



# Mustard Seed Market Analysis

Presented to the  
Saskatchewan Mustard Development Commission  
Crop Production Week

Presented by: Mark Ziegler  
January 10, 2007

# Presentation Outline

- Introduction
  - VCRT, Benchmarking Study, Assessment of Market Potential and Value Chain Profile
- Sector Profile: Statistics on Production and Exports
- Study Overview: Objectives and Scope
  - ✓ Benchmarking Study
  - ✓ Assessment of Market Potential
- Main Findings
  - ✓ Benchmarking Study: Most Important Characteristics
  - ✓ Market Assessment Study: Consumer Issues and Emerging Demands
- Implications and Recommendations
  - ✓ Addressing Buyers Demand
  - ✓ Addressing Consumers Demand

# Study Background

- The Special Crops Value Chain Roundtable (VCRT) is an industry-led partnership, established in April 2003, that strives to increase the export market shares of Canadian pulses and other special crops. The VCRT's objectives are to help Canada keep its competitiveness on international markets and to create and exploit opportunities for value-added products.
- In support of Canada branding strategy, the Benchmarking Study for Mustard was conducted as a pilot project since Canada is a world leader in mustard exports.
  - ✓ A Benchmarking Study for Mustard Seed, The Thomsen Corporation & Prairie Global Management, July 2005
- To help the special crops to better compete in international markets, market intelligence was identified as one of the priorities to deal with under the VCRT. The CSCA has identified the need for mustard markets analysis.
  - ✓ Assessment of Market Potential for Mustard, Ipsos-Reid, October 2006
- To support the special crops industry value added strategy, a good understanding of its value chain has been seen as a first step in that direction.
  - ✓ Value Chain Profile of the Canadian Mustard Industry, Horticulture and Special Crops Division, November, 2006

