



Centre de référence en agriculture  
et agroalimentaire du Québec

# RECUPOM

## technical data sheet

### Data from the Introductory Orchard



**Fédération des producteurs  
de pommes du Québec**  
Affiliée à l'UPA



Agriculture et  
Agroalimentaire Canada

**Canada**

Agriculture and  
Agri-Food Canada

**Agriculture, Pêcheries  
et Alimentation**

**Québec**



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of Minister of Agriculture, Fisheries and Food  
(MAPAQ)**



Agriculture and  
Agri-Food Canada

Agriculture et  
Agroalimentaire Canada



# **RECUPOM**

## **technical data sheet**

Data from the  
Introductory Orchard

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# **2007**

Horticulture Research and Development Centre  
Frelighsburg Experimental Orchard  
Québec - Canada

Canada

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## INTRODUCTION: Quebec apple cultivars and rootstocks evaluation project

The information given in the following fruit data sheets has been collected and processed in the course of the RECUPOM\* introductory level for the **Quebec Apple Cultivars and Rootstocks Evaluation Project**. The experimental plots are located at the experimental farm of **Agriculture and Agri-Food Canada** in Frelighsburg, Quebec, Canada.

The Frelighsburg Experimental Farm is located in southern Quebec, approximately 1 kilometre from the North West border of Vermont, USA. Elevation at the Experimental Farm is 205 meters, latitude 45° 3' N and longitude 72° 5' W. Topography is undulating. Soil texture is a sandy loam with pebbles and gravel. Average minimum winter temperature in Frelighsburg is -25°C.

The experimental plot is a 2 hectares orchard, oriented north-south. Spacing of trees is 4.5 meters by 2.0 meters. Cultivars and selections, grafted on to M26 rootstock, are replicated 5 times and planted at random within the plot. Control is McIntosh Summerland on M26. McIntosh Summerland on M26 has been planted for twenty years in southern Québec orchards and constitutes a good reference. **N.B.** Because of propagation difficulties, the 1999 series was planted without McIntosh Summerland on M26.

The material remains under evaluation for seven years. Harvest data is collected for five years. New material with control may be introduced each year. The data provided, unless stated otherwise, has been collected on five replicates of the cultivar or selection under test. It is always compared to the data collected on the five control trees for the same planting date.

Monique Audette, agr., Experimental farm manager  
Data compilation and editing

\*RÉCUPOM is the abbreviation of Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec, the French name of the network.



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## Vocabulary

**Acidity:** Percentage of malic acid in fruit pulp measured with standard method using 0.1 N NaOH. This measure is taken at A. Lassonde Inc. laboratories on a sample of five fruits, generally three weeks after harvest. Fruits are kept in cold storage until evaluation. A measure of 0.40 to 0.70 is average for Quebec apples.

**Cold storage life:** The average maximum period of storage of fruits from harvest date in a refrigerated chamber at 4°C.

**Cumulative yield:** The addition of the yearly crop load of a tree. Average of five replicates.

**Cumulative yield efficiency (CYE):** Cumulative yield divided by trunk cross sectional area. Measure of crop yield per unit of plant size. Average of five replicates. CYE is an indicator of a tree's efficiency at producing fruits in relation to the space it occupies in the orchard.

**Fruit firmness:** The measure of fruit firmness is taken at harvest on both sides of each fruit with a hand penetrometer. The average of measures taken on ten fruits chosen at random. To translate into pounds, multiply by 2.205.

**Sugar:** The soluble solids (mostly sugars) content of the juice of an apple is measured at harvest with a hand refractometer and recorded in degree Brix. The average of measures taken on ten fruits chosen at random.

**Trunk cross sectional area (TCA):** Measure of the surface area of the trunk (cm<sup>2</sup>) at a height of 30 cm from the ground. Calculated from a measure of the trunk circumference. Average of five replicates. TCA is a good indicator of tree size, or of the space occupied by a tree in the orchard.



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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Ambrosia™**



- Origin: Chance seedling discovered in British Columbia, Canada.
- Testing period: 2001-2007
- Ground color yellow flushed 60-90% with red, yellow flesh, crisp and juicy, sweet.
- Very good flavoured medium sized fruit.
- Tree of low vigour, precocious and productive.
- Cold hardiness: moderate
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Ambrosia™</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------|----------------------------|
| · Harvest date 5-yr average   | October 10       | September 20               |
| · Fruit weight 5-yr average   | 199.8 g          | 198.8 g                    |
| · Fruit firmness 5-yr average | 8.2 kg           | 6.6 kg                     |
| · Sugar 5-yr average          | 13.5°            | 12.7°                      |
| · Acidity 1 year              | 0.40             | 0.85                       |
| · Cold storage life           | 4 months         | 2 months                   |

**Tree**

|                                         | <b>Ambrosia™</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|------------------|----------------------------|
| · Trunk cross sectional area 2007       | 13.20 cm²        | 23.04 cm²                  |
| · Cumulative yield 2003-2007            | 39.43 kg         | 61.88 kg                   |
| · Cumulative yield efficiency 2003-2007 | 3.00             | 2.76                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Aurora Golden Gala® (Gala x Splendour)**



- Origin: Agriculture & Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland.
- Testing period: 1999-2005
- Ground colour yellow flushed with pink less than 50%, yellowflesh, crisp and juicy, sweet, low acidity.
- Very good flavoured fruit of medium to small size and excellent storage quality, susceptible to russetting, very susceptible to sooty blotch and fly speck.
- Vigorous tree, precocious, moderately productive.
- Cold hardiness: moderate
- Diseases: moderate susceptibility to scab
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Aurora Golden Gala®</b> | <b>Mcl. Summerland*</b> |
|-------------------------------|----------------------------|-------------------------|
| · Harvest date 5-yr average   | October 9                  | —                       |
| · Fruit weight 5-yr average   | 138.6 g                    | —                       |
| · Fruit firmness 5-yr average | 7.3 kg                     | —                       |
| · Sugar 5-yr average          | 13.8°                      | —                       |
| · Acidity 1 year              | 0.26                       | —                       |
| · Cold storage life           | + 4 months                 | —                       |

**Tree**

|                                         | <b>Aurora Golden Gala®</b> | <b>Mcl. Summerland*</b> |
|-----------------------------------------|----------------------------|-------------------------|
| · Trunk cross sectional area 2005       | 28.25 cm²                  | —                       |
| · Cumulative yield 2001-2005            | 61.50 kg                   | —                       |
| · Cumulative yield efficiency 2001-2005 | 2.19                       | —                       |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Chinook® (Splendour x Gala)**



