



2023 MPIC Winter Conference

2022 Michigan On-Farm Potato Variety Trial Update “You are the Why!”

February 2nd, 2023

Chris Long, Potato Specialist

MSU Potato Outreach Program Lead





Outline

- Fresh Chip
- Storage Chip
- Yellow flesh, bright appearance
- Russets
- Red skin, white flesh



"You are the why Kevin Bowersox!"



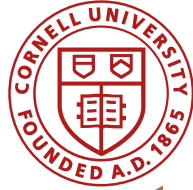


Fresh Chip Overview

- **NY163 – Atlantic, Pike and Snowden replacement fresh**
- AF6165-9 – HH, scab susceptible
- AF6200-4 - Below average SG, scab susceptible
- MSAA076-6 – High incidence of IBS
- MSAA217-3 – HH susceptible
- MSBB626-11 – Below average SG
- W15125-4 – Average SG, scab susceptible, high chip defects
- NC470-3 - Snowden replacement fresh, HH susceptible



NY163



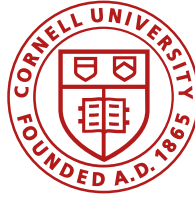
Atlantic or Pike replacement out of the field and short-term storage (NYE50-8 X NYE48-2)

Strengths

- Yield potential above average in 4 of 8 SNAC Storage locations in 2022; OR, PA, WI and MI
- Average to above average SG across the US
- Excellent raw internal tuber quality
- Above average tuber set / plant
- Excellent out of the field and early to mid-season storage chip quality
- Earlier maturity than Snowden
- Common scab, BSB and SED tolerance



NY163



Atlantic or Pike replacement out of the field and short-term storage (NYE50-8 X NYE48-2)

Weaknesses

- **Yield potential below average in 4 of 8 SNAC Storage locations in 2021-22; ID, ND, NM and ME**
- **Below average percent US#1 and mid size tubers**
- **Thin skinned**
- **Chip blistering observed in 2020 crop**
- **Potential storage rot susceptibility**



NY163

MSU POP Trials Medius.re Data; Compare

- 15 trial locations
- 5-year averages
- 47 trial records

MSUC				
2022, 2021, 2020, 2019, 2016		15 trial blocks selected		
	Atlantic	Snowden	NY163	
Trial				
Variety Records	15	47	47	
Research Data				
Yield No1	441	456	423	cwt/A
Yield Total	489	525	496	cwt/A
% No1	90.4%	85.4%	83.8%	%
Size Small	7.1%	13.0%	13.1%	%
Size Mid	86.8%	83.1%	81.9%	%
Size Large	3.6%	2.4%	1.9%	%
Specific Gravity	1.084	1.084	1.082	1.####
SFA Chip Color	1.4	1.2	1.1	
Hollow Heart	28.1%	5.1%	0.3%	%
Vascular Discoloration	6.1%	10.5%	5.6%	%
Internal Brown Spots	9.3%	1.8%	0.1%	%
Brown Center	2.1%	0.6%	0.1%	%
Common Scab Rating	1.2	1.7	0.8	
Vine Maturity	2.9	2.8	2.5	



PUSA SNAC Trial Medius.re Data; Compare

- 8 Storage trial locations
- 3-year averages

SNAC				
2022, 2021, 2020		8 trial blocks selected		
	Lamoka	Snowden	NY163	
Trial				
Variety Records	24	24	24	
Field Data				
Specific Gravity	1.088	1.087	1.089	1.###
Tubers/Plant	8.0	9.6	10.4	
Yield No1	362.0	372.9	350.3	cwt/A
% No1	85.7%	82.0%	79.5%	%
Size Small	10.3%	15.8%	19.0%	%
Size Mid	80.3%	77.3%	76.9%	%
Size Large	6.7%	5.1%	2.2%	%
Hollow Heart	0%	4%	0%	%
Brown Center	1.6%	6.4%	0.0%	%
Heat Necrosis	1.4%	0.0%	0.0%	%
Process Data				
Specific Gravity	1.081	1.082	1.084	1.###
SFA Chip Color	2.2	2.1	1.6	
Defect Total	13.1%	13.0%	6.6%	%



Storage Disease Challenge

(NDSU: J. Pasche, G. Secor and A. Walker U. Wis.)

Variety	Bacterial Soft Rot	Fusarium Dry Rot	Pink Rot	Pythium Leak	Southern Rot	Common Scab
NY163	MT	MS	MS	S/MS	MS	MR
LAMOKA	S	MS	MS	MR	MS	MR
SNOWDEN	S	MT	MS	MR	MS	S

VS = Very Susceptible

S = Susceptible

MS = Moderately Susceptible

MT = Moderately Tolerant

MR = Moderately Resistant

R = Resistant



Dickeya dienthicola (aerial blackleg)

(NDSU: G. Secor & V. Rivera-Varas)

Variety	Petiole Infection
ATLANTIC	moderately tolerant
LAMOKA	moderately tolerant
SNOWDEN	moderately tolerant
NY163	moderately susceptible



NY163

2022 Stem End Trial Scores (75 DAH)



12.5.22 Snowden Stem End Score 0.80



12.5.22 NY163 Stem End Score 0.17



2021-2022 ND SNAC Trial, 8-month storage samples (45.0 °F)



