Orchard Outlook Newsletter

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This Issue Contains:

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This being the first Orchard Outlook for 2003 let me start off by wishing everyone a happy new year and best wishes for a prosperous year. Nova Scotia producers were very fortunate that they did not suffer the adverse weather conditions that some other apple producing regions experienced in 2002 and thus had the opportunity to take advantage of an apple shortage. Over the past twenty plus years I do not recall a growing season when Nova Scotia apples were in such demand. At this year's annual meeting it was uplifting to hear growers with a more positive outlook. It would however, be unrealistic for growers to expect the same market conditions to occur this fall. Hopefully new market opportunities were created last fall through the movement of apples to Ontario, Quebec and the Eastern United States and we can start a trend of good demand and returns for Nova Scotia tree fruits.

January 1, 2003 Storage Holdings

Cultivar	January 1, 2003 ,000 lb	January 1, 2002 ,000lb
McIntosh	14038	12846
Red Delicious	2637	1352
Golden Delicious	1256	888
Cortland	4229	4034
Spartan	2114	1066
Spy	6366	6469
Idared	4838	4807
Gravenstein	280	0
Other	1698	1806
Total	37456	33268

The January 1, 2003 storage holdings of 37,456,000 lbs (891,809 bus) were 12.5% higher than the January 1, 2002 holdings of 33,268,000 lbs (792,095 bus). The increased storage holdings from those of last year are a reflection of the increased yields in 2002 compared to 2001. Nationally, storage holdings were down 10% from this time last year. Nova Scotia, New Brunswick and Quebec January storage holdings were higher than they were a year ago, while Ontario and British Columbia were lower.

Nationally, the January 1st apple storage holdings were 346,409,000 lbs (8,247,000 bus), which compares to last year's holdings of 386,324,000 lbs (9,198,000 bus).

My understanding was that apple movement was very good in the fall, so did this carry on throughout December? The January 1, 2003 holdings indicate that 7,041,000 lbs moved out of storage in December, which compares to last December's movement of 6,046,000 lbs. This would indicate that there was a 10% increase in the movement of apples for December 2002 compared to December 2001.

Northern Spy/Rootstock Field Trial

The year prior to the start of the Spy planting program a field trial was set out at the farm of Peter van Oostrum to compare the production of Northern Spy on three dwarfing rootstocks. When the planting was set out by Peter van Oostrum and Leonard Sarsfield, it was not anticipated that a Spy planting program would be in place within a year. The intent of the planting was twofold: 1) to apply knowledge that was obtained in the fall of 1992 through investigative travel to Ontario, New York and Michigan to look at Northern Spy production on dwarfing rootstocks and 2) to have a demonstration site to teach producers how to manage Northern Spy on dwarfing stocks. In the spring of 1993 a two hectare planting was set out with Northern Spy on tree dwarfing rootstocks; Mark, EM 9 and EM26. Rows of Idared and Cortland were planted as pollinators. One year old Northern Spy trees were set out at a spacing of 2.4 by 4.8 meters for M26 and 1.8 by 4.3 meters for M9 and Mark. These spacings provided tree densities of 837 (339) and 1,279 (518) trees per hectare (trees per acre). The NSDA&M collected data from this planting from 1996 to 2000 and AgraPoint collected data in 2001 and 2002. Yield and tree measurement were recorded from three five-tree replicates for each rootstock combination.

Fruit production was not encouraged until the fourth year of growth and the slight production that did occur in the third year was not recorded. Table 1 provides the yearly average for each rootstock and after 10 years of growth there is not a big difference in the average yield per tree. When the average yield, on a per tree basis, is converted to bushels per acre, which takes into consideration the difference in tree density, Spy on Mark and M9 has been more productive than EM26. The highest accumulated yield per acre (Table 2) has been for Spy on Mark with an average yield of 506 bushels per acre over the 7 years of cropping.

Table 1: Average yield per tree

Rootstock	1996 kg	1997 kg	1998 kg	1999 kg	2000 kg	2001 kg	2002 kg	Total kg	Avg. Kg
M26 (339 t/ac)	6.14	14.75	3.60	24.43	3.61	41.82	40.99	135.34	19.33
Mark (518 t/ac)	8.97	14.96	5.98	22.58	1.34	34.66	41.28	129.77	18.54
M 9 (518 t/ac)	9.20	11.08	6.22	16.67	8.60	31.76	39.42	122.95	17.56

