Northern-Hardy Fruit Evaluation Project: Plants Catch Up After a Late Spring

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Winter 2012-13 was long, though not especially cold. Pruning could not begin until May 3 due to the amount of snow in the orchard and in general, plant stages were about 3 weeks later than expected. May had good rainfall but the rest of the growing and harvesting season was extremely dry. Again, mulch was critical to preserving soil moisture.

In 2013, the Fruit Project provided advice, tours and fruit-growing information to a record 1,145 people. Overall, 67 percent of our contacts were made by speaking engagements with the remainder consisting of tours, emails and phone calls. For the first year, we received calls (13) about planting orchards in North Dakota. Since its inception in 2006, the Fruit Project has reached over 3,300 people. This year, four vintners, one jelly maker and one kuchen maker utilized approximately 1,500 pounds of fruit.

Ninety people tasted fresh fruit and learned about apple culture during the annual field day event on July 16. Dr. Tom Kalb, NDSU Extension horticulture specialist, provided information and insight into growing our most popular fruit plant. Dr. Kalb was raised in a family with an apple orchard and had practical advice for his audience. In the afternoon, Dr. Jared LeBoldus, NDSU assistant professor and Extension plant pathologist, covered diseases of apple trees and methods home gardeners can use to help their trees overcome these problems.

Notable Events in the Fruit Orchard:

- Snowfall was 80.1 inches with the lowest temperature recorded as -23° F. Melt was gradual and water was able to soak into the soil which was dry from the summer of 2012. We transitioned from winter (7 degrees April 23) to spring weather quickly, with the last freezing night occurring May 13 and 4.02 inches of rain in the month. However, from June 1 to September 1 there was only 2.8 inches of rain recorded.
- Spotted winged drosophila was identified as being in the state from a cherry sample submitted by the CREC. Similar damage was seen here in 2011, but was not identified. This pest has caused millions of dollars in damage in other fruit growing areas and will need to be controlled here as well. The NDSU plant pathology lab received samples of both raspberries and cherries from around the state.
- Over the years, the black currant variety ‘Titania’ has come through weather variables the best and it has the most capacity to produce fruit. It is highly recommended.
- Entomosporium leaf and berry spot (ELBS) continues to be seen in the Juneberries. Two fungicide applications were made in 2013, though three would have been ideal. Leaves affected early were lost and healthy leaves replaced them by mid-summer. An insecticide program was continued for flower thrips. Production increased by 13 percent, though some ‘Smoky’ did not finish developing and were not picked.

The grapes have finally transitioned to moderate growth and good fruit production. Ripening was not expected due to the late spring but ‘Somerset Seedless’, ‘Prairie Star’ and ‘Brianna’ all achieved a juice pH over 3.00 and a low TA value by September 25. Bird depredation was intense this year and ‘Valiant’ berries were almost gone by September 3, well ahead of ripeness. Red grape ripening is very tricky here; in Minnesota, ‘Marquette’ achieves peak maturity of 25 Brix and a TA of 12-13 g/L at 2550 to 2650 GDD. At CREC, we had only 2245 GDD this year which is 17 degrees greater than the 5-year average. On September 25, ‘Marquette’ berries were at 23 Brix, 14 g/L TA and pH 2.69.

