OUT-OF-STORAGE CHIP QUALITY
2004-2005 MICHIGAN REGIONAL REPORT

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Procedure:

The 2004 USPB / SFA Chip Trial was harvested on October 4, 2004 at V & G Farms in Stanton, MI. Several chip storage samples were collected at harvest. A 40 pound sample was collected from each entry and placed in the cooperating grower's commercial storage for later evaluation. Four 25 tuber samples were also collected from each entry at harvest and stored in cold storages at the Michigan Potato Industries (MPIC), Cargill Potato Demonstration Storage Facility. Two samples were stored at 55ºF for a January and March evaluation. The remaining two, 25 tuber samples were stored at 48ºF to be evaluated in January and March as well.

Results:

The 40 pound tuber samples placed in the grower's commercial storage were removed in early April 2005. The storage temperature was maintained at 48 ºF. For sprout control, CIPC was applied in the storage in late November 2004. Table 1 summarizes the chip quality of these 40 pound samples after being processed at Herr Foods, Inc. in early April 2005. The varieties are listed in yield order from top to bottom, highest to lowest.

Table 2 summarizes the chip quality of the 25 tuber samples collected at harvest from each entry and stored at the MPIC demonstration storage in the fall of 2004. The samples were stored at 48ºF and 55ºF and were chipped on January 27th and March 24th, 2005. All samples were treated with CIPC in mid November.

Table 1 shows A91790-13 exhibiting the best overall quality chip from Herr Foods in April. MSJ461-1 also performed nicely with only 17% total defects noted, but the specific gravity was not acceptable.

From Table 2, A91790-13 appears to have the best quality chip color and internal defect scores. W1773-7 performed well into March with good chip color and no internal defects. All the varieties were acceptable in March, but with a variable amount of internal defects.

Table 1. 2004-2005 Out of Storage Chip Quality, V & G Farms[1].

Entry	Agtron Color	SFA[2] Color	Specific Gravity	Percent Chip Defects[3] Internal	External	Total
ND5822C-7	46.1	4.0	1.088	75	9	84
A91790-13	61.5	1.0	1.089	5	7	12
W1201	58.9	2.5	1.087	17	12	29
B01240-1	55.7	2.5	1.080	18	11	29
MSJ461-1	58.7	1.5	1.071	9	8	17
SNOWDEN	**59.1**	**1.5**	**1.080**	**6**	**6**	**12**
ATLANTIC	**55.0**	**4.0**	**1.086**	**33**	**42**	**75**
ND2470-27	57.4	1.5	1.073	19	19	38
MSF099-3	56.6	2.5	1.080	15	7	22
W1773-7	59.5	2.0	1.086	8	8	16
NY132	59.2	1.5	1.089	14	11	25
AF2211-9	40.9	4.0	1.083	37	1	38

[1] Samples removed from 48F storage in early April 2005 and processed by Herr Foods Inc., Nottingham, PA in early April 2005.

Chip defects are included in Agtron and SFA samples.

[2] SFA Color: 1 = lightest, 5 = darkest

[3] Percent Chip Defects are a percentage by weight of the total sample; comprised of undesirable color, greening, internal defects and external defects.

Table 2.2004-2005 Out of Storage Chip Quality Samples, Cargill Storage[1]

	48ºF January 27, 2005		55ºF January 27, 2005		48ºF March 24, 2005		55ºF March 24, 2005	
ENTRY	SFA[2] COLOR	CHIP[3] DEFECTS	SFA[2] COLOR	CHIP[3] DEFECTS	SFA[2] COLOR	CHIP[3] DEFECTS	SFA[2] COLOR	CHIP[3] DEFECTS
ND5822C-7	1.5	4% IBS	1.0	Black Spot Bruise	1.0	Brown Edges, Silver Scurf	1.0	4% HH
A91790-13	1.0		1.0		1.0		1.0	
W1201	1.0		1.0	4% IBS, 8% SED	1.0	4% HH	1.0	
B01240-1	2.0		1.0	4% HH	1.0	4% HH	1.0	4% HH, 4% SED
MSJ461-1	1.0		1.5	Black Spot Bruise	1.0		1.0	
SNOWDEN	**1.0**		**1.0**		**1.0**	**4% BC**	**1.0**	**4% HH**
ATLANTIC	**1.5**		**1.5**	**4% IBS**	**1.5**	**4% HH, 8% SED**	**1.5**	**4% BC, 8% VD**
ND2470-27	1.0	4% IBS	1.0		1.0	4% VD	1.0	4% VD
MSF099-3	1.0	12% SED	1.0		1.5	16% SED	1.5	12% SED
W1773-7	1.5		1.0		1.0		1.0	
NY132	1.0	4% HH, Black Spot Bruise	1.5	4% HH	1.5	4% HH	1.0	4% HH
AF2211-9	1.0	4% HH, Heat Necrosis	1.0	Heat Necrosis	1.0		1.0	

[1] Samples Stored at the Michigan Potato Industry Commission's Cargill Potato Demonstration Storage

[2] SFA 1-5 Color Score; 1 = lighest, 5 = darkest

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