Lamoka

Sample Date: 6.2.22

Storage Temp. 45.0 °F

SG: 1.084

Sucrose: 0.439 mg/g

Glucose: 0.000 mg/g

Hunter L: 72.79



Snowden

Sample Date: 6.2.22

Storage Temp. 45.0 °F

SG: 1.078

Sucrose: 1.082 mg/g

Glucose: 0.132 mg/g

Hunter L: 70.98



NY163

Sample Date: 6.2.22

Storage Temp. 45.0 °F

SG: 1.089

Sucrose: 0.564 mg/g

Glucose: 0.000 mg/g

Hunter L: 72.04

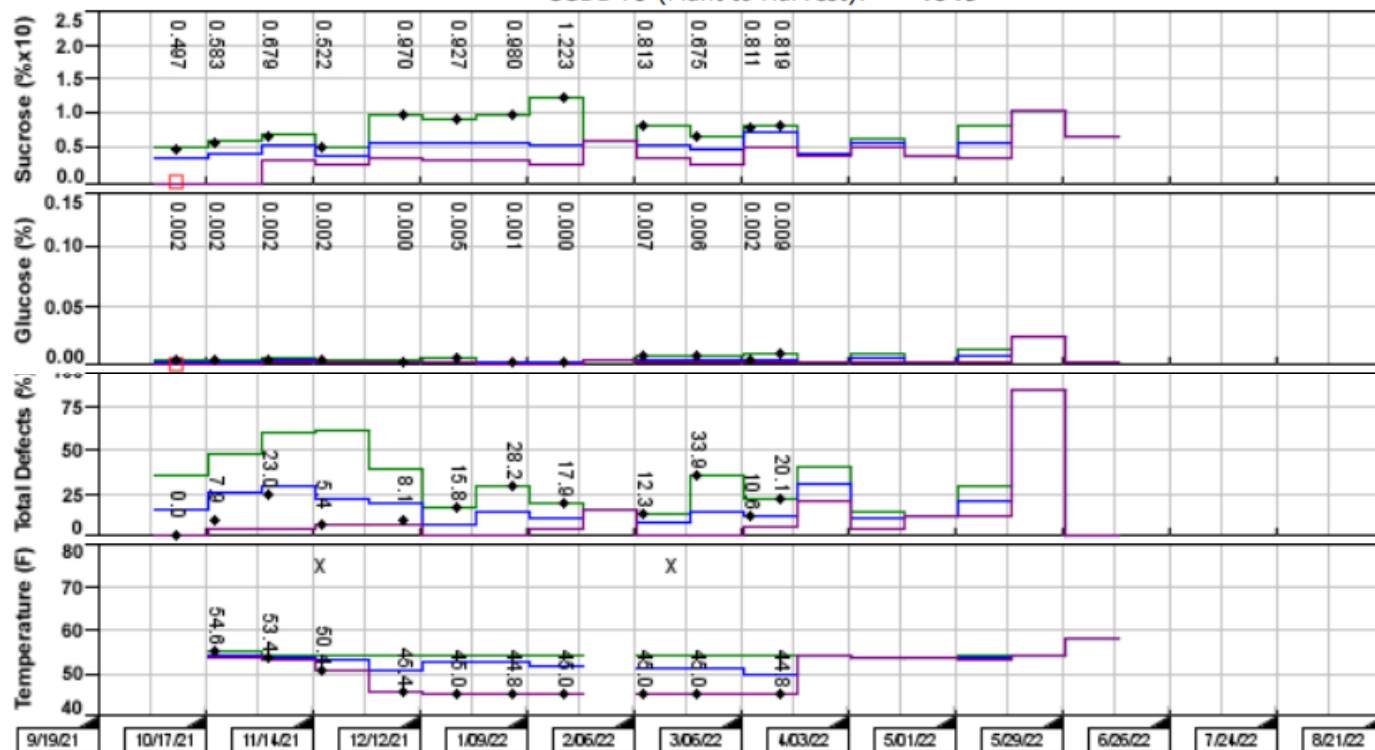


NY163 2021-2022 MPIC Storage Performance at 45.0 °F 3.14.22

MI Potato Industry Commission Bin Bulk Bin 2 Sandyland NY163



Variety: **NY163** Pre-Harvest **8/18/2021** Sucrose **0.514** Spec. Grav. **1.084** Field Name: **Sandyland NY163**
Sample Date: **3/15/2022** Client Code:
Prev. Sample: **3/7/2022** Planting Date: **5/11/2021**
Last Gas: **2/16/2022 DMN and CIPC** Vine Kill Date: **9/8/2021**
Prev. Gas: **11/16/2021 DMN and CIPC** CGDD40 (Plant to Vine Kill): **3369** Harvest Pulp Temp, F: **65.4**
CGDD40 (Plant to Harvest): **4049** Last Harvest Date: **10/8/2021**



10.8.21 (0 DAH)



10.16.21 (8 DAH)



11.1.21 (24 DAH)



11.15.21 (38 DAH)



12.6.21 (59 DAH)

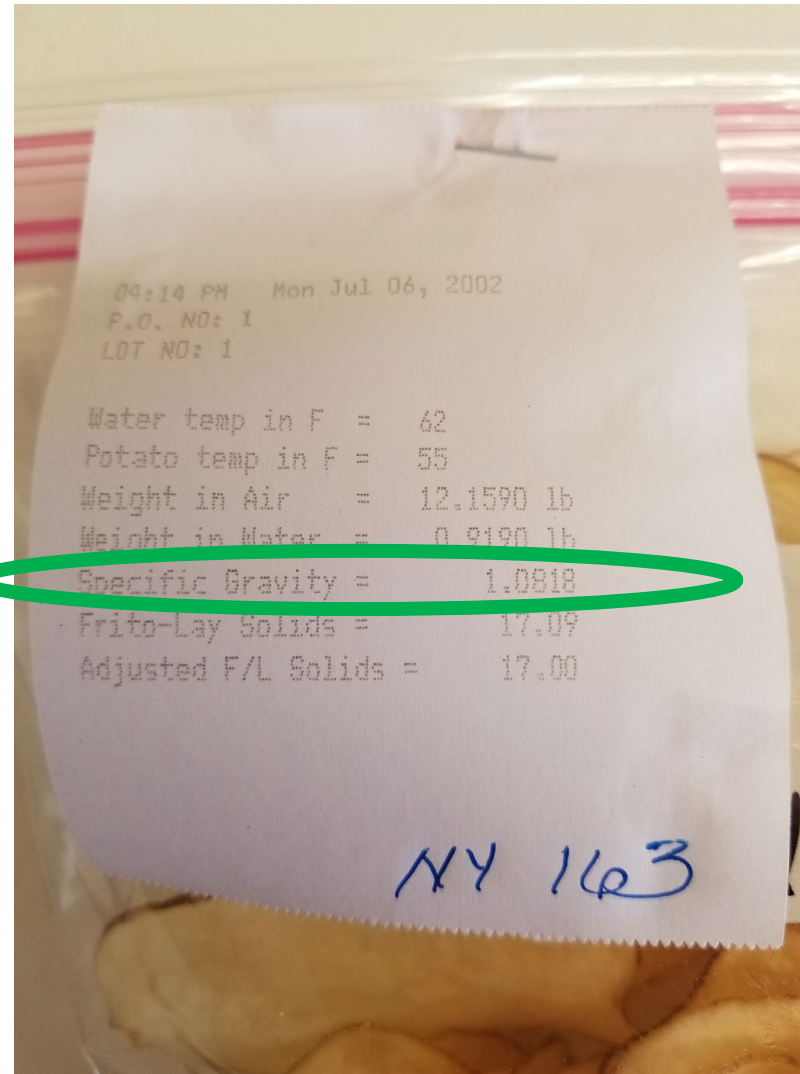


12.20.21 (73 DAH)