Northern Hardy Fruit Project - Yearly Production Records

		No. of	2010		2011		2012		2013	
		plants	Date	pounds	Date	pounds	Date	pounds	Date	pounds
Aronia	Nero	4	9-Sep	37.3	9/19-23	28.1	8/22-24	28.6	27-Aug	53.0
	Raintree Seedling	4	10-Sep	40.3	23-Sep	20.4	8/22-24	29.0	27-Aug	59.6
	Raintree Select	4	8-Sep	29.8	19-Sep	22.3	8/22-24	41.2	27-Aug	53.3
	Viking	4	10-Sep	40.6	19-Sep	20.3	8/22-24	39.6	28-Aug	55.6
	McKenzie	4						0.4	29-Aug	15.6
				148.0		**91.1**		**138.8**		**237.1**
Hardy Cherries	SK Carmine Jewel	12	28-Jul	37.4	8/2-4	34.1	7/10-11	137.6	30-Jul	359.4
	SK Crimson Passion	12	28-Jul	7.7	4-Aug	2.7	7/10-12	94.7	1-Aug	3.2
				45.1		**36.7**		**232.2**		**362.6**
	Evans / Bali	3	22-Jul	**0.7**	6-Aug	**7.2**	x	**x**	5-Aug	**13.2**
							bird depredation: > 90%		*bird depredation: > 70%*	
Black Currant	*Ben Sarek*	12	3-Aug	24.6	x	x	x	x	x	x
Variety Trial	*Black Down*	16	29-Jul	29.5	15-Aug	49.4	24-Jul	18.7	22-Aug	64.6
	Hilltop Baldwin	16	29-Jul	11.3	18-Aug	42.4	24-Jul	2.9	13-Aug	11.1
	Swedish Black	16	2-Aug	2.7	8/16-22	25.2	24-Jul	0.5	9-Aug	30.9
	Titania	15	2-Aug	10.4	8/23-25	45.7	24-Jul	58.7	19-Aug	131.9
	Whistler	12							23-Aug	26.7
				78.5		**162.7**		**80.7**		**265.2**
	Whistler replaced Ben Sarek 2011									
Black Currant	Ben Lomand	4	2-Aug	4.9	16-Aug	5.9	7/23-25	13.0	14-Aug	6.6
	Blackcomb	4	x	x	x	x	x	x	22-Aug	4.1
	Champion	4	2-Aug	4.2	16-Aug	8.6	23-Jul	3.6	12-Aug	12.9
	Consort	4	2-Aug	5.2	x	x	x	x	x	x
	Minaj Smyriou	4	29-Jul	4.4	16-Aug	8.7	24-Jul	18.3	8-Aug	30.4
				18.6		**23.2**		**35.0**		**54.0**
	Blackcomb replaced Consort 2011									
Red Currant	Jhonkheer Van Tets	4	11-Aug	4.7	25-Aug	17.7	16-Jul	35.3	8-Aug	17.8
	Red Lake	4	29-Jul	21.3	9-Aug	30.3	7/23-27	23.8	8/13	37.0
	Redstart	4	9-Aug	12.3	8-Aug	24.7	30-Jul	20.1	14-Aug	21.5
	Rosetta	4	11-Aug	8.4	17-Aug	40.4	7/23-27	34.2	8/15	31.6
	Rovada	4	10-Aug	10.1	17-Aug	33.3	7/23-27	48.2	8/15	37.5
				56.8		**146.4**		**161.7**		**145.4**
White Currant	Blanka	4	10-Aug	18.9	26-Aug	23.5	7/27-30	49.0	14-Aug	40.4
	Swedish White	4	3-Aug	14.6	4-Aug	29	20-Jul	51.1	2-Aug	48.8
				48.1		**52.5**		**100.1**		**89.2**
Ore. Honeyberry	22-37	3	6-Jul	2.3	28-Jul	2.4	10-Jul	7.4	15-Jul	7.0
	41-100	3	6-Jul	3.8	28-Jul	2.8	10-Jul	13.3	22-Jul	4.4
	43-87	3	6-Jul	1.1	21-Jul	4.4	3-Jul	12.0	15-Jul	5.3
	43-97	3	6-Jul	3.4	1-Aug	3.2	3-Jul	5.4	20-Jul	4.1
	45-57	3	6-Jul	3.3	27-Jul	4.4	9-Jul	6.2	18-Jul	5.7
	85-26	3	6-Jul	3.9	27-Jul	6.2	10-Jul	13.4	22-Jul	7.0
				17.8		**23.4**		**57.7**		**33.5**
Rus. Honeyberry	Berry Blue	4	2-Jul	9.3	12-Jul	12.6	27-Jun	10.1	10-Jul	4.6
	Blue Belle	4	15-Jun	5.6	7-Jul	6.2	15-Jun	3.8	10-Jul	3.7
	Blue Moon	4	7-Jul	3.5	x	x	3-Jul	11.6	22-Jul	9.9
	Blue Velvet	4	2-Jul	2.7	x	x	16-Jul	4.0	22-Jul	6.7
	Kamchatka	4	2-Jul	2.0	7-Jul	6.4	21-Jun	3.1	x	x
				23.2		**25.2**		**32.6**		**24.9**
Haskaps	Borealis	4	x	x	20-Jul	0.5	26-Jun	2.7	15-Jul	7.9
- Canadian	Tundra	5	x	x	14-Jul	4	26-Jun	5.2	15-Jul	3.6
	Indigo Gem (9-15)	5	x	x	12-Jul	4.8	26-Jun	7.7	11-Jul	4.4
	Indigo Treat (9-91)	5	x	x	14-Jul	1.4	26-Jun	2.1	15-Jul	0.6
						10.7		**17.6**		**16.5**
Juneberry	*JB30*	20	7-Jul	37.5	15-Jul	51.7	2-Jul	72.4	17-Jul	73.1
Variety Trial	*Honeywood ++*	20	to	37.3	to	43.7	to	67.1	to	86.8
	Martin	20	16-Jul	13.8	25-Jul	28.1	10-Jul	55.5	25-Jul	55.6
	Smoky	20		43.2		29.1		73.9		102.7
	Thiessen	20		29.3		48.1		70.9		66.3
				161.2		**200.7**		**339.8**		**384.5**

++ - Juneberries are generally picked 2-3 times. Smoky produces longer than this.

The Project was planted in 2007, except Juneberries 2006.