match size of pusher and header
- Header Preference
Swathing

- Evens maturity faster
- Plants should be swathed when 40-60% seed color change occurs on the main raceme
- Must use draper header
- Packer or Roller
- Stubble height, anchor
- Time management, header width
- Swathing direction
Picking-up Swath

- Swath is placed on stubble for ~ 5-10 days or until the seed moisture is below 10%.
- Match pick-up belt speed with ground speed
- Some prefer to harvest in the evenings to decrease header loss
- Windrow direction N/S
Desiccants

- Reglone/Diquat
- Generic Diquat by Nufarm
  - 80-85% seed color change
    - Last page in handbook
  - 1.5-2 pts/ac
  - 15 gpa by ground and 5 by air
  - Surfactant
  - 7 day Pre-harvest Interval
  - Do I want to spray all my acres on the same day?
Direct Harvesting

• Must harvest when ready or moisture below 10%
• Will still have some green pods
• Stalks are green, canola is dry
• Un-even maturity
• Most risky
• Performs well when crop conditions are good and even
Summary

- Canola requires more management than wheat!
- Time Management!
- Plan ahead!
- Pay attention to the details!
- Be committed!
- Growing winter canola has resulted in better wheat farmers
Questions?

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