Origin: Agriculture & Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland.  
 Testing period: 1999-2005  
 Ground colour yellow flushed 90% with dark red, yellow flesh, crisp, dry, very sweet.  
 Small sized fruit of average flavour.  
 Vigorous tree, moderately productive, harvest date too late for southern Québec.  
 Cold hardiness: low  
 Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Chinook®</b> | <b>McIntosh Summerland*</b> |
|-------------------------------|-----------------|-----------------------------|
| · Harvest date 5-yr average   | October 20      | —                           |
| · Fruit weight 5-yr average   | 104.3 g         | —                           |
| · Fruit firmness 5-yr average | 9.3 kg          | —                           |
| · Sugar 5-yr average          | 16°             | —                           |
| · Acidity 1 year              | 0.40            | —                           |
| · Cold storage life           | 3 months        | —                           |

**Tree**

|                                         | <b>Chinook®</b>       | <b>McIntosh Summerland*</b> |
|-----------------------------------------|-----------------------|-----------------------------|
| · Trunk cross sectional area 2005       | 23.70 cm <sup>2</sup> | —                           |
| · Cumulative yield 2001-2005            | 51.50 kg              | —                           |
| · Cumulative yield efficiency 2001-2005 | 2.18                  | —                           |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Corail® [(Duchess of Oldenburg x Cox Orange Pippin) x Golden Delicious]**



· Origin: Fruit Research Institute, Dresden, Germany. Originally introduced as Pinova™.  
 · Testing period: 1999-2005  
 · Ground color yellow flushed 90% with orange-red, yellow flesh, juicy, crisp, sweet and spicy.  
 · Fruit of excellent flavour and appearance, very good storage quality, very susceptible to sooty blotch and fly speck.  
 · Tree of moderate vigour, precocious, moderately productive.  
 · Cold hardiness: moderate  
 · Diseases: moderate susceptibility to scab  
 · Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Corail®</b> | <b>McIntosh Summerland*</b> |
|-------------------------------|----------------|-----------------------------|
| · Harvest date 5-yr average   | October 10     | —                           |
| · Fruit weight 5-yr average   | 166.4 g        | —                           |
| · Fruit firmness 5-yr average | 7.6 kg         | —                           |
| · Sugar 5-yr average          | 14.4°          | —                           |
| · Acidity 1 year              | 0.63           | —                           |
| · Cold storage life           | 4 months       | —                           |

**Tree**

|                                         | <b>Corail®</b>        | <b>McIntosh Summerland*</b> |
|-----------------------------------------|-----------------------|-----------------------------|
| · Trunk cross sectional area 2005       | 18.37 cm <sup>2</sup> | —                           |
| · Cumulative yield 2001-2005            | 35.29 kg              | —                           |
| · Cumulative yield efficiency 2001-2005 | 2.00                  | —                           |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Cortland Redcort® (Ben Davis x McIntosh)**



- Origin: limb mutation of Cortland discovered in the USA.
- Testing period: 1995-2001
- Ground color green striped 90% with red, white flesh, juicy, crisp, acid, sweet, aromatic.
- Large fruit of excellent color and flavour.
- Tree of moderate vigour, precocious, productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab and powdery mildew
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Cortland Redcort®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|--------------------------|----------------------------|
| · Harvest date 5-yr average   | October 2                | September 21               |
| · Fruit weight 5-yr average   | 173.70 g                 | 156.0 g                    |
| · Fruit firmness 5-yr average | 7.3 kg                   | 6.9 kg                     |
| · Sugar average 5-yr average  | 13.2°                    | 12.0°                      |
| · Acidity 3-yr average        | 0.66                     | 0.79                       |
| · Cold storage life           | 2 months                 | 2 months                   |

**Tree**

|                                         | <b>Cortland Redcort®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|--------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 14.82 cm <sup>2</sup>    | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 42.63 kg                 | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.90                     | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Cortland Royal Court™ (Ben Davis x McIntosh)**



- Origin: Strain of Cortland discovered in Nova Scotia.
- Testing period: 1995-2001
- Ground color green striped and flushed 90% with red, white flesh, juicy, crisp, acid, sweet, aromatic.
- Large fruit of excellent color and flavour.
- Tree of moderate vigour, precocious, productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab and powdery mildew
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Cortland Royal Court™</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------------------|----------------------------|
| · Harvest date 5-yr average   | October 2                    | September 21               |
| · Fruit weight 5-yr average   | 186.36 g                     | 156.0 g                    |
| · Fruit firmness 3-yr average | 6.6 kg                       | 6.9 kg                     |
| · Sugar 3-yr average          | 12.7°                        | 12.0°                      |
| · Acidity 3-yr average        | 0.61                         | 0.79                       |
| · Cold storage life           | 2 months                     | 2 months                   |

**Tree**

|                                         | <b>Cortland Royal Court™</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|------------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 17.46 cm <sup>2</sup>        | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 52.56 kg                     | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.80                         | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Empire (McIntosh x Red Delicious)**



- Origin: New York State Agricultural Experiment Station, Geneva, New-York, USA.
- Testing period: 2000-2007
- Ground color green flushed 90% with red, creamy white flesh, juicy, firm, crisp, sweet, subacid.
- Good flavoured fruit of medium to small size, good storage capacity.
- Tree of moderate to strong vigour, moderately productive.
- Cold hardiness: moderate
- Diseases: susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                             | <b>Empire</b> | <b>McIntosh Summerland</b> |
|-----------------------------|---------------|----------------------------|
| · Harvest date 6-yr average | October 5     | September 20               |
| · Fruit weight 6-yr         | 154.8 g       | 188.6 g                    |
| · Fruit firmness 6-yr       | 7.9 kg        | 6.3 kg                     |
| · Sugar average 6-yr        | 12.4°         | 12.1°                      |
| · Acidity average 2-yr      | 0.74          | 0.85                       |
| · Cold storage life         | 4 months      | 2 months                   |

**Tree**

|                                         | <b>Empire</b>         | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2007       | 31.31 cm <sup>2</sup> | 31.45 cm <sup>2</sup>      |
| · Cumulative yield 2002-2007            | 72.91 kg              | 119.77 kg                  |
| · Cumulative yield efficiency 2002-2007 | 2.36                  | 3.86                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Empire Peck's Red (McIntosh x Red Delicious)**



- Origin: strain of Empire discovered in the state of New-York, USA.
- Testing period: 2000-2007
- Ground color green flushed 90% with red, creamy white flesh, juicy, firm, crisp, sweet, subacid.
- Good flavoured fruit of slightly larger size than Empire, good storage capacity.
- Tree of moderate to strong vigour, productive.
- Cold hardiness: moderate
- Diseases: susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                             | <b>Empire Peck's Red</b> | <b>McIntosh Summerland</b> |
|-----------------------------|--------------------------|----------------------------|
| · Harvest date 6-yr average | October 5                | September 20               |
| · Fruit weight 6-yr         | 166.9 g                  | 188.6 g                    |
| · Fruit firmness 6-yr       | 7.6 kg                   | 6.3 kg                     |
| · Sugar average 6-yr        | 12.6°                    | 12.1°                      |
| · Acidity average 2-yr      | 0.72                     | 0.85                       |
| · Cold storage life         | 4 months                 | 2 months                   |

