

# BMBRI Desired Traits for Malting Barley Breeding and Research

21<sup>st</sup> BMBRI Triennial Barley  
Meeting, June 23, 2010

Michael Brophy



# Brewing and Malting Barley Research Institute

## BMBRI's List of Desirable Quality Traits for Development in Malting Barley

Characteristic	In Breeding	For Research
Aribinozylan Measurement		+
Balanced Modification	+	
Consistent Barley Quality Across Regions	+	
DMS/DMS Precursors		+
Enzyme Activities *	+	
Extract	+	+
Fermentability		+
FHB Resistance	+	
Hull Adherence	+	
Long Term Germination	+	
Pre Harvest Sprout Tolerance		+
Protein*	+	
Varietal Identification		+

## BMBRI's List of Desirable Quality Traits for Development in Malting Barley

### Protein-Enzyme Quality Profiles:

- Moderate protein (11-12.5%)/Moderate enzymes (125–150 DP, >53 alpha amylase)  
e.g. **AC Metcalfe** (+ recent newer varieties such as **CDC Meredith, Merit 57, Major, others?**)
- Moderate protein (11-12.5%) / High enzymes (>150 DP, >53 alpha amylase)  
e.g. **CDC Kendall, Legacy** (+ recent new varieties such as **CDC PolarStar, Celebration, others?**)
- Moderate protein (11-12.5%)/ Lower enzymes (<125 DP, <53 alpha amylase)  
e.g. **CDC Copeland** (+recent newer varieties such as **CDC Meredith/Bentley, others?**)
- Low protein (<11%) / low enzymes (<125 DP, <53 alpha amylase)  
e.g. **Bentley?**

## Newer Malting Barley Varieties Registered in Canada

### Two-Row Varieties

- TR 07114 – Recommended in 2010
- TR 0694 – Recommended in 2009
- CDC Polarstar (TR 06918) - 2010
- Merit 16 (TR 05910) - 2009
- Merit 57 (TR 05911) - 2009
- Major (TR 06297) - 2009
- Bentley (TR 05669) - 2008
- CDC Landis (TR 05102) - 2008
- CDC Meredith (TR 05104) - 2008
- CDC Reserve (TR 05912) – 2008

### Six-Row Varieties

- SR 424 – Recommended in 2010
- SR 425 – Recommended in 2010
- SR 420 – Recommended in 2009
- Celebration (BT 980) - 2009
- Stellar-ND (BT 984) - 2009
- CDC Kamsack (SR 410) - 2008
- CDC Mayfair (SR 412) – 2008
- CDC Clyde (BT 490) – 2004

## Other issues under discussion in Canada

- Future public funding of barley breeding, research and development
- Health Canada/CFIA Micotoxin regulations?
- Barley acreage/production trends
- GMO issues
  - Tolerances for adventitious presence?
  - Market impact as part of regulatory approval?
  - Role of GMO in breeding?

# 2010 BMBRI Collaborative Test Entries

## **2<sup>nd</sup> year two-row entries:**

- TR 08116 (CDC/U of S)
- TR 08203 (AAFC Brandon)
- TR 08800 (CDC/Sapporo)

## **1<sup>st</sup> year two-row entries:**

- TR 09208 (AAFC Brandon)
- TR 09402 (BARI)
- TR 09803 (CDC/Sapporo)

## **Two-row Checks:**

- AC Metcalfe
- CDC Copeland

## **2<sup>nd</sup> year six-row entries**

- SR 429 (CDC/U of S)
- SR 432 (CDC/U of S)
- BT 989 (BARI)

## **1<sup>st</sup> year six-row entries**

- SR 433 (CDC/U of S)
- SR 434 (CDC/U of S)

## **Six-row Checks**

- Tradition
- CDC Mayfair
- Lacey