



# What is Canola?

## Basic Canola Agronomics

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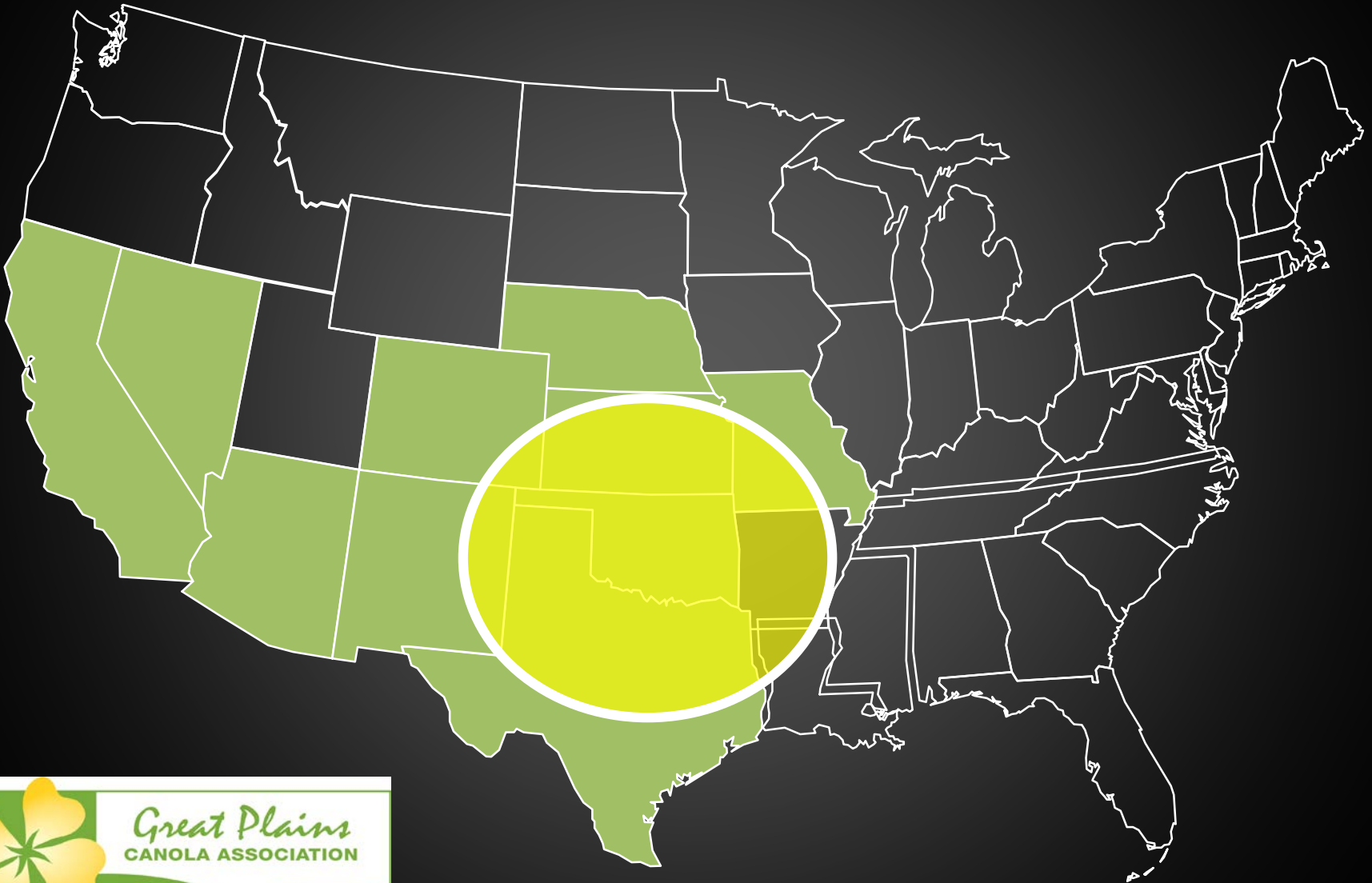
*March 31<sup>st</sup> 2014*