**Tree**

|                                         | <b>Empire Peck's Red</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|--------------------------|----------------------------|
| · Trunk cross sectional area 2007       | 30.71 cm <sup>2</sup>    | 31.45 cm <sup>2</sup>      |
| · Cumulative yield 2002-2007            | 101.30 kg                | 119.77 kg                  |
| · Cumulative yield efficiency 2002-2007 | 3.39                     | 3.86                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Empire Royal® ( McIntosh x Red Delicious )**



- Origin: strain of Empire discovered in the state of New-York, USA.
- Testing period: 1996-2002
- Ground color green flushed 90% with dark red, creamy white flesh, juicy, crisp, sweet, subacid.
- Good flavoured fruit of excellent color, medium to small size, good storage capacity.
- Tree of low vigour, moderately productive.
- Cold hardiness: moderate
- Diseases: susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Empire Royal®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------------|----------------------------|
| · Harvest date 5-yr average   | October 1            | September 18               |
| · Fruit weight 5-yr average   | 132.6 g              | 164.0 g                    |
| · Fruit firmness 5-yr average | 8.0 kg               | 7.1 kg                     |
| · Sugar 5-yr average          | 12.6°                | 12.5°                      |
| · Cold storage life           | 4 months             | 2 months                   |

**Tree**

|                                         | <b>Empire Royal®</b>  | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2002       | 16.21 cm <sup>2</sup> | 24.31 cm <sup>2</sup>      |
| · Cumulative yield 1998-2002            | 35.51 kg              | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 2.17                  | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Empire Thome™ ( McIntosh x Red Delicious )**



- Origin: strain of Empire discovered in Michigan, USA.
- Testing period: 1996-2002
- Ground color green flushed 90% with dark red, creamy white flesh, juicy, crisp, sweet, subacid.
- Good flavoured fruit of excellent color, medium to small size, good storage capacity.
- Tree of low vigour, not very productive.
- Cold hardiness: moderate
- Diseases: susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Empire Thome™</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------------|----------------------------|
| · Harvest date 5-yr average   | October 1            | September 18               |
| · Fruit weight 5-yr average   | 136.5 g              | 164.0 g                    |
| · Fruit firmness 5-yr average | 8.1 kg               | 7.1 kg                     |
| · Sugar average 5-yr average  | 12.4°                | 12.5°                      |
| · Cold storage life           | 4 months             | 2 months                   |

**Tree**

|                                         | <b>Empire Thome™</b>  | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2002       | 16.51 cm <sup>2</sup> | 24.31 cm <sup>2</sup>      |
| · Cumulative yield 1998-2002            | 21.98 kg              | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 1.46                  | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Fortune® (Schoharie Spy x Empire)**



- Origin: New York State Agricultural Experiment Station, Geneva, New-York, USA.
- Testing period: 1996-2002
- Ground color green flushed 50% to 90% with red, creamy white flesh, juicy, crisp, sweet, subacid, aromatic.
- Good flavoured Empire type fruit, generally larger than Empire.
- Vigorous tree, moderately productive, precocious.
- Cold hardiness: moderate
- Diseases: susceptible to scab and fireblight.
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Fortune®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|-----------------|----------------------------|
| · Harvest date average 5-yr   | October 4       | September 18               |
| · Fruit weight average 5-yr   | 229.60 g        | 164.0 g                    |
| · Fruit firmness average 4-yr | 8.2 kg          | 7.1 kg                     |
| · Sugar average 4-yr          | 12.4°           | 12.5°                      |
| · Acidity average 2yr         | 0.59            | —                          |
| · Cold storage life           | 4 months        | 2 months                   |

**Tree**

|                                         | <b>Fortune®</b>       | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2002       | 29.62 cm <sup>2</sup> | 24.31 cm <sup>2</sup>      |
| · Cumulative yield 1998-2002            | 63.65 kg              | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 2.21                  | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Gala Mitch® (Kidd's Orange x Golden Delicious)**



- Origin: strain of Gala
- Testing period: 2002-2007
- Ground color yellow striped and flushed 90% with red, golden yellow flesh, juicy, crisp, sweet, aromatic and spicy.
- Medium sized fruit of bright red colour.
- Tree of moderate vigour, precocious, productive.
- Cold hardiness: moderate
- Diseases: susceptible to apple scab
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Gala Mitch®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|--------------------|----------------------------|
| · Harvest date 4-yr average   | September 20       | September 21               |
| · Fruit weight 4-yr average   | 164.3 g            | 181.5 g                    |
| · Fruit firmness 4-yr average | 8.6 kg             | 6.6 kg                     |
| · Sugar 4-yr average          | 12.5°              | 12.1°                      |
| · Acidity 1-yr                | 0.67               | 1.04                       |
| · Cold storage life           | 4 months           | 2 months                   |

**Tree**

|                                         | <b>Gala Mitch®</b>    | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2007       | 15.57 cm <sup>2</sup> | 18.18 cm <sup>2</sup>      |
| · Cumulative yield 2004-2007            | 52.74 kg              | 54.66 kg                   |
| · Cumulative yield efficiency 2004-2007 | 3.41                  | 3.07                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Gala Scarlet® (Kidd's Orange x Golden Delicious)**



- Origin: strain of Gala discovered in Kentucky, USA.
- Testing period: 1999-2005
- Ground color yellow flushed 90% with red, golden yellow flesh, juicy, crisp, sweet, aromatic and spicy.
- Medium to small sized fruit of bright orange-red colour.
- Tree of moderate vigour, precocious, productive.
- Cold hardiness: moderate
- Diseases: susceptible to scab
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Gala Scarlet®</b> | <b>McIntosh Summerland*</b> |
|-------------------------------|----------------------|-----------------------------|
| · Harvest date 5-yr average   | September 25         | —                           |
| · Fruit weight 5-yr average   | 138.3 g              | —                           |
| · Fruit firmness 5-yr average | 9.2 kg               | —                           |
| · Sugar 5-yr average          | 12.8°                | —                           |
| · Acidity 2001                | 0.40                 | —                           |
| · Cold storage life           | 4 months             | —                           |

**Tree**

|                                         | <b>Gala Scarlet®</b>  | <b>McIntosh Summerland*</b> |
|-----------------------------------------|-----------------------|-----------------------------|
| · Trunk cross sectional area 2005       | 18.36 cm <sup>2</sup> | —                           |
| · Cumulative yield 2001-2005            | 55.32 kg              | —                           |
| · Cumulative yield efficiency 2001-2005 | 3.01                  | —                           |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Golden Supreme®**