NY163

2021-2022 MPIC Storage Performance 3.14.22





NY163

2021-2022 Processing Performance 3.15.22



Ellis Cole, Herr Foods



NY163 2021-2022 Processing Performance, Line-run, MSU POP Evaluation

Herr Foods

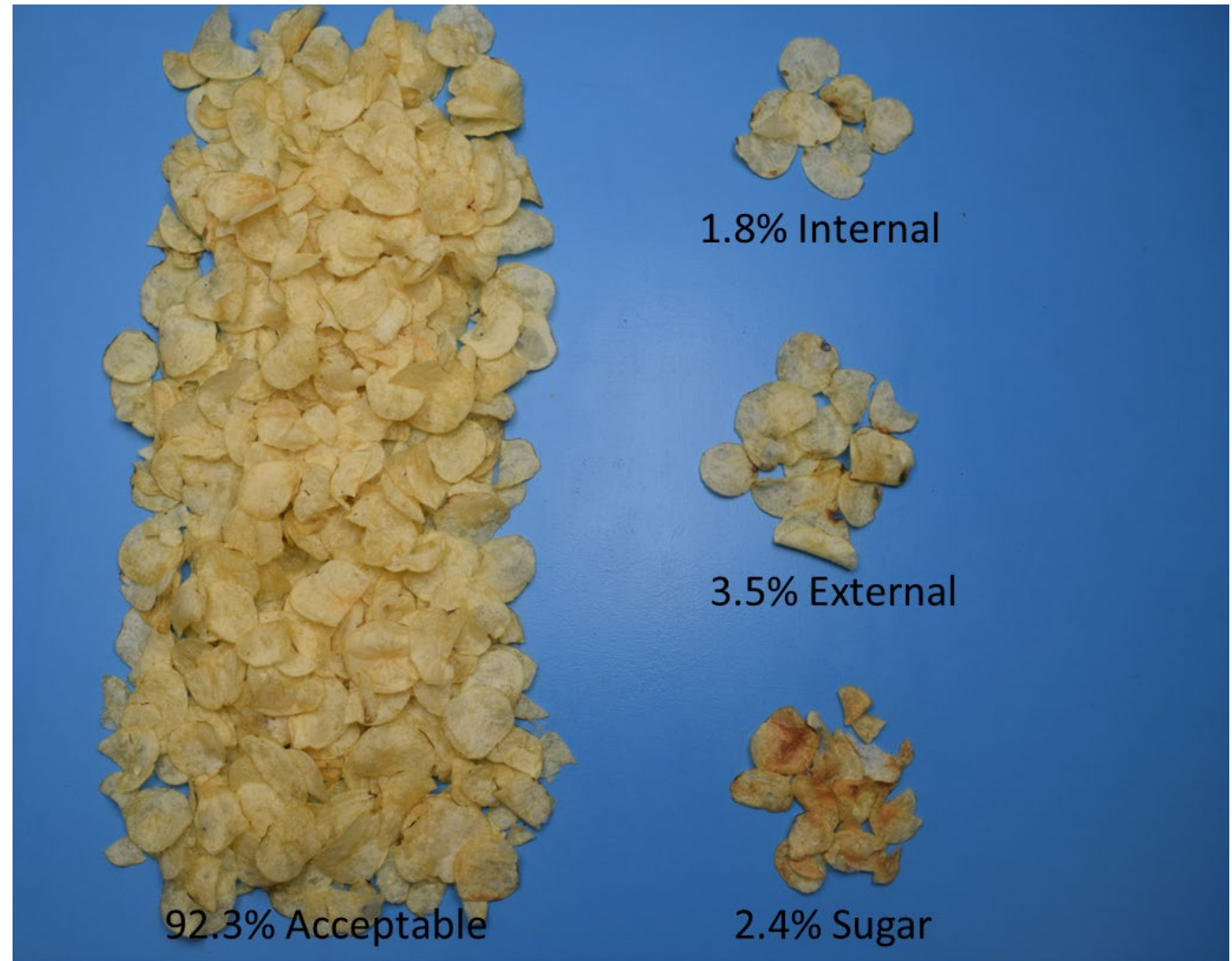
3.15.22

SG: 1.086

Total Defects: 7.7%

Acceptable: 92.3%

Storage Pulp Temp: 44.8 °F





NY163 2021-2022 Processing Performance, Line-run, Middleswarth

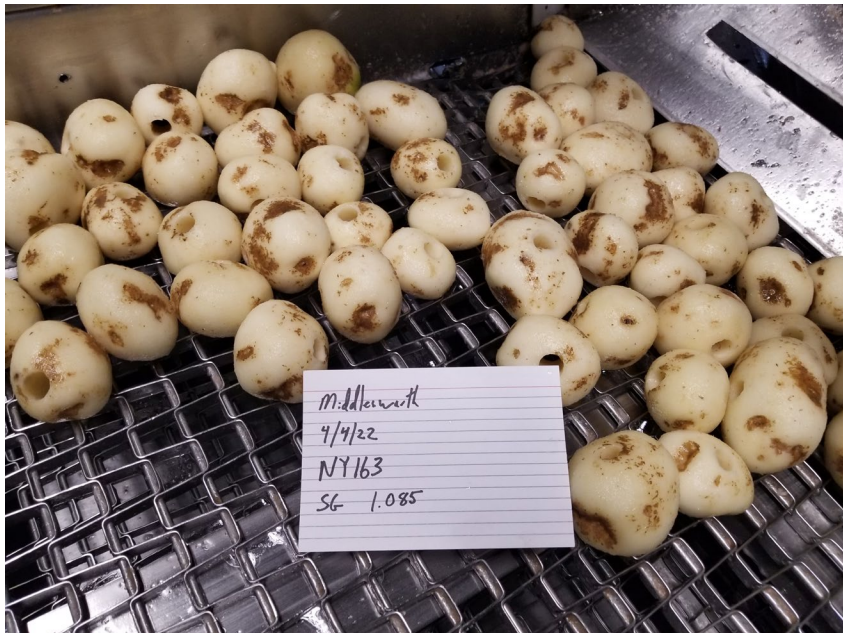
Middleswarth, 4.4.22

SG: 1.085

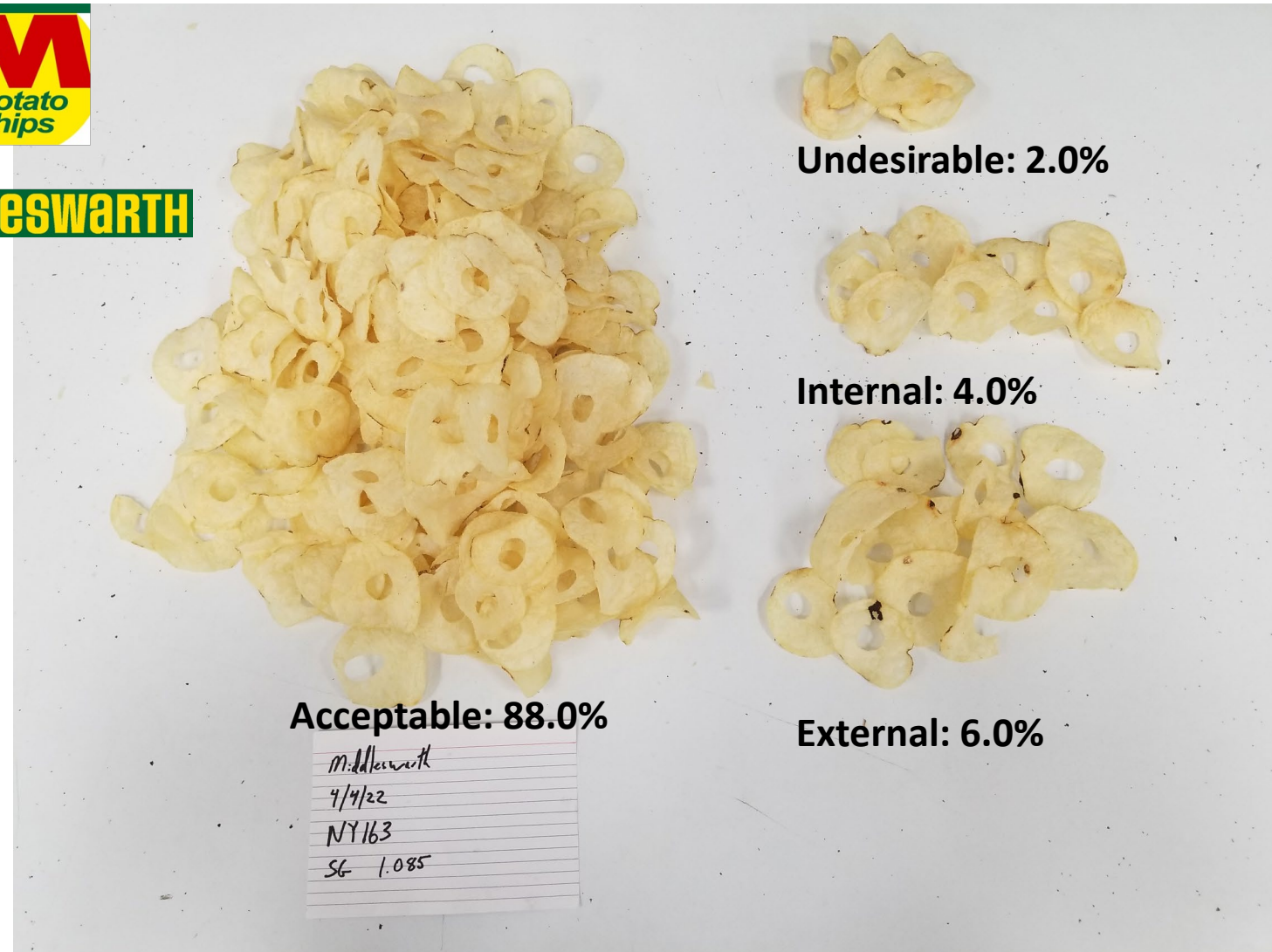
Total Defects: 12.0%

Acceptable: 88.0%

Storage Pulp Temp: 50.0 °F



MIDDLESWARTH





NY163

2022-2023 PUSA NexGen, MPIC Bulk Bin #2
Sandyland Farm, BSB Free: 51.2%, B/T: 1.5

Planted: 5.20.22

Vine Kill: 9.1.22

Harvested: 10.7.22

GGD40: 2919

Sample Date: 1.16.23

Storage Temp. 47.6 °F

SFA Color: 1.0

Sucrose: 0.454 mg/g

Glucose: 0.020 mg/g

Undes: 0.0%

Intrn: 18.4%

Extrn: 11.3%

Green: 4.3%

Tot. Def: 34.0%





Proposed 2023 NexGen Plan for NY163

2022 Fast-Track Seed Available: 143 cwt.

Variety	State	Grower	CWT	Storage Location	Processor
NY163	MI	Sandyland Farms	143	MPIC	UTZ, PA



Storage Chip Overview

- **Mackinaw:** Black spot bruise susceptible, common scab, PVY and LB tolerant, heat tolerant, strong SG
- **Petoskey:** Harvest sugar hangover, SED issues, common scab resistant, good storability, high SG
- **MSAFB635-15:** Common scab susceptible, high SG, very good chip quality, vert. tolerant
- **NY163:** Early maturing, average SG, no harvest sugar handover, common scab tolerant, excellent chip quality



MSU POP Trials Medius.re Data; Compare

- 15 trial locations
- 8-year averages
- variable trial records

MSUC							
8 years selected				15 trial blocks selected			
	Lamoka	Snowden	Mackinaw	Petoskey	MSAFB635-15	NY163	
Trial							
Variety Records	61	76	99	74	15	48	
Research Data							
Yield No1	408	462	447	408	449	422	cwt/A
Yield Total	458	526	506	468	553	495	cwt/A
% No1	88.5%	86.7%	87.5%	86.8%	80.5%	83.8%	%
Size Small	8.0%	11.4%	9.3%	9.8%	19.2%	13.1%	%
Size Mid	82.6%	83.1%	84.2%	85.5%	80.4%	81.8%	%
Size Large	5.9%	3.7%	2.7%	1.4%	0.1%	2.0%	%
Specific Gravity	1.081	1.083	1.085	1.086	1.086	1.082	1.###
SFA Chip Color	1.4	1.3	1.4	1.3	1.2	1.1	
Hollow Heart	1.0%	4.8%	0.6%	1.3%	0.0%	0.3%	%
Vascular Discoloration	6.5%	10.3%	6.7%	6.3%	5.5%	5.5%	%
Internal Brown Spots	1.4%	2.2%	0.9%	0.5%	0.7%	0.1%	%
Brown Center	0.6%	0.5%	0.2%	0.3%	0.0%	0.1%	%
Common Scab Rating	1.0	1.6	0.8	0.9	1.3	0.8	
Stem End Defect	0.6	0.5	0.5	0.6	0.6	0.3	
Vine Maturity	2.6	2.8	3.1	2.9	2.7	2.5	