# 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.

# GPCA 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

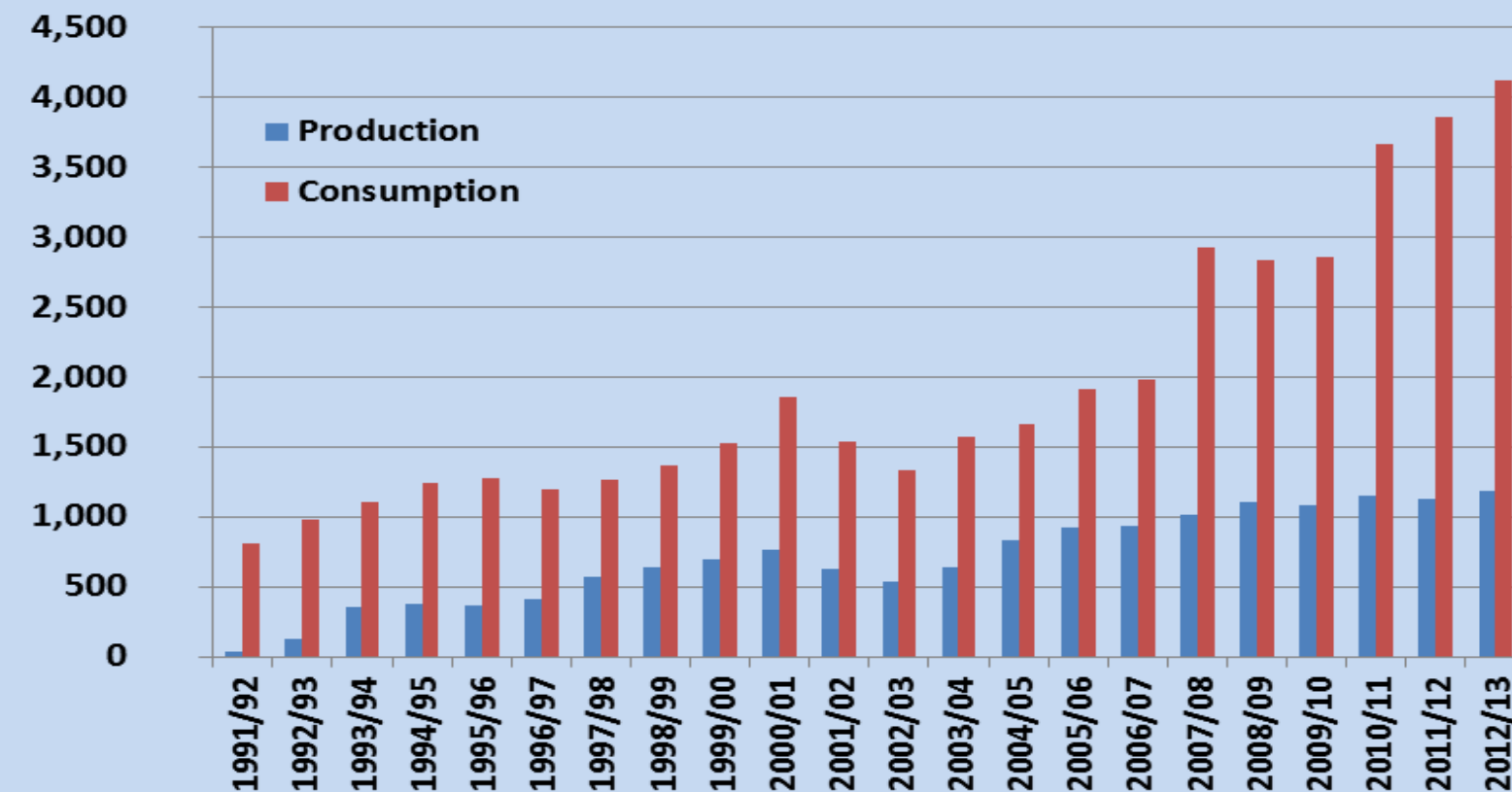
- Canola oil (edible) contains two poly-unsaturated fatty acids that are essential in our diets
- Canola oil contains 6 percent saturated fat, the lowest level of any available vegetable oil.
- Canola seed contains approx. 40% oil.
- One bushel (50 lbs) makes 2.2 gal of edible oil



# Demand

## U.S. Canola Oil Production & Consumption

Million Lbs.





# 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**



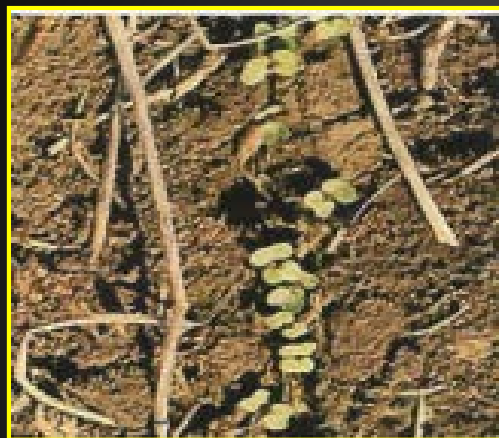


# Why Canola?

- 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 Green-Up

March 16, 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 maybe 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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