- Origin: chance seedling of Golden Delicious discovered in the USA.
- Testing period: 2000-2007
- Ground color yellow flushed less than 50% with red, creamy white flesh, juicy, crisp, sweet, aromatic.
- Pretty fruit of good flavour, of medium to large size, maturity before Golden Delicious.
- Vigorous tree, not very productive
- Cold hardiness: low
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Golden Supreme®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------------|----------------------------|
| · Harvest date average 6-yr   | October 5              | September 28               |
| · Fruit weight average 6-yr   | 217.9 g                | 188.6 g                    |
| · Fruit firmness average 6-yr | 7.8 kg                 | 6.3 kg                     |
| · Sugar average 6-yr          | 13.3°                  | 12.1°                      |
| · Cold storage life           | 2 months               | 2 months                   |

**Tree**

|                                         | <b>Golden Supreme®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|------------------------|----------------------------|
| · Trunk cross sectional area 2007       | 46.40 cm <sup>2</sup>  | 31.45 cm <sup>2</sup>      |
| · Cumulative yield 2002-2007            | 92.37 kg               | 119.77 kg                  |
| · Cumulative yield efficiency 2002-2007 | 2.03                   | 3.86                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Honeycrisp® (Macoun x Honeygold)**



- Origin: University of Minnesota, USA.
- Testing period: 1995-2001
- Ground color greenish-yellow striped 50% to 90% with orange-red, creamy white flesh, juicy, crisp, sweet.
- Good flavoured fruit of extraordinary crispy texture, large size, very susceptible to bitter pit and soft scald. Requires special storage conditions.
- Tree of moderate to low vigour, prone to alternate bearing, productive.
- Cold hardiness: hardy
- Diseases: low susceptibility to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Honeycrisp®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|--------------------|----------------------------|
| · Harvest date average 5-yr   | September 19       | September 21               |
| · Fruit weight average 5-yr   | 203.8 g            | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.7 kg             | 6.9 kg                     |
| · Sugar average 3-yr          | 12.6°              | 12.0°                      |
| · Acidity average 2-yr        | 0.53               | 0.79                       |
| · Cold storage life           | + 4 months         | 2 months                   |

**Tree**

|                                         | <b>Honeycrisp®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|--------------------|----------------------------|
| · Trunk cross sectional area 2001       | 16.21 cm²          | 30.60 cm²                  |
| · Cumulative yield 1997-2001            | 46.01 kg           | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.80               | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Jonagold Rubinstar® (Golden Delicious x Jonathan)**



- Origin: strain of Jonagold discovered in Germany.
- Testing period: 1999-2005
- Yellow ground color striped 50-90% with orange red, pale yellow flesh, crisp, juicy, sweet, subacid.
- Very good flavoured fruit of medium to large size.
- Vigorous tree, moderately productive.
- Cold hardiness: low
- Diseases: susceptible to scab and powdery mildew
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Jonagold Rubinstar®</b> | <b>McIntosh Summerland*</b> |
|-------------------------------|----------------------------|-----------------------------|
| · Harvest date average 5-yr   | October 1                  | —                           |
| · Fruit weight average 5-yr   | 202.5 g                    | —                           |
| · Fruit firmness average 3-yr | 7.4 kg                     | —                           |
| · Sugar average 3-yr          | 13.3°                      | —                           |
| · Acidity average 2-yr        | 0.42                       | —                           |
| · Cold storage life           | 4 months                   | —                           |

**Tree**

|                                         | <b>Jonagold Rubinstar®</b> | <b>McIntosh Summerland*</b> |
|-----------------------------------------|----------------------------|-----------------------------|
| · Trunk cross sectional area 2005       | 32.06 cm²                  | —                           |
| · Cumulative yield 2001-2005            | 73.26 kg                   | —                           |
| · Cumulative yield efficiency 2001-2005 | 2.30                       | —                           |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**McIntosh Chickadee (Kidd's Orange x Golden Delicious)**



- Origin: strain of McIntosh discovered in USA.
- Testing period: 1995-2001
- Green ground color flushed 90% with red, white flesh, crisp, sweet.
- Pretty fruit of good flavour and excellent color, maturity before McIntosh Summerland.
- Tree of low vigour, spur type, precocious, very productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab
- Flowering: with McIntosh Summerland



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <u>McIntosh Chickadee</u> | <u>McIntosh Summerland</u> |
|-------------------------------|---------------------------|----------------------------|
| · Harvest date average 5-yr   | September 16              | September 21               |
| · Fruit weight average 5-yr   | 146.2 g                   | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.8 kg                    | 6.9 kg                     |
| · Sugar average 3-yr          | 12.2°                     | 12.0°                      |
| · Acidity average 2-yr        | 0.67                      | 0.79                       |
| · Cold storage life           | 2 months                  | 2 months                   |

**Tree**

|                                         | <u>McIntosh Chickadee</u> | <u>McIntosh Summerland</u> |
|-----------------------------------------|---------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 14.01 cm <sup>2</sup>     | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 47.37 kg                  | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 3.39                      | 2.42                       |

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**McIntosh Hartenhof**



- Origin: mutation of McIntosh discovered in Nova Scotia, Canada. Sold under the name **Scotian Spur McIntosh**.
- Testing period: 1995 to 2001
- Green ground color striped and flushed with 90% red, white flesh, juicy, sweet.
- Pretty fruit of average flavour and excellent color, maturity before McIntosh Summerland.
- Tree of low vigour, compact, spur type, very productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: with McIntosh Summerland.



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <u>McIntosh Hartenhof</u> | <u>McIntosh Summerland</u> |
|-------------------------------|---------------------------|----------------------------|
| · Harvest date average 5-yr   | September 18              | September 21               |
| · Fruit weight average 5-yr   | 154.96 g                  | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.3 kg                    | 6.9 kg                     |
| · Sugar average 3-yr          | 10.8°                     | 12.0°                      |
| · Acidity average 2-yr        | 0.68                      | 0.79                       |
| · Cold storage life           | 2 months                  | 2 months                   |

**Tree**

|                                         | <u>McIntosh Hartenhof</u> | <u>McIntosh Summerland</u> |
|-----------------------------------------|---------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 12.59 cm <sup>2</sup>     | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 40.65 kg                  | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 3.43                      | 2.42                       |

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**McIntosh Marshall®**



- Origin: mutation of McIntosh discovered in Massachussetts, USA.
- Testing period: 1995-2001
- Green ground color flushed 90% with red, white flesh, crisp, juicy, sweet, acid, aromatic.
- Pretty fruit of very good flavour and excellent color, slightly smaller size than McIntosh Summerland, maturity before McIntosh Summerland.
- Tree of moderate vigour, productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: with McIntosh Summerland