Mackinaw: 2020 NexGen Trial

2020-2021 MPIC Bulk Bin #1

Target 48.0 °F

Planting Date: 5/12/20

Vine Kill Date: 9/14/20

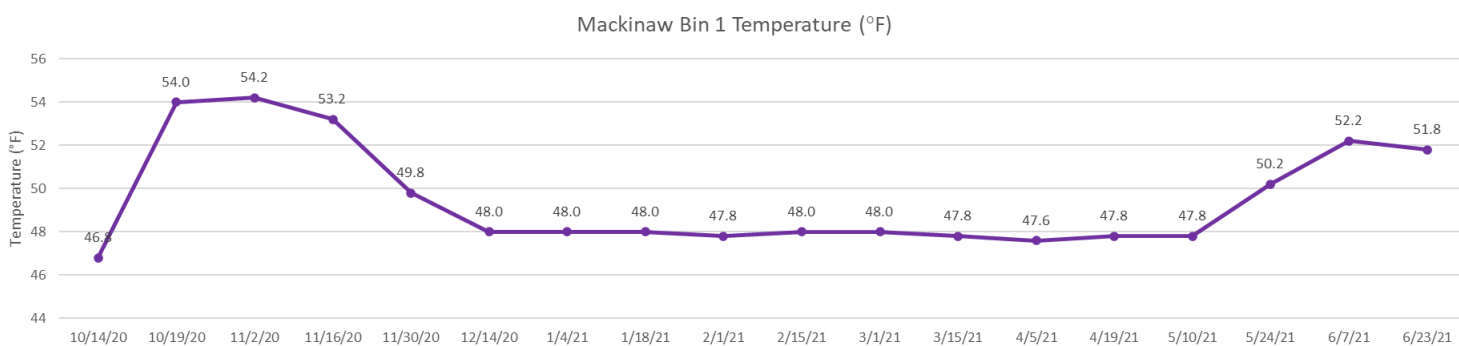
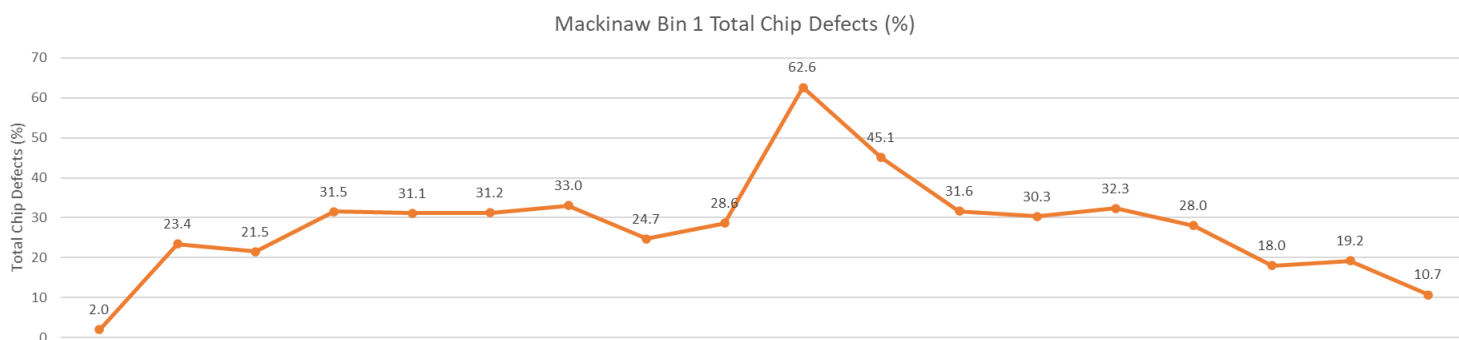
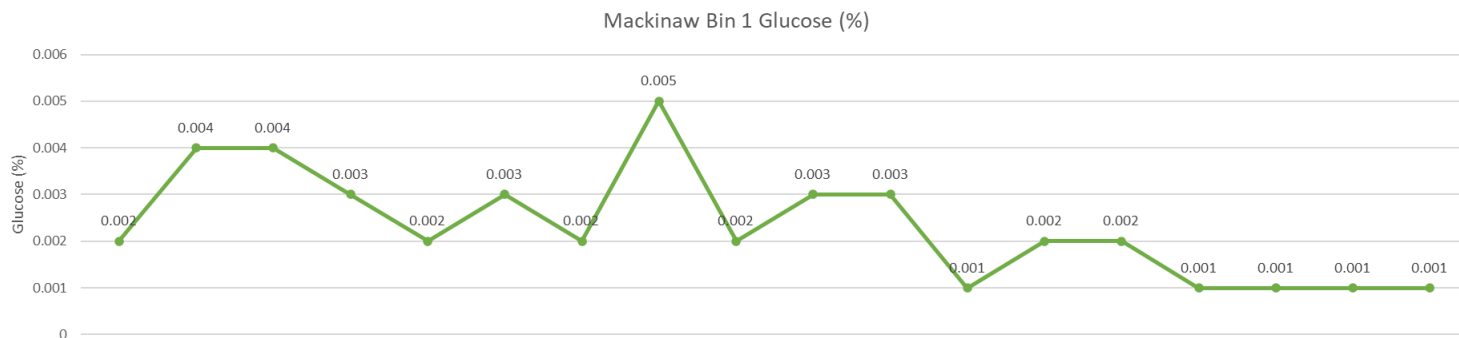
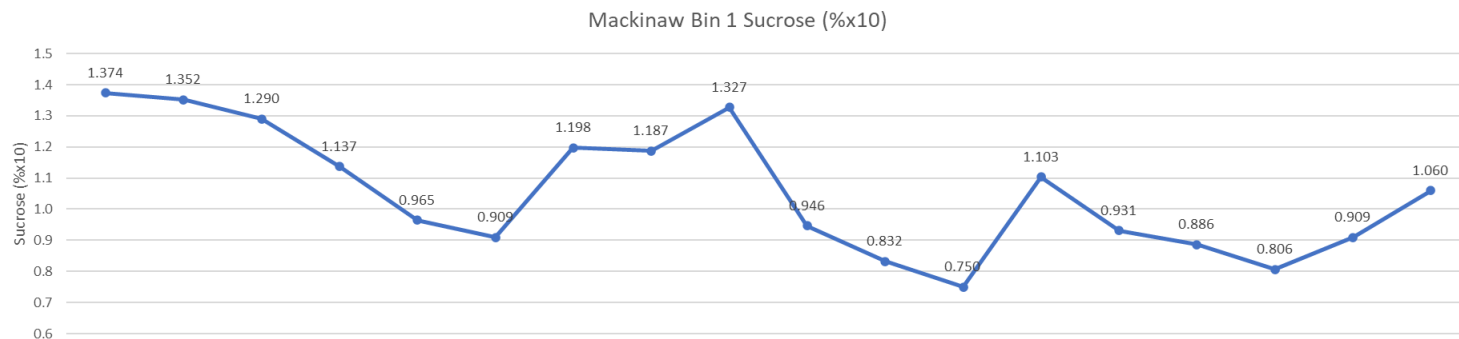
Harvest Date: 10/13/20