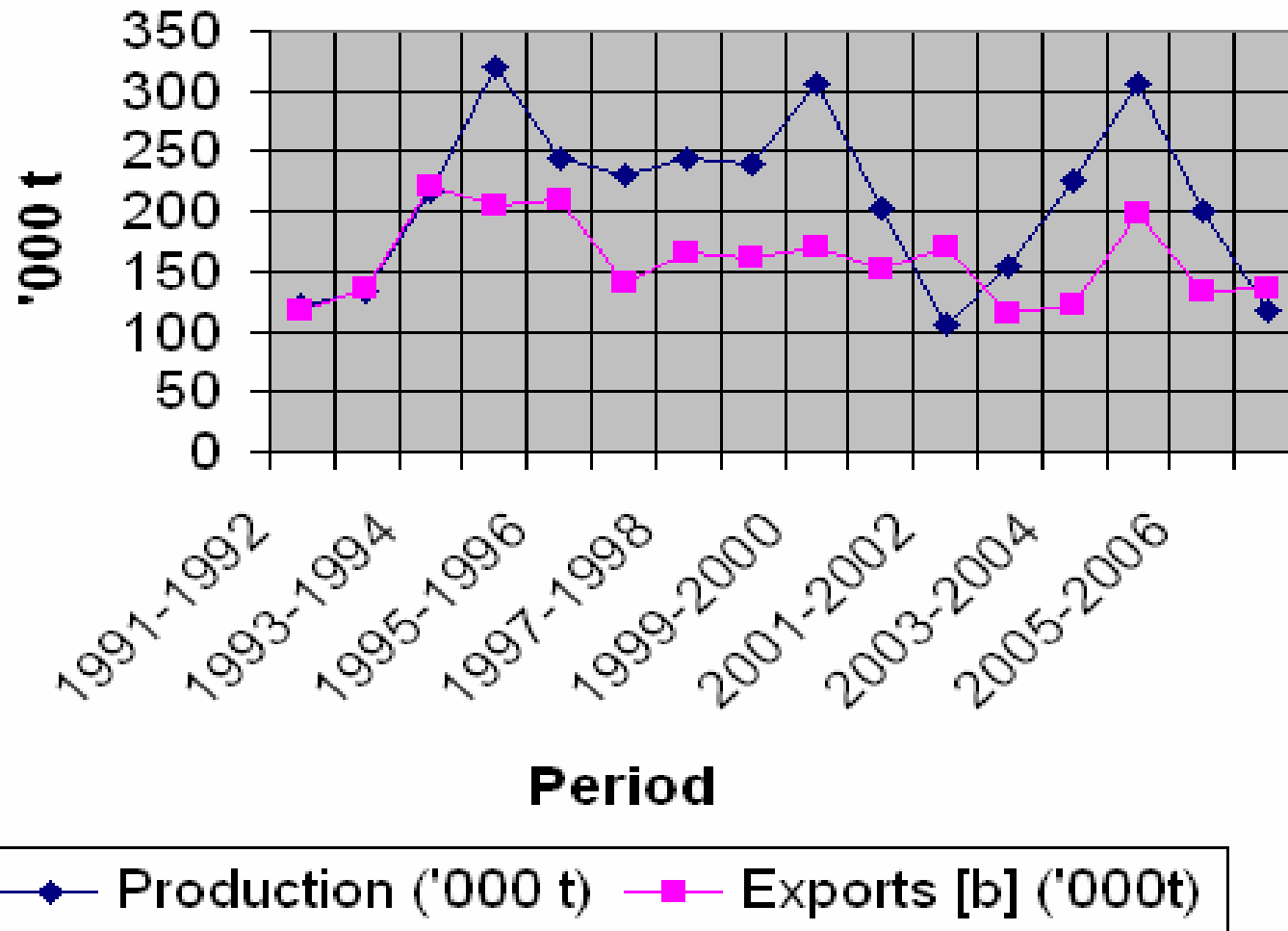
# Sector Profile

- Canada is currently the world leader in exports of mustard.
- As of 2001, 2,012 farms in Canada were growing mustard seed.
  - ✓ 24 primary processors and 34 secondary processors were identified
- Average Yield = 1.01 tonnes/ha in 2004-2005.
- Average Price = \$295/tonne in 2004-2005.
  - ✓ Expected average price for 2006-2007 at \$310/tonne
- Domestic consumption = 86,000 tonnes in 2004-2005.
- In 2005, Canadian-produced mustard seed totalled \$77M.
  - ✓ Export value was nearly \$63M in Saskatchewan, \$13.1M in Alberta, and \$1.1M in Manitoba
- Overall value of mustard markets including processing, approximately \$385-\$400 million.\*