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>McIntosh Marshall®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|---------------------------|----------------------------|
| · Harvest date average 5-yr   | September 18              | September 21               |
| · Fruit weight average 5-yr   | 141.4 g                   | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.7 kg                    | 6.9 kg                     |
| · Sugar average 3-yr          | 12.6°                     | 12.0°                      |
| · Acidity average 2-yr        | 0.72                      | 0.79                       |
| · Cold storage life           | 2 months                  | 2 months                   |

**Tree**

|                                         | <b>McIntosh Marshall®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|---------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 22.97 cm <sup>2</sup>     | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 63.49 kg                  | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.90                      | 2.42                       |

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**McIntosh Redmax®**



- Origin: strain of McIntosh discovered in USA.
- Testing period: 1995-2001
- Green ground color flushed 50% to 90% with red, white flesh, crisp, juicy, sweet, acid.
- Pretty fruit of medium flavour and good color, maturity with McIntosh Summerland.
- Tree of moderate vigour, productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: with McIntosh Summerland



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>McIntosh Redmax®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|-------------------------|----------------------------|
| · Harvest date average 5-yr   | September 21            | September 21               |
| · Fruit weight average 5-yr   | 153.1 g                 | 156.0 g                    |
| · Fruit firmness average 3-yr | 7.0 kg                  | 6.9 kg                     |
| · Sugar average 3-yr          | 12.0°                   | 12.0°                      |
| · Cold storage life           | 2 months                | 2 months                   |

**Tree**

|                                         | <b>McIntosh Redmax®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|-------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 25.08 cm <sup>2</sup>   | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 63.57 kg                | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.62                    | 2.42                       |

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**McIntosh Rogers**



- Origin: strain of McIntosh discovered in USA.
- Testing period: 1995-2001
- Green ground color flushed 90% with red, white flesh, crisp, juicy, sweet.
- Pretty fruit of good flavour and excellent color, maturity with McIntosh Summerland.
- Tree of moderate vigour, productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: with McIntosh Summerland



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>McIntosh Rogers</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------------|----------------------------|
| · Harvest date average 5-yr   | September 21           | September 21               |
| · Fruit weight average 5-yr   | 149.2 g                | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.7 kg                 | 6.9 kg                     |
| · Sugar average 3-yr          | 12.4°                  | 12.0°                      |
| · Acidity average 2-yr        | 0.79                   | 0.79                       |
| · Cold storage life           | 2 months               | 2 months                   |

**Tree**

|                                         | <b>McIntosh Rogers</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 24.80 cm <sup>2</sup>  | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 58.87 kg               | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.42                   | 2.42                       |

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Pioneer Mac™**



- Origin: McIntosh seedling discovered in New York, USA.
- Testing period: 1995-2001
- Green ground color flushed 90% with red, white flesh, crisp, juicy, sweet.
- Pretty fruit of good flavour and excellent color, maturity with Summerland McIntosh.
- Tree of moderate to strong vigour, moderately productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Pioneer Mac™</b> | <b>McIntosh Summerland</b> |
|-------------------------------|---------------------|----------------------------|
| · Harvest date average 5-yr   | September 21        | September 21               |
| · Fruit weight average 5-yr   | 148.0 g             | 156.0 g                    |
| · Fruit firmness average 3-yr | 7.1 kg              | 6.9 kg                     |
| · Sugar average 3-yr          | 12.4°               | 12.0°                      |
| · Acidity average 2-yr        | 0.69                | 0.79                       |
| · Cold storage life           | 2 months            | 2 months                   |

**Tree**

|                                         | <b>Pioneer Mac™</b>   | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2001       | 12.59 cm <sup>2</sup> | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 40.65 kg              | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 3.43                  | 2.42                       |

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 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Redfree (Raritan x PRI 1018-101)**



- Origin: Cooperative Breeding Program, Illinois, Indiana and New Jersey, USA.
- Testing period: 1995-2001
- Ground color green flushed 50% to 90% with red, creamy white flesh, crisp, juicy, sweet.
- Summer apple with good McIntosh flavour.
- Tree of moderate vigour, precocious, alternate bearing, productive.
- Cold hardiness: moderate
- Diseases: resistant to scab, susceptible to powdery mildew and fireblight.
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Redfree</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------|----------------------------|
| · Harvest date average 5-yr   | August 24      | September 21               |
| · Fruit weight average 5-yr   | 132.3 g        | 156.0 g                    |
| · Fruit firmness average 2-yr | 8.4 kg         | 6.9 kg                     |
| · Sugar average 2-yr          | 11.3°          | 12.0°                      |
| · Cold storage life           | 1 month        | 2 months                   |

**Tree**

|                                         | <b>Redfree</b>        | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2001       | 20.80 cm <sup>2</sup> | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 62.58 kg              | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.93                  | 2.42                       |

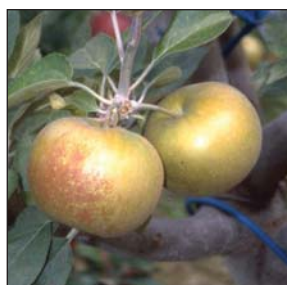
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Reinette Russet**



- Origin: mutation of Reine des Reinettes discovered at the INRA of Angers, France, and released by the Saint-Jean-sur Richelieu Horticulture and Development Research Centre, Agriculture & Agri-Food Canada.
- Testing period: 1995-2001
- Greenish-brown russet 100%, yellow flesh, crisp, dry, sweet, acid.
- Golden russet type fruit, skin very rough.
- Tree of moderate vigour, not very productive.
- Cold hardiness: moderate
- Diseases: resistant to scab and powdery mildew
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Reinette Russet</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------------|----------------------------|
| · Harvest date average 5-yr   | October 6              | September 21               |
| · Fruit weight average 5-yr   | 132.60 g               | 156.0 g                    |
| · Fruit firmness average 3-yr | 9.2 kg                 | 6.9 kg                     |
| · Sugar average 3-yr          | 15.4°                  | 12.0°                      |
| · Acidity average 2-yr        | 1.04                   | 0.79                       |
| · Cold storage life           | 3 months               | 2 months                   |

**Tree**

|                                         | <b>Reinette Russet</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|------------------------|----------------------------|
| · Trunk cross sectional area 2001       | 22.81 cm <sup>2</sup>  | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 34.38 kg               | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 1.53                   | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**RubINETTE® (Golden Delicious x Cox's Orange Pippin)**



- Origin: Switzerland
- Testing period: 2001-2007
- Ground color yellow striped 50-90% with red, creamy white flesh, juicy, crisp, very sweet, subacid.
- Good flavoured fruit of medium size.
- Tree of moderate to strong vigour, low productivity
- Cold hardiness: low
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>RubINETTE</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------|----------------------------|
| · Harvest date average 4-yr   | September 27     | September 19               |
| · Fruit weight average 4-yr   | 152.7 g          | 181.5 g                    |
| · Fruit firmness average 4-yr | 7.4 kg           | 6.6 kg                     |
| · Sugar average 4-yr          | 16.0°            | 12.1°                      |
| · Cold storage life           | 3 months         | 2 months                   |