Harvest Pulp: 46.8 °F

SG: 1.088-1.094

Planting to Vine Kill CGDD₄₀: 3420

Bruise Free at Harvest: 32%





Mackinaw: 2020 NexGen Trial

2020-2021 MPIC Bulk Bin #1 Target 48.0 °F, Bruise Free at Harvest: 32%

Sample Date: 6/23/2021

SG: 1.088

SFA Color: 1.0

Sucrose: 1.060 %X10

Glucose: 0.001 %

Pulp Temp(F): 51.8

Undes: 0.0%

Intrn: 0.0%

Extrn: 10.7%

Green: 0.0%

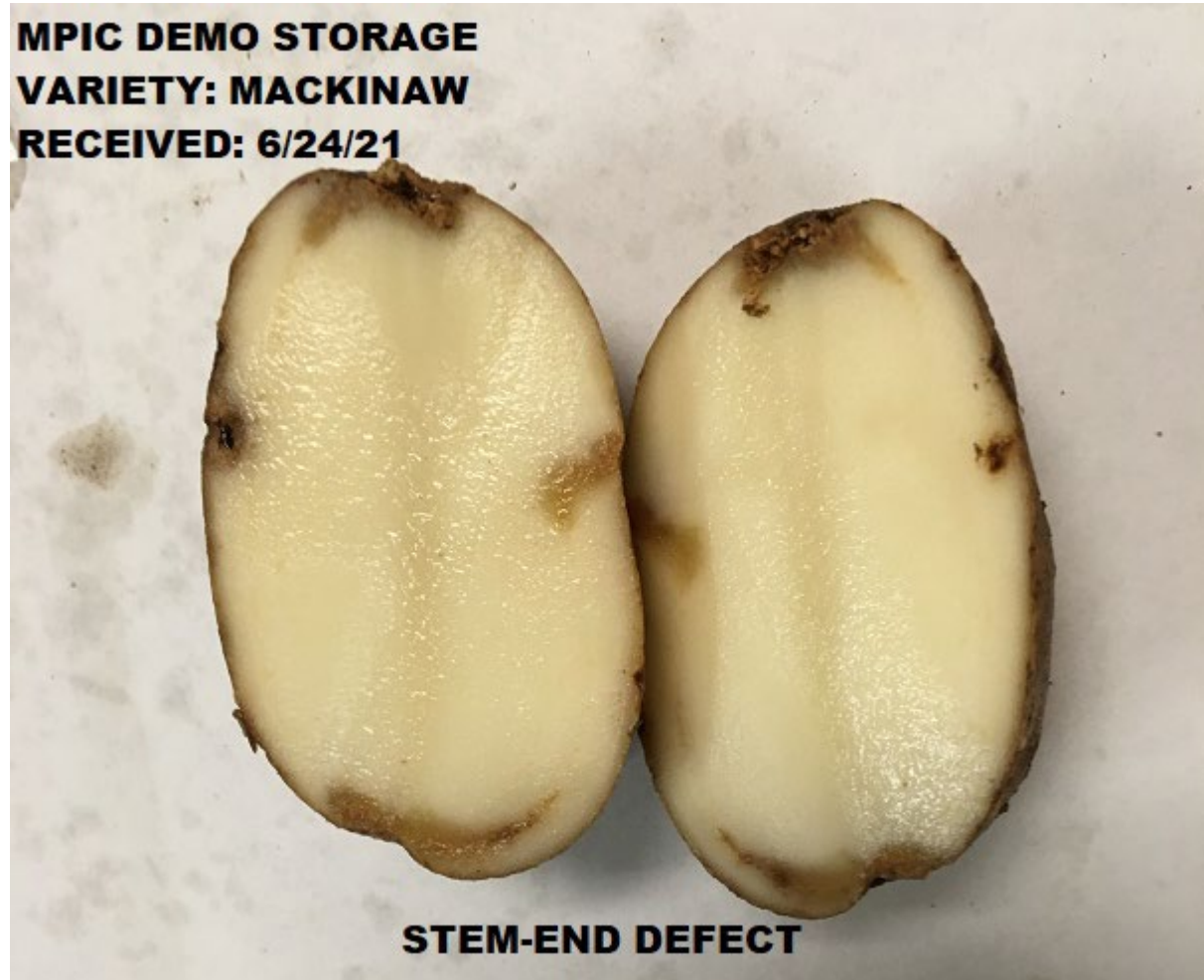
Tot. Def: 10.7%





Mackinaw: 2020 NexGen Trial

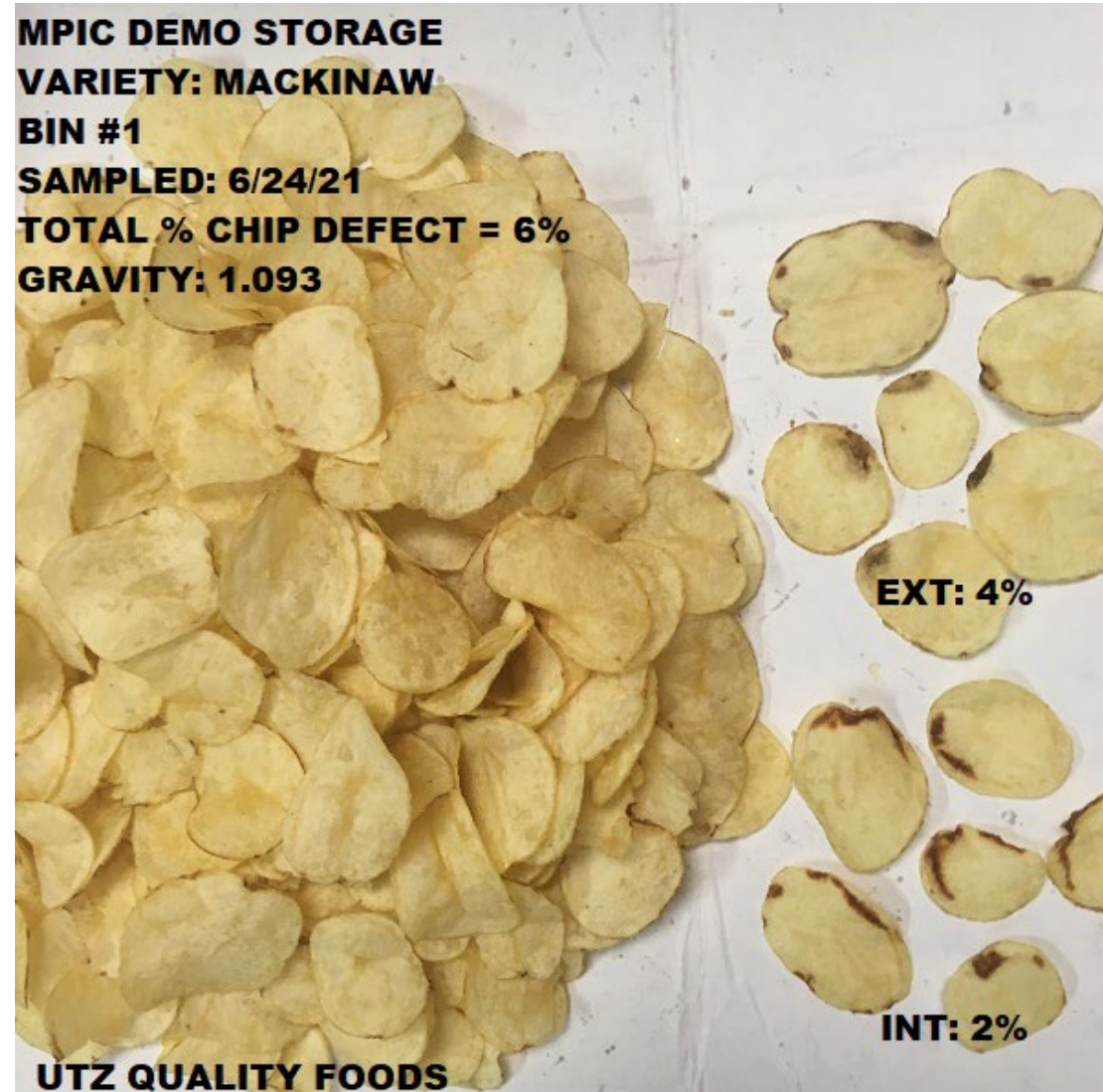
2020-2021 MPIC Bulk Bin #1 Target 48.0 °F, Bruise Free at Harvest: 32%





Mackinaw: 2020 NexGen Trial

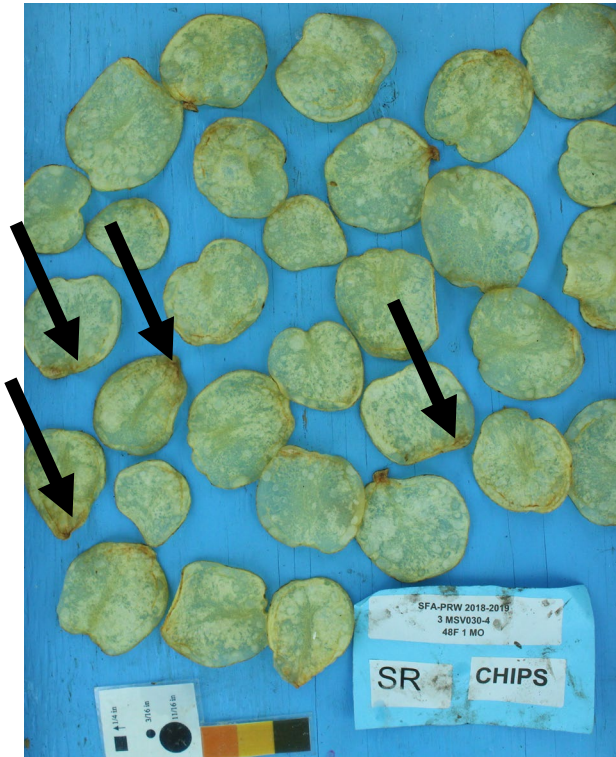
2020-2021 MPIC Bulk
Bin #1 Target 48.0 °F
Bruise Free at
Harvest: 32%