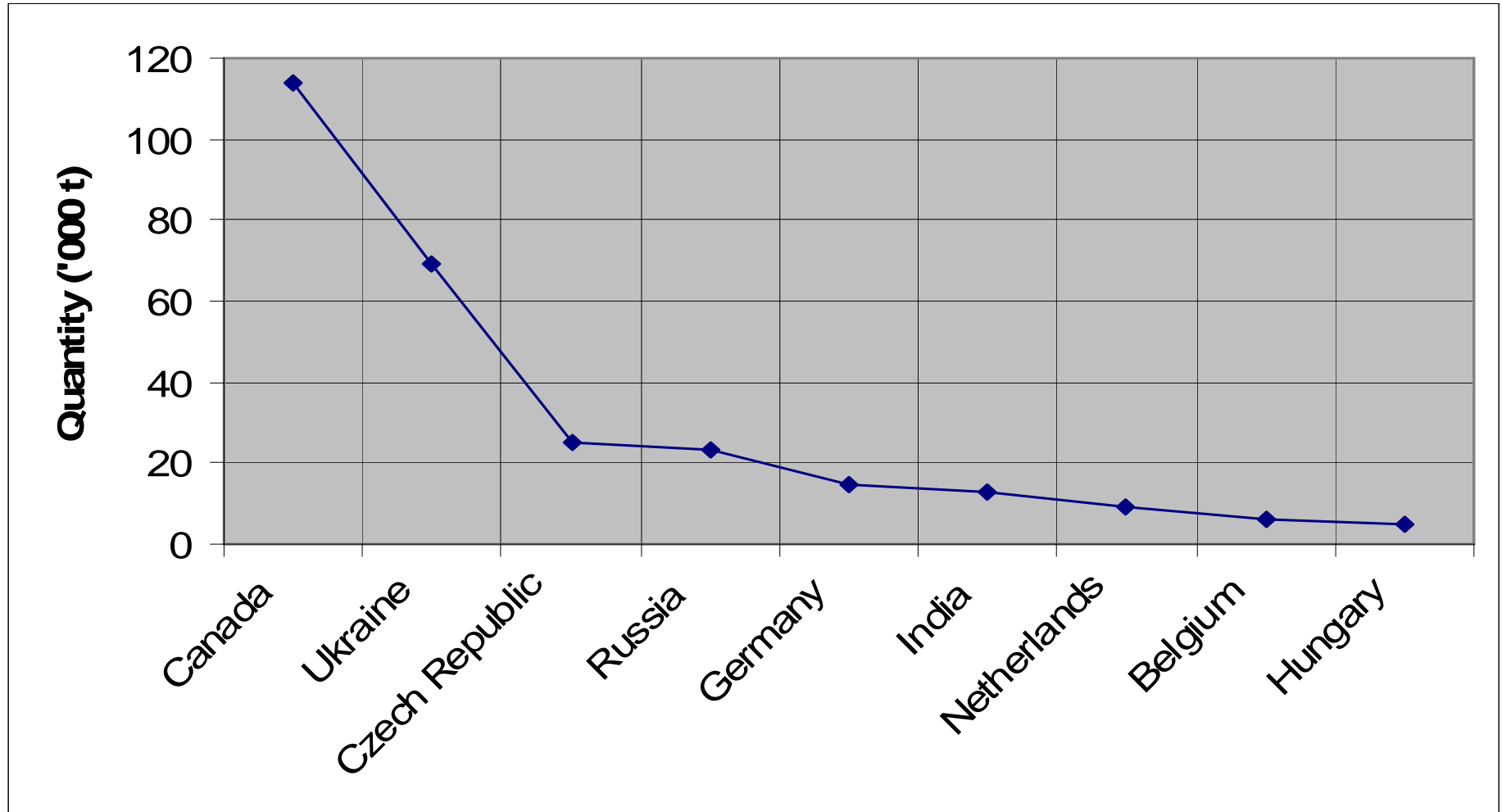
# Sector Profile

- Special crops (including mustard) are increasingly important for Canadian farmers.
  - ✓ Their future depends on how they adapt to disparate forces like subsidization and a volatile global market.
- Almost three-quarters of production is sold abroad.
  - ✓ The USA and Belgium are the top two markets for Canadian mustard seed followed by Japan, Germany and Netherlands\*
  - ✓ Competition is increasing from Nepal and Eastern Europe (Ukraine, Russia, Hungary and Czech Republic).
  - ✓ Prices dependant on external factors like transportation efficiency, value of the Canadian dollar and global supply and demand.
  - ✓ Volatility creates a need to develop ways to differentiate Canadian mustard from those of other exporters.

# Canadian Mustard Seed Production & Exports Trends



# Top 9 Mustard Seed Exporting Countries 2004



# Mustard Seed Benchmarking Study's Objectives

- Identify client needs and preferences in terms of characteristics in major international markets: France, Belgium, Netherlands, Bangladesh and the USA.
- Assess Canada's performance in these markets relative to rival exporting countries (Czech Republic, Russia and Hungary). Compared and benchmarked six major attributes: seed weight, color, mucilage, fixed oil level, protein and hot/spicy factor.
- Participating in 20 interviews with 11 seed samples collected and analyzed.
- Study identified 2-3 priority factors in mustard purchase decision: price, quality and GMO.

# Assessment of Market Potential: Study Objectives and Scope

- Gather market intelligence and provide information needed to improve relative competitiveness of Canadian mustard exports in target markets.
- Understand the needs and preferences of mustard buyers.
- Assess the service and product attributes important in the mustard market.
- Understand trends in consumer preferences.
- Identify opportunities for increased mustard exports.
- Identify barriers that need to be addressed to increase Canada's share of the global mustard market.
- Assess importance of IP and Transportation.
- Target markets included Western Europe (France, Germany, UK), Bangladesh and USA, participating in 24 interviews with companies producing condiments, spices and ingredients and consumer ready foods.