**Tree**

|                                         | <b>RubINETTE</b>      | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2007       | 20.55 cm <sup>2</sup> | 18.18 cm <sup>2</sup>      |
| · Cumulative yield 2004-2007            | 36.64 kg              | 54.66 kg                   |
| · Cumulative yield efficiency 2004-2007 | 1.88                  | 3.07                       |

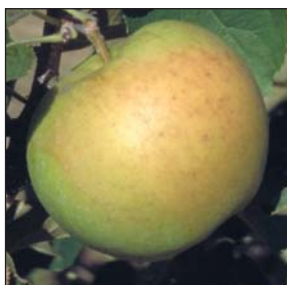
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**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Shizuka (Golden Delicious x Indo)**



- Origin: Japan
- Testing period: 1996-2002
- Ground color yellow flushed less than 50% with red, creamy white flesh, juicy, crisp, sweet, aromatic.
- Good flavoured large fruit of Golden Delicious type
- Vigorous tree, triploid, moderately productive.
- Cold hardiness: hardy
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Shizuka</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------|----------------------------|
| · Harvest date average 5-yr   | October 10     | September 18               |
| · Fruit weight average 5-yr   | 232.7 g        | 164.0 g                    |
| · Fruit firmness average 4-yr | 7.6 kg         | 7.1 kg                     |
| · Sugar average 4-yr          | 14.3°          | 12.5°                      |
| · Acidity average 2-yr        | 0.47           | —                          |
| · Cold storage life           | 4 months       | 2 months                   |

**Tree**

|                                         | <b>Shizuka</b>        | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2002       | 30.68 cm <sup>2</sup> | 24.31 cm <sup>2</sup>      |
| · Cumulative yield 1998-2002            | 63.42 kg              | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 2.06                  | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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Agriculture and Agri-Food Canada  
 Horticulture Research and Development Centre

**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Silken® (Honeygold x Sunrise)**



- Origin: Agriculture & Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland.
- Testing period: 1999-2005
- Ground color pale yellow flushed with less than 50% pink, creamy white flesh, juicy, crisp, sweet.
- Fruit of very good flavour and texture, low acidity, susceptible to flyspeck and sooty blotch.
- Tree of moderate vigour, precocious, very productive.
- Cold hardiness: hardy
- Diseases: very susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Silken</b> | <b>Mcl. Summerland*</b> |
|-------------------------------|---------------|-------------------------|
| · Harvest date 5-yr average   | September 24  | —                       |
| · Fruit weight 5-yr average   | 147.3 g       | —                       |
| · Fruit firmness 5-yr average | 7.1 kg        | —                       |
| · Sugar 5-yr average          | 13.7°         | —                       |
| · Acidity 1 year              | 0.35          | —                       |
| · Cold storage life           | 2 months      | —                       |

**Tree**

|                                         | <b>Silken</b> | <b>Mcl. Summerland*</b> |
|-----------------------------------------|---------------|-------------------------|
| · Trunk cross sectional area 2005       | 24.92 cm²     | —                       |
| · Cumulative yield 2001-2005            | 84.11 kg      | —                       |
| · Cumulative yield efficiency 2001-2005 | 3.39          | —                       |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Sweet Sixteen (Melinda x Northern Spy)**



- Origin: University of Minnesota, USA.
- Testing period : 1996-2002
- Ground color green striped 50% to 90% with red, yellow flesh, juicy, crisp, sweet, aromatic.
- Large fruit with a distinctive anise flavour, prone to water core and soft scald.
- Tree of moderate vigour, alternate bearing, not very productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Sweet Sixteen</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------------|----------------------------|
| · Harvest date average 5-yr   | September 26         | September 18               |
| · Fruit weight average 5-yr   | 236.13 g             | 164.0 g                    |
| · Fruit firmness average 2-yr | 8.2 kg               | 7.1 kg                     |
| · Sugar average 2-yr          | 13.6°                | 12.5°                      |
| · Acidity average 2-yr        | 0.54                 | —                          |
| · Cold storage life           | 2 months             | 2 months                   |

**Tree**

|                                         | <b>Sweet Sixteen</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|----------------------|----------------------------|
| · Trunk cross sectional area 2002       | 18.60 cm²            | 24.31 cm²                  |
| · Cumulative yield 1998-2002            | 35.48 kg             | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 1.89                 | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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 Horticulture Research and Development Centre

**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Yataka™ (Delicious x Ralls Janet)**



- Origin: Japan
- Testing period: 1996-2002
- Ground color yellow-green flushed and striped 90% with pinkish-red, yellow flesh, juicy, crisp, sweet, aromatic.
- Good flavoured medium sized fruit, prone to water core.
- Vigourous tree, precocious, not very productive.
- Cold hardiness: low
- Diseases: susceptible to scab
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Yataka</b> | <b>McIntosh Summerland</b> |
|-------------------------------|---------------|----------------------------|
| · Harvest date average 5-yr   | October 12    | September 18               |
| · Fruit weight average 5-yr   | 178.60 g      | 164.0 g                    |
| · Fruit firmness average 4-yr | 8.5 kg        | 7.1 kg                     |
| · Sugar average 4-yr          | 13.1°         | 12.5°                      |
| · Acidity average 2-yr        | 0.42          | —                          |
| · Cold storage life           | 3 months      | 2 months                   |

**Tree**

|                                         | <b>Yataka</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|---------------|----------------------------|
| · Trunk cross sectional area 2002       | 31.58 cm²     | 24.31 cm²                  |
| · Cumulative yield 1998-2002            | 57.04 kg      | 61.34 kg                   |
| · Cumulative yield efficiency 1998-2002 | 1.81          | 2.59                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Zestar!® (State fair x MN 1691)**



- Origin: University of Minnesota, USA.
- Testing period : 1998-2004
- Ground color yellow flushed 50% to 90% with red, creamy white flesh, juicy, crisp, subacid, sweet, aromatic.
- Good flavoured, medium sized summer apple.
- Vigorous tree, precocious, productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Zestar!®</b> | <b>McIntosh Summerland</b> |
|-------------------------------|-----------------|----------------------------|
| · Harvest date 5-yr average   | August 30       | September 24               |
| · Fruit weight 5-yr average   | 175.7 g         | 162.46 g                   |
| · Fruit firmness 5-yr average | 6.8 kg          | 6.9 kg                     |
| · Sugar 5-yr average          | 13.6°           | 12.5°                      |
| · Cold storage life           | 4 weeks         | 2 months                   |