Petoskey: 2018 SNAC Trial

2018-2019 ND SNAC Storage Target 48.0 °F



Sample Date: 11.30.18
SG:1.092
Hunter L: 63.40
Sucrose: 0.941 mg/g
Glucose: 0.039 mg/g



Sample Date: 12.21.18
SG:1.091
Hunter L: 63.60
Sucrose: 0.626 mg/g
Glucose: 0.010 mg/g



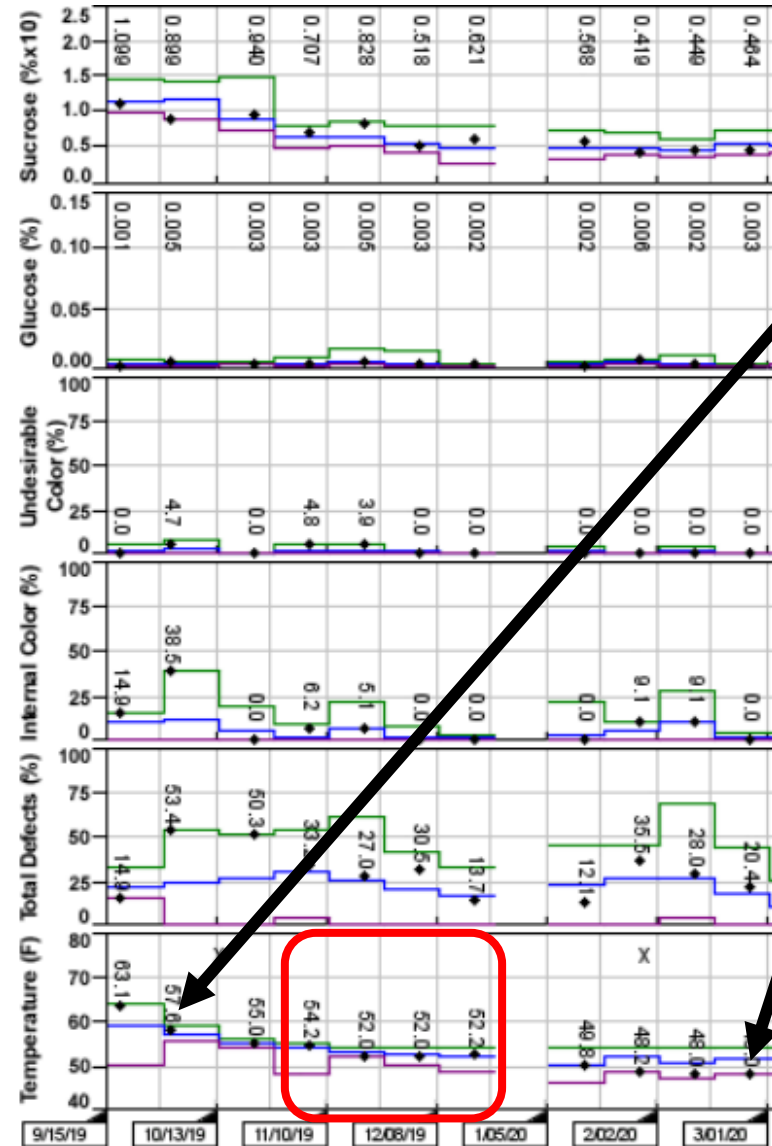
Sample Date: 2.25.19
SG:1.089
Hunter L: 66.50
Sucrose: 0.382 mg/g
Glucose: 0.018 mg/g



Petoskey: SED Cooling Curves #1

2019 Walther Cass City Crop

- Removed field heat
- Suberized
- **Preconditioned at 52 °F**
- Cooled to target 48 °F
- Reduced storability time
- Obtained chip quality in March

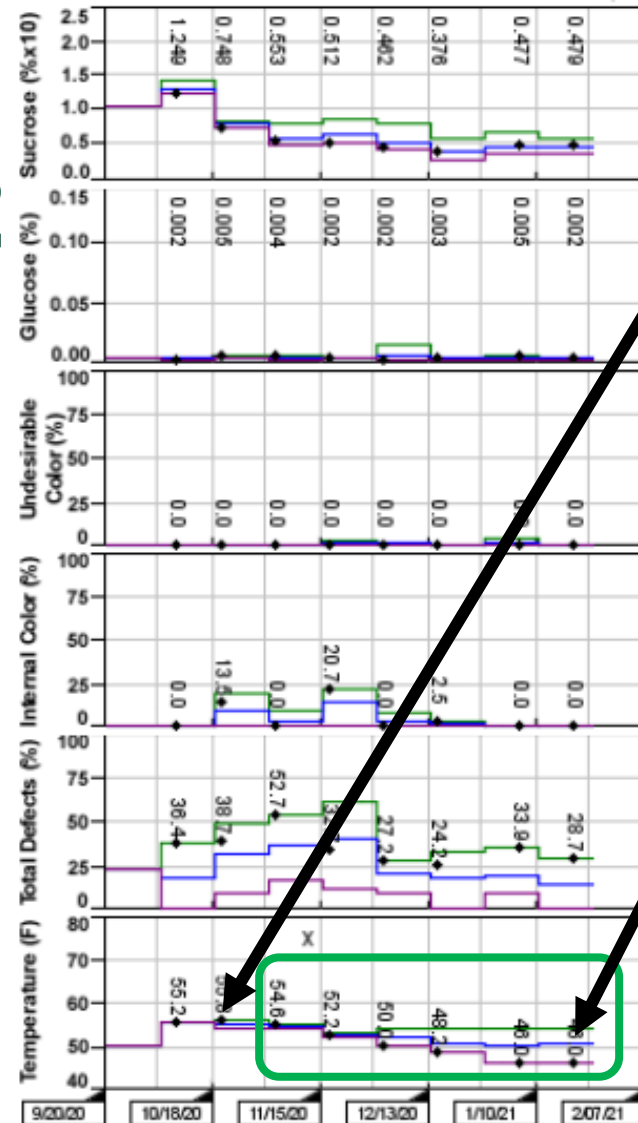




Petoskey: SED Cooling Curves #2

2020 Walther Cass City Crop

- Removed field heat
- Suberized
- Slow cooled to target temp 46 °F
- Increase storability time?
- Obtained chip quality in Feb?