Table 2: Yield per Acre

Rootstock	1996 bu	1997 bu	1998 bu	1999 bu	2000 bu	2001 bu	2002 bu	Total bu	Avg. Bu
M26 (339 t/ac)	109	263	64	436	64	746	731	2413	345
Mark (518 t/ac)	245	408	163	616	37	945	1125	3539	506
M 9 (518 t/ac)	251	302	170	454	235	866	1075	3353	479

Looking at the yield figures for the last 7 years one notes that Northern Spy on dwarfing rootstocks can go into a biennial bearing habit at an early age. During the past two growing seasons a more aggressive thinning program has been followed and there was a good return crop in 2002 following the good crop in 2001. The yield figures also indicate that very high yields can be obtained with dwarfing stocks. Trees on all three rootstocks have filled their allotted space. There still may be some room to increase the height of those trees on EM26, thereby increasing the fruit canopy. During the investigative travel it was stated that Spy on EM26 in the early years can be a shy bearer and takes much longer to reach maximum production compared to EM9.

Fruit size has varied on a yearly basis and between rootstocks (Table 3). Fruit size has tended to follow crop load with weight being smaller in years of high yield. A three-inch diameter apple weighs approximately 215 grams while a 3-7/8" weighs 375 grams, and in most years fruit size has exceeded this diameter for the three rootstocks. In the early years of production fruit size was problematic, in that the apples were too large for the peeling machines. On average, Spy on M9 has the highest fruit weight. Bitter pit is related to fruit size and has been more of a problem in years with larger fruit. Calcium sprays have been applied on an annual basis to help reduce bitter pit problems.

Table 3 Average Fruit Weight

Rootstock	1996 g	1997 g	1998 g	1999 g	2000 g	2001 g	2002 g	Avg. g
M26 (339 t/ac)	314	160	242	247	216	246	222	235
Mark (518 t/ac)	294	142	208	176	234	258	272	226
M 9 (518 t/ac)	328	214	250	282	360	257	272	280

Spy trees on M26 had the largest trunk diameters after 10 years of growth. Although the diameter of Spy trees on Mark rootstock was slightly larger than those of M9 the annual diameter increase was greater for Spy on M9 than on Mark. The greatest annual increase was recorded for Spy on M26 which is classed as being 15% more vigorous than Mark or M9. The annual average diameter increase was similar for M9 and Mark.

Table 4: Average Trunk Diameter

Rootstock	1996 mm	1997 mm	1998 mm	1999 mm	2000 mm	2001 mm	2002 mm	Avg./Yr Increase mm
M26 (339 t/ac)	41.77	48.19	55.11	59.19	64.47	72.75	80.88	5.59
Mark (518 t/ac)	40.63	43.71	49.16	53.99	60.98	64.86	70.47	4.26
M 9 (518 t/ac)	36.38	42.65	47.23	50.09	57.29	62.52	66.64	4.32

Although the production and growth of Spy trees on Mark has been similar to EM9, tree losses have been higher for Mark. In the spring of 1997, 47% of the Spy trees on Mark were lost in the three replicates as a result of gloeosporium canker infections on the main trunk. Tree losses for EM9 were 20%, and 13% for EM26. It appeared that crop load played a factor especially in the case of Mark as the trees lost were those that bore the heaviest crop in the fall of 1996. No additional tree losses were recorded following those in 1997. Many apple growing regions have reported a root proliferation problem at the soil line with Mark. In the warmer growing regions of the United States it is felt that this proliferation of root hairs adversely affects the productivity of tree growth. Root hair proliferation has been observed with Mark in the trial but it does not appear to have had an impact on productivity to date. The interest in Mark as a dwarf rootstock has declined since the problem with root hair proliferation and

the poor performance of this stock on the West Coast of the US came to light. Given a choice, I would select M9 over Mark or M26 based upon what has been observed to date in the trial at van Oostrums.

Thoughts for Next Year

Now that you may have more time to relax, particularly on those cold wintry days when you are not supposed to be pruning, it may not hurt to take time to make plans for next growing season. Review what happened last year, identify problem areas and plan to rectify them:

- What about the bin shortage that occurred last fall? Just think what would have happened if bins from outside of the province were not made available. Are you going to wait until next fall to find out if there is going to be another shortage or not?
- Are you happy with your fruit pack-outs? If not, why - and what can you do about it?
- Are your yields improving or declining and what did you do this season to improve productivity?

These are just some of the questions you should be asking yourself. Take time to plan and set goals. If I can be of assistance please feel free to call me, Bill Craig, at 678-7722.

Fire Destroys Home

Last weekend, fire totally destroyed Lewis Ogilvie's home and with it, some of the equipment that he used in the making of his popular apple picking baskets. An account has been set up at the Royal Bank in Berwick for donations.

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