# *Main Findings*

# Uses for Mustard

## Consumer Ready Foods

Mustard as filler  
Mustard as protein enhancer  
Mustard as a spice or flavour agent

## Spices and Ingredients

Ground mustard powder and flour  
Mustard as ingredient for sauces and condiments  
Mustard as oil

## Condiments

Prepared mustard of several varieties (yellow, Dijon, etc.)  
Mayonnaise and salad dressings  
Barbeque sauces and rubs

## Bangladesh

Manufacture mustard oil and oil cakes for use in livestock food and fish food

# Mustard as a Commodity vs. Product

## Commodity

- Replaceable with other products (e.g. Soybean oil in Bangladesh)
- Continued downward pressure on price
- Focus on supply chain and exclusion of other concerns
- Little room for differentiation

## Product

- Expanded use profile
- Ability to differentiate based on numerous characteristics
- Price is less a limiting factor - Ability to obtain premium price
- Increased ability to position Canadian mustard

# Sources of Mustard by Country/Region

Country/Region	Canada	Local or Domestic	Eastern Europe	Australasia	China
U.S.	<b>X</b>	x	x		
U.K.	<b>X</b>	<b>X</b>	x		
France/Germany	<b>X</b>		x		
Bangladesh	x		x	<b>X</b>	x

# Mustard Seed Benchmarking Study

- Sample analysis examined 6+ attributes in detail.
- Notable Findings:
  - ✓ Brown mustard from Ukraine not brown per Canadian standard
  - ✓ Ukraine oriental differs from Canadian (seed size larger, darker color, higher oil content).
  - ✓ Czech Republic and Ukraine oriental lower hot factor (glucosinolate) than Canadian.

# Benchmarking Study: What is important

*Seed colour*  
*Seed size*  
*Seed uniformity*  
*Oil content*  
*Allyl glucosinolate (hot factor)*  
*Protein*

*Grade*  
*Moisture content*  
*Green seed count*  
*Mucilage (bran)*  
*Taste*  
*Milling efficiency*

*GMO/Non-GMO*  
*Traceability*

# Mustard Seed Benchmarking Study: Main Findings

- Important attributes and factors in purchase decisions:
  - ✓ Europe
    - Traceability
    - Seed size (circular, the bigger the better for weight)
    - Hot factor
    - Cleanliness
    - Oil content (too much oil content causes issues with milling and can result in a separation of oil after bottling which results in a oil layer on the top of mustard paste)
    - Service
    - Color (European seed = bright yellow, Bangladesh seed = dark yellow, USA = satisfied with Canadian seed yellow)
    - Testing (frequency of sampling product to ensure quality standards)
  - ✓ Bangladesh
    - Oil content
    - Pungency/hot factor
    - Color
    - Moisture content (target moisture content is < 8; bacteria becomes an issue otherwise)

# Most Important Characteristics

## Taste/Flavour/Heat

*"We sell flavours"*

Taste, flavour and heat are most important when selling consumer ready products

Affected by variety, handling, storage and time/age

Most important to the U.S. market

## Consistency

*"We just want what we already have"*

Consistent grade, quality, size, colour, taste, etc.

Manufacturers and processors need to know what to expect

Most important among processors and distributors with set systems

## Grade

*"Grade covers a lot of other characteristics"*

Canada No1 considered a premium mustard

Comes with assumptions about quality, seed size, colour, consistency, cleanliness, etc.

## Oil & Moisture Content

*"Mustard can not compete with Soy oil price"*

An issue for all respondents in Bangladesh

Not surprising, considering they are all producing mustard oil and oil cakes

# Assessment of Market Potential

- Question: “What are the most important factors in your decision to purchase mustard seed?”
  - ✓ Europe = 33% Price, 33% Quality, 33% GMO free
  - ✓ Bangladesh = 100% Price
  - ✓ US = 33% Price, 33% Quality, 33% Grade

# Assessment of Market Potential

- IP production and traceability expectations are there, what will the industry do about it?
- Emerging consumer preferences and concerns:
  - ✓ Health, wellness, and natural
  - ✓ Labelling, specifically nutritional value and “hot button” ingredients
  - ✓ Changing consumer palate seeking for spicier – especially in North America
  - ✓ “Premiumization” of the consumer market (gourmet food more popular)
- Mustard is well positioned to grow in today’s market.