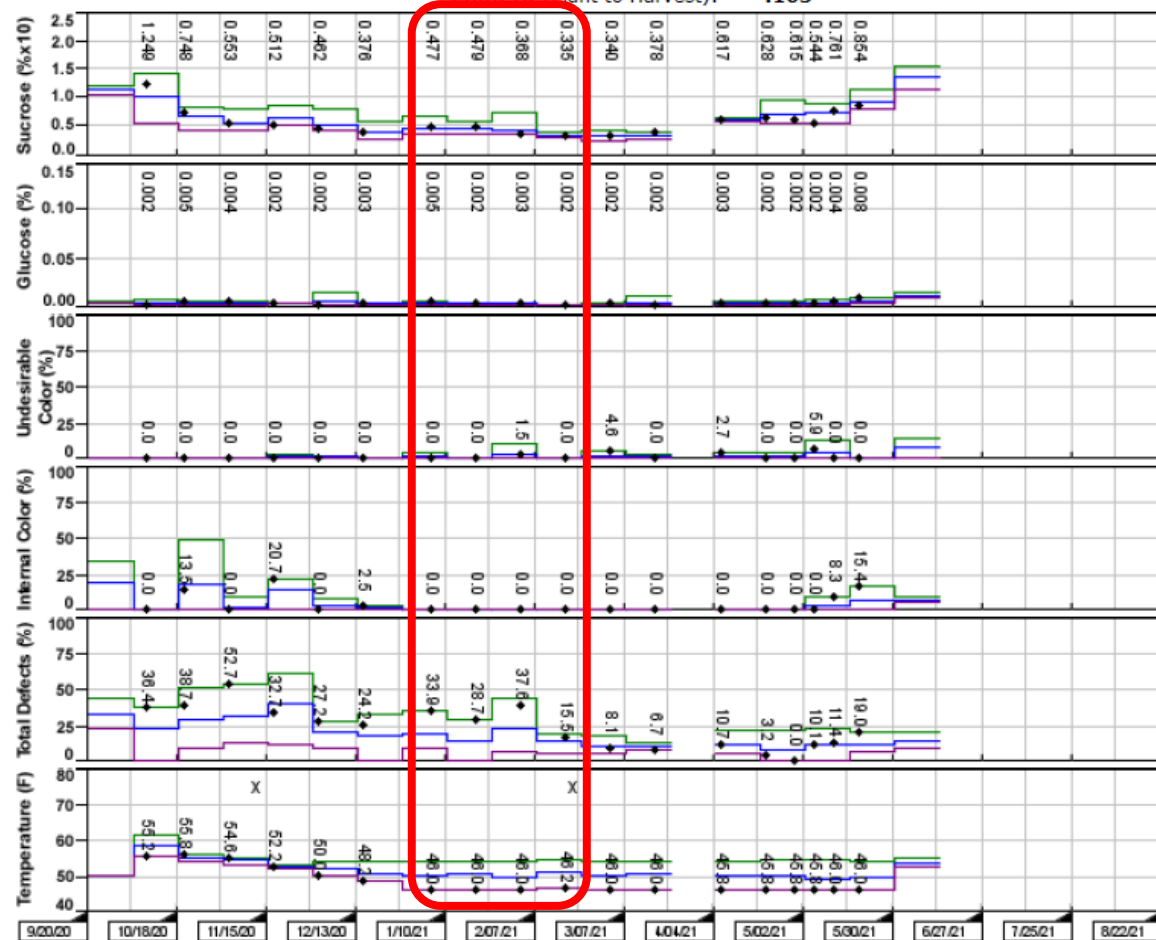
Petoskey: 2020 NexGen Trial

2020-2021 MPIC Bulk Bin #3
Target 46 °F

MI Potato Industry Commission Bin Bulk Bin 3



Variety: **Petoskey (MSV030-4)** Pre-Harvest: **8/13/2002** Sucrose: **0.482** Spec. Grav.: **1.087** Field Name: **Walther Cass City Bulk Bin**
Sample Date: **5/18/2021** Client Code:
Prev. Sample: **5/10/2021** Planting Date: **4/28/2020**
Last Gas: **2/19/2021 DMN and CIPC** Vine Kill Date: **9/2/2020**
Prev. Gas: **11/12/2020 CIPC** CGDD40 (Plant to Vine Kill): **3449** Harvest Pulp Temp, F: **55.2**
CGDD40 (Plant to Harvest): **4103** Last Harvest Date: **10/7/2020**

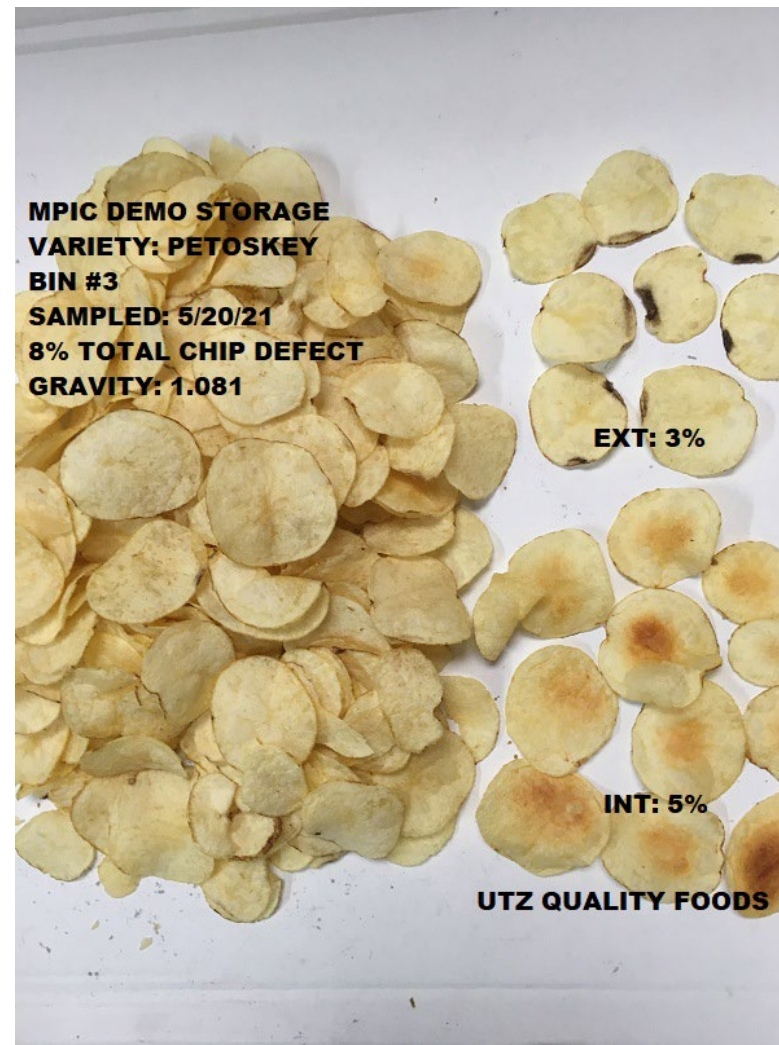


□ = stem end value X = gas application



Petoskey: 2020 NexGen Trial

2020-2021 MPIC Bulk Bin #3 Target 46.0 °F





MSAFB635-15 2022-2023 MI Box Bin Trial

Sample Date: 1.16.23
Storage Temp. 53.6 °F
SFA Color: 1.0
Sucrose: 0.587 mg/g
Glucose: 0.030 mg/g
Undes: 0.0%
Intrn: 0.0%
Extrn: 0.0%
Green: 0.0%
Tot. Def: 0.0%





Storage Chip Overview

Lamoka and Snowden Replacement Storage

- MSAA076-6
- MSAA260-3
- **MSBB058-1- High SG, scab tolerant, chip quality**
- **MSBB630-2 – PVY, LB and scab tolerant**
- **MSZ242-13 – High SG, scab tolerant**
- **NY174 – High yield, good SG, scab tolerant**
- ND13220C-3
- NY177





MSU POP Trials Medius.re Data; Compare

- 15 trial locations
- 7-year averages
- variable trial records

MSUC								
7 years selected				15 trial blocks selected				
	Lamoka	Snowden	MSAA076-6	MSAA260-03	MSBB058-1	MSBB630-2	MSZ242-13	NY174
Trial								
Variety Records	53	69	15	13	11	1	43	14
Research Data								
Yield No1	403	455	488	520	412	461	403	576
Yield Total	457	521	577	557	469	525	447	623
% No1	87.7%	86.3%	84.1%	93.5%	87.1%	88.0%	89.4%	92.1%
Size Small	8.5%	11.8%	13.1%	5.3%	9.9%	9.0%	6.6%	6.4%
Size Mid	83.1%	83.4%	84.1%	92.0%	86.5%	88.0%	85.5%	91.9%
Size Large	4.6%	2.9%	0.0%	1.5%	0.6%	0.0%	3.9%	0.3%
Specific Gravity	1.081	1.083	1.087	1.082	1.092	1.083	1.091	1.086
SFA Chip Color	1.4	1.3	1.1	1.2	1.1	1.1	1.4	1.1
Hollow Heart	1.2%	5.2%	2.9%	1.5%	1.8%	0.0%	2.7%	0.9%
Vascular Discoloration	7.4%	11.2%	7.9%	8.2%	6.0%	0.0%	2.2%	5.7%
Internal Brown Spots	1.1%	2.3%	14.8%	13.1%	0.9%	0.0%	2.8%	5.7%
Brown Center	0.7%	0.5%	1.4%	8.8%	0.0%	0.0%	0.0%	0.0%
Common Scab Rating	1.0	1.6	0.8	1.2	0.9	0.5	0.6	0.5
Stem End Defect	0.6	0.5	0.4	0.9	0.3	0.3	0.5	0.6
Vine Maturity	2.6	2.8	2.8	2.8	2.5	2.0	3.1	3.0



MSBB058-1

2022-2023 MI Box Bin Trial

Sample Date: 1.16.23
Storage Temp. 53.6 °F
SFA Color: 1.0
Sucrose: 0.331 mg/g
Glucose: 0.010 mg/g
Undes: 0.0%
Intrn: 4.4%
Extrn: 4.0%
Green: 2.1%
Tot. Def: 10.4%





