
Canada Western Hard White Spring (CWHWS) wheat

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Canada Western Hard White Spring

the past, the present & the future

CWHWS

CWRS

SNOWBIRD - KANATA

- Both are proprietary varieties owned by FarmPure Seeds, partnered with Paterson Grain + CWB-IPCP
- Both were developed with CWRS genetics in their pedigree
- Snowbird has a better grain yield (about 5%) compared to Kanata
- Kanata matures slightly faster so may prove popular in more northern regions

SNOWBIRD

- 2003 production of 190,000 tonnes was excellent quality
- 2004 production of about 600,000 tonnes but quality more challenged due to poor growing season and harvest weather
- 2005 production of almost 1,000,000 tonnes but quality continued challenged due to poor harvest weather
- Sales of Snowbird have been made to customers worldwide

KANATA

- Sister line to Snowbird, slower in the seed multiplication process
- 2005 production - about 40,000 acres
- Quality profile appears to be similar to Snowbird but more extensive testing and customer review is ongoing

- **2003-04 and 2004-05 Program**
 - Contract premium \$7.50 over CWRS initial
 - Protein premiums introduced for 2004-05
 - Guaranteed acceptance and delivery
 - Escalating storage payments from October 1 or date delivery contract is signed, whichever is later
 - Eligible for CWB pricing options
 - Handled by N. M. Paterson & Sons and Cargill

- **2005-06 Program**

- Contract premium \$2.50 over CWRS initial, including protein levels
- Guaranteed acceptance and delivery
- Escalating storage payments
- Eligible for CWB pricing options
- Handled by N. M. Paterson & Sons and Cargill (90%) and 6 other partners (10%)

- 2006-07 Program

- Contract premium \$2.50 over CWRS initial, including protein levels
- Limited guaranteed acceptance (300,000 tonnes) and delivery
- Eligible for CWB pricing options
- Handled by N. M. Paterson & Sons and Cargill (90%) and 6 other partners (10%)

Canada

United States

Ecuador

Peru

Venezuela

Mexico

Columbia

Chile

Guatemala

Caribbean

Colombia

Taiwan

Vietnam

Malaysia

Thailand

Singapore

China

Philippines

Pakistan

Indonesia

Sudan

United Arab Emirates

- **Milling Quality**
 - flour yield
 - flour color
- **Dough Strength**
 - development time
 - stability

2003 crop	yield	color	DDT	stability
Harvest Survey				
No. 1 CWRS	77.7	-2.2	5.75	11.0
No. 1 CWHWS	77.4	-2.9	5.75	8.0
Shipment AVG				
No. 1 CWRS	77.3	-2.2	6.1	12.4
No. 1 CWHWS	76.0	-2.4	6.0	9.0

2004 crop	yield	color	DDT	stability
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Harvest Survey

No. 2 CWRS	75.3	-1.6	5.50	9.0
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No. 2 CWHWS	75.2	-1.6	5.50	8.5
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Shipment AVG

No. 2 CWRS	76.2	-1.8	5.9	11.5
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No. 2 CWHWS	75.2	-1.5	4.3	7.0
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2005 crop yield color DDT stability

Harvest Survey

No. 2 CWRS 75.5 -2.1 7.50 11.0

No. 2 CWHWS 74.2 -2.0 6.50 6.5

Shipment AVG

No. 2 CWHWS 74.2 -1.0 4.1 7.9

- Variety development
 - improved genetics
 - better regional adaptability
- Handling
 - selection and segregation to maintain quality attributes

BREEDING OBJECTIVES - HIGH PROTEIN VARIETIES

- Similar to CWRS:
 - medium to high protein strength
 - medium-hard to hard kernels
 - good milling with excellent flour color
 - starch properties suitable for alkaline noodles
- Focus attention on noodle quality attributes (but not at the expense of bread quality).
- Gluten properties as strong/stronger than CWRS but with good extensibility.

BREEDING OBJECTIVES - HIGH PROTEIN VARIETIES

- Target markets are Asia, North America, Europe and other quality oriented customers.
- Aim is to have a wheat that will be popular for Asian products - alkaline noodles.
- Also to be used for sliced bread, hearth bread similar to CWRS.