# Assessment of Market Potential

- Transportation is critical – it impacts:
  - ✓ Price
  - ✓ Supply chain management
  - ✓ Handling and inventory management
- Commodity vs. Product - a key distinction.
  - ✓ Commodity users approach mustard differently than those treating mustard as a differentiated product
- Effective supply chain management exists; relationships and efficiency are foundations.

# Effective Supply Chain Management

Canadian mustard supply is consistent and reliable = Effective

## Successes

*On-time delivery*  
*Consistent quality*  
*Responsive suppliers*  
*Excellent relationships*  
*Premium grades*  
*Consistent supply*

## Concerns

*Cost*  
*Transportation - cost*  
*Transportation - access/timing*  
*Storage*  
*Cross-contamination*  
*Consistent supply*

# Key Supply Chain Characteristics

## What makes a good mustard supplier?

**Consistency**



Product is the same all the time

**Trustworthy**



Always available and responsive when needed

**Quality**



Product is superior quality  
(although what makes a quality mustard product  
may vary by country/region and use)

**Traceability**



Call to know where product came from, how it was  
produced, how it was handled, etc. to prevent  
cross-contamination (esp. GMO)

# *Consumer Issues & Emerging Demands*

# Issues and Demands Explored

**The Ethical Foods Movement**



Organics, GMOs, Vegetarianism, "Buy Local"

**Nutrition, Health & Wellness**



Weight Management, Fat Content & Type,  
Additive/Preservatives, Allergies

**Food Safety**



Traceability, Irradiation, Country of Origin

**Changing Demographics**



Aging Populations, One-person Households, Ethnic  
Diversity, Religion

**Food Labelling**



Nutrition Labelling, Functional Health Claims

**Convenience Foods**



Snacks, Ready-meals, Eating out, Portion Control

**"Premiumization"**



Gourmet Foods, Boutique Brands, Premium Priced

# Response to Issues

(continued)

## Nutrition, Health & Wellness

### Weight Management/Fatty Foods

- Avoidance of carbs, sugar, sodium, cholesterol and 'bad fats' fits well
  - ✓ Mustard doesn't have these issues
- Advertise "*low fat*" and "*all natural*" within regulatory standards

### Additives/Preservatives

- Mustard is natural replacement at the ingredient level
- Mustard meets "*all natural*" label regulations
  - ✓ There are no additives/preservatives

### Allergies

- Huge issue and getting bigger – concern
- Mustard is an allergen for some
- Impact on handling systems, traceability and tracking, labelling
- Cross-contamination with other allergens is another concern

# Response to Issues

(continued)

## Changing Demographics

Trends:

- Taste profiles and preferences change across demographics, so products must change.
  
- A developing palate in the US:
  - ✓ Seeking hotter foods, fusion cuisine, ethnic dishes
  - ✓ Desire to see new foods and flavours
  
- EU palate viewed as more developed; possibly more stable market, less “innovation” but possibly more “replacement” growth.

# Response to Issues

(continued)

## “Premiumisation”

### Trends:

- More people willing to pay for indulgence food products
  - ✓ Growth in gourmet/boutique food stores
  - ✓ Growth in gourmet sections of supermarkets
- Willingness to pay for perceived premium and specialty products
- Interest in flavours increasing
- Specialty niche products, not commodities
- Desire for more variety and choice
- Visual appeal of mustard
- Possibly the biggest impact and best opportunity for mustard as a product
- Does America have a love affair with spicy foods?

### Opportunities:

- Growth in condiments market
- New flavoured ready to eat products
- Hotter varieties
- Mustard as a product, not a commodity

# Response to Issues

- Opportunities:
  - ✓ Organic, Pesticide Free Production, and IP varieties
  - ✓ Positioning as non-GMO
  - ✓ Food miles – distance from primary supply
  - ✓ Buy local could become a bigger issue
  - ✓ Vertical integration with processors and producers
  - ✓ Marketing advantages
  - ✓ Mustard is a “short” heat
  - ✓ Increase consumption of sauces and rubs, with mustard as an ingredient
  - ✓ Visual appeal of mustard adds to new foods and recipes