**Tree**

|                                         | <b>Zestar!®</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------|----------------------------|
| · Trunk cross sectional area 2004       | 25.18 cm²       | 29.37 cm²                  |
| · Cumulative yield 2000-2004            | 50.98 kg        | 36.18 kg                   |
| · Cumulative yield efficiency 2000-2004 | 2.12            | 1.23                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**MN 1403 (Golden Delicious x Red Duchess)**



- Origin: University of Minnesota, USA.
- Testing period: 1998-2004
- Ground color green flushed less than 50% with red, creamy white flesh, crisp, sweet, aromatic.
- Good flavoured medium sized fruit.
- Vigorous tree, precocious, productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab and fireblight
- Flowering: before McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>MN1403</b> | <b>McIntosh Summerland</b> |
|-------------------------------|---------------|----------------------------|
| · Harvest date 5-yr average   | September 10  | September 24               |
| · Fruit weight 5-yr average   | 174.9 g       | 162.46 g                   |
| · Fruit firmness 5-yr average | 7.6 kg        | 76.9 kg                    |
| · Sugar 5-yr average          | 13.3          | 12.50                      |
| · Acidity 1 year              | 0.47          | —                          |
| · Cold storage life           | 1 month       | 2 months                   |

**Tree**

|                                         | <b>MN1403</b>         | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2004       | 32.35 cm <sup>2</sup> | 29.37 cm <sup>2</sup>      |
| · Cumulative yield 2000-2004            | 64.40 kg              | 36.18 kg                   |
| · Cumulative yield efficiency 2000-2004 | 2.01                  | 1.23                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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 Horticulture Research and Development Centre

**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**MN 1788 (Red Baron x PI 123249)**



- Origin: University of Minnesota, USA.
- Testing period: 1998-2004
- Ground color green striped 90% with red, yellow flesh, juicy, crisp, sweet, subacid, aromatic.
- Good flavoured large sized fruit.
- Tree of low vigour, precocious, very productive.
- Cold hardiness: hardy
- Diseases: susceptible to scab
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>MN 1788</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------|----------------------------|
| · Harvest date 5-yr average   | September 14   | September 24               |
| · Fruit weight 5-yr average   | 226.43 g       | 166.95 g                   |
| · Fruit firmness 5-yr average | 7.4 kg         | 7.0 kg                     |
| · Sugar 5-yr average          | 10.8°          | 12.8°                      |
| · Acidity 2 years             | 0.87           | -                          |
| · Cold storage life           | 1 month        | 2 months                   |

**Tree**

|                                         | <b>MN 1788</b>        | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2004       | 17.06 cm <sup>2</sup> | 29.37 cm <sup>2</sup>      |
| · Cumulative yield 2000-2004            | 52.99 kg              | 36.18 kg                   |
| · Cumulative yield efficiency 2000-2004 | 3.15                  | 1.23                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**NY74840-1 (NY58524-14 x Empire)**



- Origin: New York State Agricultural Experiment Station, Geneva, New York.
- Testing period: 1995 à 2001
- Green ground color striped 50% to 90% with red, white flesh, crisp, juicy, subacid, sweet.
- Pretty fruit with good flavour, like Empire and Liberty.
- Tree of moderate vigour, precocious, moderately productive.
- Cold hardiness: moderate
- Diseases: resistant to apple scab and powdery mildew
- Flowering: with McIntosh Summerland



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>NY74840-1</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------|----------------------------|
| · Harvest date 5-yr average   | October 3        | September 21               |
| · Fruit weight 5-yr average   | 178.2 g          | 156.0 g                    |
| · Fruit firmness 3-yr average | 8.8 kg           | 6.9 kg                     |
| · Sugar 5-yr average          | 12.5°            | 12.0°                      |
| · Acidity 2 years             | 0.77             | 0.79                       |
| · Cold storage life           | 4 months         | 2 months                   |

**Tree**

|                                         | <b>NY74840-1</b>      | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2001       | 26.15 cm <sup>2</sup> | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 57.51 kg              | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 2.21                  | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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 Horticulture Research and Development Centre

**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**NY75414-1 (Liberty x Macspur)**



- Origin: New York State Agricultural Experiment Station, Geneva, New-York, USA.
- Testing period: 1995-2001
- Green ground color striped 90% with red, white flesh, crisp, juicy, subacid, sweet, aromatic.
- Pretty fruit with a good spicy flavour, fruit firmness like McIntosh.
- Tree of low vigour, precocious, very productive.
- Cold hardiness: hardy
- Diseases: resistant to apple scab and powdery mildew
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>NY75414-1</b> | <b>McIntosh Summerland</b> |
|-------------------------------|------------------|----------------------------|
| · Harvest date average 5-yr   | September 28     | September 21               |
| · Fruit weight average 5-yr   | 158.5 g          | 156.0 g                    |
| · Fruit firmness average 3-yr | 6.5 kg           | 6.9 kg                     |
| · Sugar average 3-yr          | 12.7°            | 12.0°                      |
| · Acidity 1-yr                | 0.70             | 0.79                       |
| · Cold storage life           | 2 months         | 2 months                   |

**Tree**

|                                         | <b>NY75414-1</b>      | <b>McIntosh Summerland</b> |
|-----------------------------------------|-----------------------|----------------------------|
| · Trunk cross sectional area 2001       | 16.95 cm <sup>2</sup> | 30.60 cm <sup>2</sup>      |
| · Cumulative yield 1997-2001            | 59.86 kg              | 72.20 kg                   |
| · Cumulative yield efficiency 1997-2001 | 3.65                  | 2.42                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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Agriculture and Agri-Food Canada  
 Horticulture Research and Development Centre

**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**SPA 343 (Sandow x Schoner aus Nordhausen)**



- Origin: Agriculture & Agri-Food Canada, Pacific Agri-Food Research Centre, Summerland.
- Testing period: 1999-2005
- Ground colour yellow striped 90% with pink-orange, pale yellow flesh, dry, crisp, very sweet, aromatic and spicy. Good dessert apple of medium to small size, Cox's Orange Pippin type.
- Tree of moderate vigour, not very productive.
- Cold hardiness: moderate
- Flowering: with McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>SPA 343</b> | <b>McIntosh Summerland*</b> |
|-------------------------------|----------------|-----------------------------|
| · Harvest date 5-yr average   | October 14     | —                           |
| · Fruit weight 5-yr average   | 122.5 g        | —                           |
| · Fruit firmness 5-yr average | 9.8 g          | —                           |
| · Sugar 5-yr average          | 18.1°          | —                           |
| · Acidity 2001                | 0.76           | —                           |
| · Cold storage life           | 4 months       | —                           |

**Tree**

|                                         | <b>SPA 343</b> | <b>McIntosh Summerland*</b> |
|-----------------------------------------|----------------|-----------------------------|
| · Trunk cross sectional area 2005       | 21.82 cm²      | —                           |
| · Cumulative yield 2001-2005            | 29.57 kg       | —                           |
| · Cumulative yield efficiency 2001-2005 | 1.36           | —                           |

\* Data for McIntosh Summerland not available for the 1999-2005 testing period.

