

OUT-OF-STORAGE CHIP QUALITY 2003-2004 MICHIGAN REGIONAL REPORT

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Procedure:

At the harvest of the 2003 USPB / SFA Chip Trial on September 17, 2003 at V & G Farms in Stanton, MI, several storage samples were collected. A 40 pound sample was collected from each entry and placed in the cooperating grower's commercial storage for later evaluation. Three 25 tuber samples were also collected from each entry at harvest and stored in cold storages at MSU. Two samples were stored at 50°F for a February and April evaluation. The third 25 tuber sample was stored at 45°F for a February evaluation.

Results:

The 40 pound tuber samples placed in the growers' commercial storage were removed on March 9, 2004. The storage temperature was maintained at 48 °F. For sprout control, MH30 was applied pre-harvest and CIPC was applied in the storage in late November 2003. The tuber samples were evaluated before the samples were shipped to Jays LLC in Chicago. This data is shown in Table 1.

Table 2 summarizes the chip quality of the 25 tuber samples collected at harvest from each entry and stored at MSU. They were stored at 50°F and chipped on February 5, 2004, stored at 50°F and chipped on April 21, 2004 and stored at 45°F and chipped on February 5, 2004. All samples were treated with CIPC.

On February 5, 2004 at 45°F, chip colors for all entries were marginal. ND5822C-7 and Atlantic were performing below the average under these conditions.

On February 5, 2004 at 50°F, chip colors for all entries were acceptable. ND5822C-7 chip color was marginal. Defects were the greatest in NDTX4930-5W do in large part to pitted scab and internal color. Snowden, W1201, MSG227-2, W1355-1 and MSF099-3 had excellent color.

On April 21, 2004, from 50°F storage, MSG227-2 had excellent color and very few defects. ND5822C-7, NDTX4930-5W, MSH095-4 and ND2470-27 all exhibited marginal color.

TABLE 1.**V & G FARMS STORAGE SAMPLES¹**

CHIP QUALITY - JAYS LLC

ENTRY	TUBER ² CONDITION	SG	AGTRON COLOR	SFA* COLOR	PERCENT DEFECTS		
					INT.	EXT.	TOTAL
ATLANTIC	soft, tr.PB, 3-4" sprouts, scab	1.088	51.6	1.5	9.4	47.8	57.2
SNOWDEN	firm, PB, 2-3" sprouts, scab	1.080	51.2	1.0	0.0	20.9	20.9
AF1424-7	soft, severe scab, small, tr. PB	1.091	58.2	1.5	3.7	11.1	14.8
A91790-13	firm, severe scab, 1-2" sprouts	1.080	55.3	1.0	0.0	35.1	35.1
MSF099-3	soft, 4-5" sprouts, PB, scab	1.092	49.9	2.0	10.1	45.0	55.1
MSG227-2	no sprouts, firm, tr. scab, PB	1.087	59.8	1.0	1.7	8.2	9.9
MSH095-4	firm, 4-6" sprouts, sl. scab, sl. PB	1.088	52.4	1.0	0.0	6.0	6.0
NDTX4930-5W	firm, scab, 0-1" sprouts, PB	1.070	52.2	1.5	6.1	32.2	38.3
ND2470-27	firm, 2-3" sprouts, scab, sl. PB	1.076	56.6	1.5	7.1	13.6	20.7
ND5822C-7	firm, tr. sprouts, sl PB, tr. scab	1.085	56.8	2.0	17.7	12.4	30.0
W1201	firm, scab, 1-2" sprouts, sl. PB	1.093	55.4	1.5	3.2	37.8	41.0
W1355-1	firm, scab, PB	1.083	53.8	1.0	2.3	9.0	11.3

1. Samples removed from V & G storage March 9, 2004 and processed and scored by JAYS March 16, 2004.

2. Storage samples evaluated for tuber condition. PB = pressure bruise. Black flesh recorded when a shallow slice below a pressure bruise shows dark flesh color.

* SFA Color Score 1 = lightest, 5 = darkest Scores determined at MSU on returned chip samples.

TABLE 2.**M.S.U. STORAGE SAMPLES**

ENTRY	45°F February 5, 2004		50°F February 5, 2004		50°F April 21, 2004	
	SFA* COLOR	PERCENT ** DEFECTS	SFA* COLOR	PERCENT ** DEFECTS	SFA* COLOR	PERCENT ** DEFECTS
ATLANTIC	2.5	85% color	1.5	14% pitted scab	1.5	-
SNOWDEN	2.0	25% color, VD	1.0	8% pitted scab	1.5	-
AF1424-7	1.5	45% color, SED	1.5	30% pitted scab	1.5	-
A91790-13	1.5	10% SED, scab	1.5	22% scab, color	1.5	-
MSF099-3	2.0	40% scab	1.0	16% VD, scab	1.5	-
MSG227-2	2.0	20% color	1.0	Trace VD	1.0	-
MSH095-4	2.0	25% color	1.5	24% color, VD	2.0	-
NDTX4930-5W	2.0	50% color, scab	1.5	60% pitted scab	2.0	-
ND2470-27	1.5	45% color, scab	1.5	36% scab	2.0	-
ND5822C-7	3.0	85% color	2.0	22% color, scab	2.0	-
W1201	1.5	25% color	1.0	Trace scab	1.5	-
W1355-1	1.5	20% pitted scab	1.0	10% scab	1.5	-

* SFA 1-5 Color Score; 1 = lightest, 5 = darkest 3.5 and higher unacceptable.

** HH = hollow heart; VD = vascular discoloration; SED = stem end discoloration; IBS = internal brown spot.