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Seberang Flour Mills
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CONCLUSION OF EVALUATION OF
CWHWS crop 2003/2004

CWHWS 12.5

CWHWS 13.5

for both **NOODLE AND BREAD
PRODUCTS**

Performance of Canadian Hard White Wheat in comparison to other wheat in Asian food products

Product	APH	AH	CWHWS	CWRS	DNS
Alkaline Wet noodle	+	++	+/-	n.a.	n.a.
Instant Noodle	++	++	++	+/-	+/-
Wantan noodle	++	+	++	+/-	+/-
Cracker	+/-	++	++	+	n.a
Marie	+/-	+/-	+/-	n.a	n.a
Bread	+/-	+/-	+	++	+
Steamed Bread	+/-	++	+	-	-

++ best + good +/- acceptable - poor

What can Canada do to WIN the war of Hard White Wheat

Facts:

- Only about 20% of Australian HWW export to Asian is APH/AH (protein » 13%). Therefore the present CWHW can capture max 20% or 2 million tonnes of this business
- Countries like Japan and Korea may be reluctant to change irrespective of quality and price incentives
- Other Asian countries will be looking for both price and quality incentives as well as **reliability of supply.**

- Develop a low/medium protein Hard White Spring Wheat that is more suitable for noodles than the existing CPSW
- Ensure continuous supply and quality by growing Hard White Spring Wheat in many regions of Canada

Conclusions

- Canadian CWHWS can substitute and even perform better than Australian APH13 and AH13 in Asian flour products especially in non udon type noodles
- Canadian CWHWS can perform very well, equivalent to CWRS in bread especially for the “sponge & dough” method

Conclusions

- Unfortunately less than 20% of the Hard White Wheat export from Australia is APH13 and AH13
- Freight and logistic are critical success factors. Joint shipment using Panamax vessels will make CWHWS more competitive
- Need to develop a lower protein CWHWS to compete with ASW/APW in the other 80% of the Australian HWW market

Canadian wheat classes

Canada Western Red Spring

Canada Western Hard White Spring

Canada Western Extra Strong

Canada Western Red Winter

Canada Prairie Spring Red

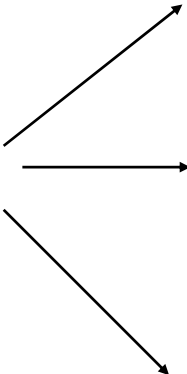
Canada Prairie Spring White

Canada Western Amber Durum

Canada Western Soft White Spring

Kernel Type

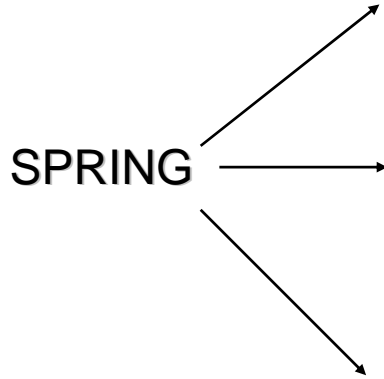
SPRING



WINTER

HARD	MEDIUM	SOFT
<p>Red Spring Canada Western (CWRS) Extra Strong Canada Western (CWES)</p>	<p>Prairie Spring 1. Canada Prairie Spring Red (CPSR) 2. Canada Prairie Spring White (CPSW)</p>	<p>White Spring Canada Western Soft (CWSWS)</p>
<p>White Spring Canada Western Hard (CWHWS)</p>		
<p>Amber Durum Canada Western (CWAD)</p>		
	<p>Red Winter Canada Western (CWRW)</p>	

Kernel Type



	HARD	MEDIUM	SOFT
	Red Spring Canada Western (CWRS) Extra Strong Canada Western (CWES)	Prairie Spring Canada Prairie Spring Red (CPSR)	White Spring Canada Western Soft (CWSWS)
	CWHWS High Protein Low Protein		
	Amber Durum Canada Western (CWAD)		
		Red Winter Canada Western (CWRW)	

WINTER

- Two categories of Hard White Spring wheat
 - **High Protein (>13.0%)**
 - Snowbird, Kanata and future varieties
 - bread and yellow alkaline noodle applications
 - **Low Protein (11.5 - 12.5%)**
 - CPSW - future varieties
 - white salted noodles and steam bread applications

BREEDING OBJECTIVES - LOW PROTEIN VARIETIES

- Similar to CPSW
 - lower protein but good strength**
 - medium-hard to hard kernels
 - good milling with excellent flour color
 - starch properties suitable for white salted noodles
- More attention to noodle quality attributes
- Could be used in blends for bread-type products, e.g. Asian steam bread.

** - this is the most serious defect of old CPSW varieties
- Genesis, AC Karma, AC 2000

BREEDING OBJECTIVES - LOW PROTEIN VARIETIES

- Target market is to compete with lower value Australian products such as ASW and APW.
- Aim is to have a wheat that will be popular for Asian products - white salted noodles.
- Also to be used for steam bread and all purpose products such as egg rolls, biscuits and crackers.

HY475 & HY476

- HY = High Yield = CPSW
- Supported for registration in February 2004, not yet registered
- Owned by FarmPure Seeds in collaboration with Paterson Grain
- A vast improvement in quality over other CPSW varieties - equal to good Australian noodle wheats - and this is the target market
- Commercial production will be available in 2007

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