***Addressing Buyers Demands;  
Message to the Mustard Industry***

# Key Messages

## ■ USA:

- ✓ *“Educate consumers on (GMOs) ... if you’re going to develop them, you should do the marketing to alleviate consumers fears”*
- ✓ *“Flavour is very important (for) mustard seed... strive to preserve and enhance the flavours”*
- ✓ *“Increase the ‘heat factor’” & “Improve the shelf life of the flavour”*
- ✓ *Agronomic and quality information may not be moving from exporters/marketers to the end-user – especially the smaller users*

## ■ UK:

- ✓ *“Continue to do what you do well” – “Maintain quality and delivery performance”*
- ✓ *“Resolve GMO and IP issues as soon as possible... if the desire is to increase price”*

## ■ France/Germany:

- ✓ *“Pay close attention to traceability, cleanliness...risk if GMO...”*
- ✓ *“I think the quality we have in terms of seed is good from Canada”*
- ✓ *“We want a simple, safe and natural product”*

# Conclusions

- Strengths of the Canadian Industry:
  - ✓ Physical attributes and quality of eastern Europe mustard seed is variable
  - ✓ Canadian mustard seed recognized as highest and most consistent quality
  - ✓ Canadian mustard seed generally hotter and consistent in hotness relative to other supplying countries
  
- Price Challenges and GMO issues:
  - ✓ Recognized high Canadian quality insufficient to stem market losses related to GMO and price concerns in Europe, and price in Bangladesh
  - ✓ Loss of Bangladesh market primarily if not exclusively due to lower prices for oriental mustard seed
  - ✓ European concern GMO canola is in and continues to enter Canadian mustard seed
  
- Other Challenges:
  - ✓ European concern that Canadian seed size declining in recent years
  - ✓ European and other concern for declining production acreage and suppliers in Canada
  - ✓ Transportation: Eastern Europe closer to Western European markets.

## *Implications & Recommendations*

# Addressing Buyer Demand

- Study conducted through interviews, sample analysis, benchmarking (measuring performance of Canada against Czech Republic, Russia and Hungary), and recommendations:
  - ✓ Open communication between industry and customers
  - ✓ Take more aggressive approach to marketing
  - ✓ Recognition of national program/traceability process
  - ✓ Nutritional and health claims necessary for marketing programs (ex: flax, canola)
  - ✓ Ensure confidence to buyers of future Canadian mustard seed cultivation
  - ✓ Continued solicitation of international champions from export markets
  - ✓ Foster collaboration between Canada and Bangladesh market

# Addressing Consumer Demand

## Mustard is ideally positioned to meet consumer preferences & concerns

Consumers are trying to avoid sugar, sodium, cholesterol and fats

Mustard is a natural product that is not linked to the above “hot button” concerns

Mustard is an ideal replacement for additives and preservatives

Positioning/branding as an “All Natural” product

## Developing and expanding palate in North America

Hunger for new & innovative flavours/tastes

Expanding experimentation and adoption of ethnic foods & non-traditional flavours

Mustard is hot, but not lingering – ideal for adding heat

“Niche” products go “mainstream” quickly, so focus should ensure consistency to established buyers while addressing the specific wants of “niche” mustard markets

# Implications for the Mustard Industry

## Breeder level

Non-response to taste and flavour in U.S.  
Organic and non-GMO in EU  
Hybrids developed as natural mustard

## Producer level

IP contract opportunities  
Value chain integration  
Traceability

## Marketing level

“Niche” is not small  
Information dissemination to importers  
Consumer directed campaigns promoting health & wellness benefits  
Benefits as a natural product  
“New” flavour developments  
End-user influence through recipe and product development  
Trade magazine/newsletter opportunity

# Opportunities for the Mustard Industry

**Price dominates the commodity market and it is difficult to effectively influence large processor demand.**

**Opportunities exist**



**Focus on product versus commodity**

**Understand and maintain market integration**

**Inventory management - get product through supply chain quicker**

**Transportation increases U.S. potential**

**Influence "niche" market players with willingness and ability to adapt processes and products**



# Mustard Seed Market Analysis

Presented to the  
Saskatchewan Mustard Development Commission  
Crop Production Week

Presented by: Mark Ziegler  
January 10, 2007