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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**RÉCUPOM TECHNICAL DATA SHEET 2007**  
**Réseau d'essais de Cultivars et de porte-greffes de POMmiers du Québec**

**Spa 441 (Splendour x Gala)**



- Origin: Pacific Agri-Food Research Centre, AAC, Summerland.
- Testing period: 2002-2007
- Ground colour yellow flushed 50% or less with pink, pale yellow flesh, crisp, sweet, aromatic and spicy. Good tasting fruit of small size.
- Tree of moderate to low vigour, not very productive.
- Cold hardiness: low
- Flowering: after McIntosh



**Fruit shape**



**Tree diagram**

**Fruit**

|                               | <b>Spa 441</b> | <b>McIntosh Summerland</b> |
|-------------------------------|----------------|----------------------------|
| · Harvest date 4-yr average   | October 5      | September 19               |
| · Fruit weight 4-yr average   | 139.0 g        | 181.5 g                    |
| · Fruit firmness 4-yr average | 8.5 kg         | 6.6 kg                     |
| · Sugar 4-yr average          | 13.7°          | 12.1°                      |
| · Cold storage life           | 4 months       | 2 months                   |

**Tree**

|                                         | <b>Spa 441</b> | <b>McIntosh Summerland</b> |
|-----------------------------------------|----------------|----------------------------|
| · Trunk cross sectional area 2007       | 14.46 cm²      | 18.18 cm²                  |
| · Cumulative yield 2004-2007            | 25.26 kg       | 54.66 kg                   |
| · Cumulative yield efficiency 2004-2007 | 1.76           | 3.07                       |

Data from the Introductory Orchard RÉCUPOM  
 Frelighsburg Experimental Orchard, Qc, Canada

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Agriculture and Agri-Food Canada  
 Horticulture Research and Development Centre

## Complete list of material tested by RÉCUPOM Cultivars, selections and rootstocks tested from 1995 to 2007

This material was tested at the Agriculture and Agri-Food Canada Frelighsburg experimental farm, Qc. The final reports of the 1995-2001, 1996-2002, 1997-2005, 1998-2005 and 1999-2005 evaluations are available in **French only** from the Quebec provincial department of agriculture at

[http://www.agrireseau.qc.ca/re/documents/Pommiers\\_Rapport\\_final.pdf](http://www.agrireseau.qc.ca/re/documents/Pommiers_Rapport_final.pdf)

More information can be obtained from the author at [audettem@agr.gc.ca](mailto:audettem@agr.gc.ca).

### Introductory Level

#### Scab Resistant Cultivars and Selections

B2X-10043  
Britegold  
Coop 25  
Coop 26  
Coop 29  
Coop 31  
Coop 34  
Coop 35  
Coop 36  
Dayton  
FAR006A013  
FAR026A042  
FAR054A024  
FAR054A048  
FAR110A010  
FER009A010  
Freedom  
Galarina  
Goldrush  
Judeline  
Murray  
Nova EasyGro  
NovaMac  
NovaSpy  
NY65707-19  
NY66305-139  
NY66305-289  
NY73335-35  
NY74840-1  
NY75413-30  
NY75414-1  
NY75441-67  
NY774828-12  
O-6412  
O-6413  
O-654  
O-662  
O-665  
P6R28-6  
Pristine  
Querina Florina  
Redfree  
Reinette Russet  
Topaz  
William's Pride  
X2856  
X3191  
X4356  
X4494  
Z61  
76-21-14  
76-41-11  
77-11-57

#### Cultivars and selections

AA 63  
Acey Mac  
Akane  
Alkemene  
Ambrosia  
Arlet  
Aurora Golden Gala  
Bancroft  
Blair  
Creston  
Chinook  
Corail  
Cortland Nova  
Cortland Nova Red  
Cortland Redcort  
Cortland Royal Court  
Cortland Spur  
Crispin  
Delikates  
Emerald Spire  
Empire  
Empire Peck's Red  
Empire Royal  
Empire Thome  
Empress  
Fantazia  
Fayette  
Fortune  
GA 001  
Gala  
Gala Mitch  
Gala Scarlet  
Golden Delicious Smoothee  
Golden Supreme  
Honeycrisp  
Honeygold  
Jonagold  
Jonagold de Coster  
Jonagold Rubinstar  
Jonamac  
Keepsake  
Kinsey  
Kogetsu  
Lobo amélioré  
Lobo Bates  
Mc Intosh Imperial  
McIntosh Chickadee  
McIntosh Cornell  
McIntosh Hartenmac  
McIntosh Marshall  
McIntosh Pioneer  
McIntosh Red Rogers  
McIntosh Redmax  
McIntosh Rogers  
McIntosh Spur Hartenhof  
McIntosh Summerland  
McIntosh Summerland Red  
McIntosh Worcester  
MN 1403  
MN 1788  
MN 1797  
Monarch  
Natco 81  
NJ 105  
NJ 114  
NJ 56  
NJ 57  
NJ 75  
NJ 99  
NJ106  
Northern Lights  
PL01  
Primgold  
Red Delicious Superchief  
Regent  
Rubinette  
Scarlet Spire  
Senshu  
Shamrock  
Shizuka  
Silken  
SPA 343  
SPA 441  
Spartan  
Spartan Summerland Spur  
Stark Summered Treat  
State Fair  
Sumac  
Suncrisp  
Sunrise  
Sweet Sixteen  
Winesap  
Yataka  
YD 01  
Zestar!  
8B-14-56  
8C-17-30  
8S-27-02  
8S-29-18  
8S-31-56  
9P-14-32

#### Rootstocks

B146  
B490  
B491  
B9  
C6  
EM26  
EM27  
EM7  
EM9  
G16  
G30  
KSC28  
M20  
M26 Fleuren  
M9 Pajam 2  
M9 Pajam 1  
M9T337  
Mark  
MM106  
Nic19  
Nic29  
Nic8  
O3  
O8  
P1  
P13  
P14  
P16  
P18  
P2  
P22  
Supporter4  
V605-1  
V605-2  
V605-3  
V605-4  
V605-7  
York9



Fédération des producteurs  
de pommes du Québec  
Affiliée à l'UPA

# RECUPOM

(Réseau d'essais de cultivars et  
de porte-greffes de pommiers 2009)

Agriculture, Pêcheries  
et Alimentation

Québec 

## Our partners:

- Fédération des producteurs de pommes du Québec
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- Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
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