MSBB630-2

2022-2023 MI Box Bin Trial

Sample Date: 1.16.23
Storage Temp. 53.6 °F
SFA Color: 1.0
Sucrose: 0.232 mg/g
Glucose: 0.020 mg/g
Undes: 0.0%
Intrn: 10.2%
Extrn: 0.0%
Green: 2.5%
Tot. Def: 12.7%





NY174

2022-2023 MI Box Bin Trial

Sample Date: 1.16.23

Storage Temp. 53.6 °F

SFA Color: 1.0

Sucrose: 0.411 mg/g

Glucose: 0.030 mg/g

Undes: 0.0%

Intrn: 5.9%

Extrn: 12.4%

Green: 2.3%

Tot. Def: 20.6%





MSZ242-13

2022-2023 MI Box Bin Trial

Sample Date: 1.16.23

Storage Temp. 53.6 °F

SFA Color: 1.0

Sucrose: 0.445 mg/g

Glucose: 0.020 mg/g

Undes: 0.0%

Intrn: 0.0%

Extrn: 12.6%

Green: 0.0%

Tot. Def: 12.6%





SNAC Trial Medius.re Data; Compare

- 4 Fresh trial locations
- 3-year averages

SNAC				
2022, 2021, 2020		4 trial blocks selected		
		Atlantic	Snowden	MSZ242-13
Trial				
Variety Records	11	11	11	
Field Data				
Specific Gravity	1.084	1.081	1.086	1.###
Tubers/Plant	10.7	10.9	7.8	
Yield No1	353.6	328.9	282.3	cwt/A
% No1	87.1%	84.9%	87.3%	%
Size Small	11.5%	14.4%	11.7%	%
Size Mid	86.3%	83.5%	85.0%	%
Size Large	2.4%	1.0%	1.8%	%
Hollow Heart	0%	0%	0%	%
Brown Center	4.0%	3.8%	2.0%	%
Heat Necrosis	0.0%	0.0%	1.3%	%
Process Data				
Specific Gravity	1.087	1.085	1.091	1.###
SFA Chip Color	1.2	1.1	1.3	
Defect Total	6.1%	4.2%	5.0%	%



SNAC Trial Medius.re Data; Compare

- 8 Storage trial locations
- 3-year averages

SNAC				
2022, 2021, 2020		8 trial blocks selected		
	Lamoka	Snowden	MSZ242-13	
Trial				
Variety Records	24	24	24	
Field Data				
Specific Gravity	1.088	1.087	1.100	1.###
Tubers/Plant	8.0	9.6	7.5	
Yield No1	362.0	372.9	358.9	cwt/A
% No1	85.7%	82.0%	85.6%	%
Size Small	10.3%	15.8%	7.8%	%
Size Mid	80.3%	77.3%	75.6%	%
Size Large	6.7%	5.1%	12.2%	%
Hollow Heart	0%	4%	0%	%
Brown Center	1.6%	6.4%	0.0%	%
Heat Necrosis	1.4%	0.0%	0.3%	%
Process Data				
Specific Gravity	1.081	1.082	1.090	1.###
SFA Chip Color	2.3	2.4	2.4	
Defect Total	12.2%	11.0%	10.6%	%



MSU POP Trials Medius.re Data; Compare

- 15 trial locations
- 7-year averages
- variable trial records

MSUC				
7 years selected		15 trial blocks selected		
	Lamoka	Snowden	MSZ242-13	
Trial				
Variety Records	53	69	43	
Research Data				
Yield No1	403	455	403	cwt/A
Yield Total	457	521	447	cwt/A
% No1	87.7%	86.3%	89.4%	%
Size Small	8.5%	11.8%	6.6%	%
Size Mid	83.1%	83.4%	85.5%	%
Size Large	4.6%	2.9%	3.9%	%
Specific Gravity	1.081	1.083	1.091	1.###
SFA Chip Color	1.4	1.3	1.4	
Hollow Heart	1.2%	5.2%	2.7%	%
Vascular Discoloration	7.4%	11.2%	2.2%	%
Internal Brown Spots	1.1%	2.3%	2.8%	%
Brown Center	0.7%	0.5%	0.0%	%
Common Scab Rating	1.0	1.6	0.6	
Stem End Defect	0.6	0.5	0.5	
Vine Maturity	2.6	2.8	3.1	



Outline

- Yellow flesh
- Russets
- Red skin





Yellow Flesh Overview

(Common Scab tolerant, Smooth Skin Type)

- **Colomba (HZPC) - Very early harvest**
- **Golden Globe (Norika Am.) - Early to mid-season harvest**
- **W15240-2Y (U. of Wis.) - Mid-season harvest**
- Constance (Parkland, AGRICO.) - Full season harvest
- Christel (Norika Am.) - Full season harvest
- PSS09/118/6 (SunRain) - Full season harvest
- **W15248-17Y (U. of Wis.) - Mid-season harvest**
- Queen Ann (Solanum-Int.) - Full season storage



MSU POP Trials Medius.re Data; Compare

- 16 trial locations
- 6-year averages
- variable trial records

MSUT								
6 years selected			16 trial blocks selected					
	Yukon Gold	Jelly	Colomba	Golden Globe	W13103-2Y	W15240-2Y	W15248-17Y	
Trial								
Variety Records	41	16	17	19	7	16	7	
Research Data								
Yield No1	364	433	540	446	422	399	326	cwt/A
Yield Total	417	506	611	540	474	512	405	cwt/A
% No1	86.1%	84.4%	87.6%	81.9%	88.3%	76.8%	69.0%	
Size Small	8.1%	10.8%	9.8%	12.7%	11.1%	20.3%	18.7%	
Size Mid	81.6%	81.6%	85.2%	81.3%	86.4%	76.8%	79.4%	
Size Large	4.4%	2.9%	2.4%	0.6%	1.9%	0.0%	0.0%	
% Culls	5.9%	4.8%	2.6%	5.4%	0.6%	2.9%	1.9%	
Specific Gravity	1.079	1.076	1.053	1.064	1.061	1.062	1.053	1.###
Hollow Heart	15.6%	1.3%	0.0%	1.1%	0.0%	0.0%	0.0%	
Vascular Discoloration	7.0%	23.4%	4.9%	6.3%	5.7%	4.8%	3.3%	
Internal Brown Spots	1.1%	0.0%	0.6%	0.5%	2.9%	3.3%	0.0%	
Brown Center	2.0%	0.6%	0.0%	0.0%	0.0%	0.6%	0.0%	
Common Scab Rating	1.3	0.7	0.6	0.6	0.8	1.0	0.3	
Plant Vigor	3.2	3.5	4.1	4.0	3.6	3.5	3.5	
Vine Maturity	2.5	3.9	1.9	2.2	2.5	2.5	2.3	
Yellow Skin Waxiness	2.8	2.7	3.6	3.4	3.5	3.5	3.7	
Yellow Skin Flesh Color	2.6	3.5	2.4	2.7	3.9	3.0	3.9	



Colomba, HZPC

Light Golden Skin and Flesh, Early Harvest (Carrera X Agata)

**Colomba:
2022 Styma**



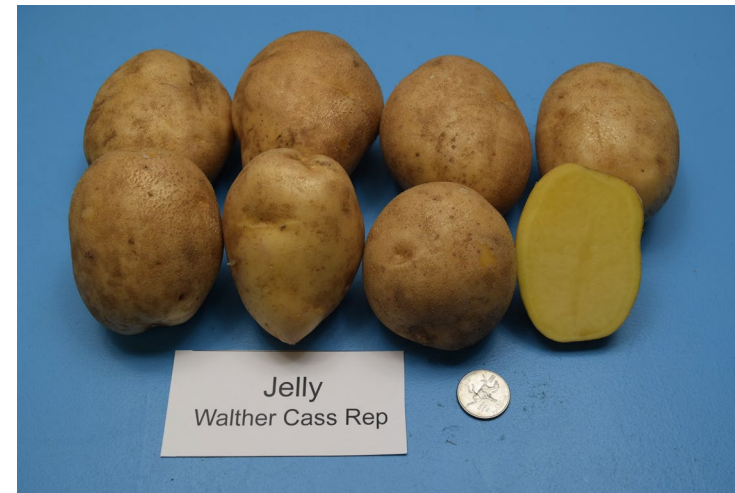
**Jelly:
2022 Styma**



**Colomba:
2022 Walther,
Mid-Michigan**



**Jelly:
2022 Walther,
Mid-Michigan**





Golden Globe, Norika America

Light Golden Skin and Flesh, Early Harvest (Berber X 2.6 720-86)

**Golden Globe:
2022 Styma**



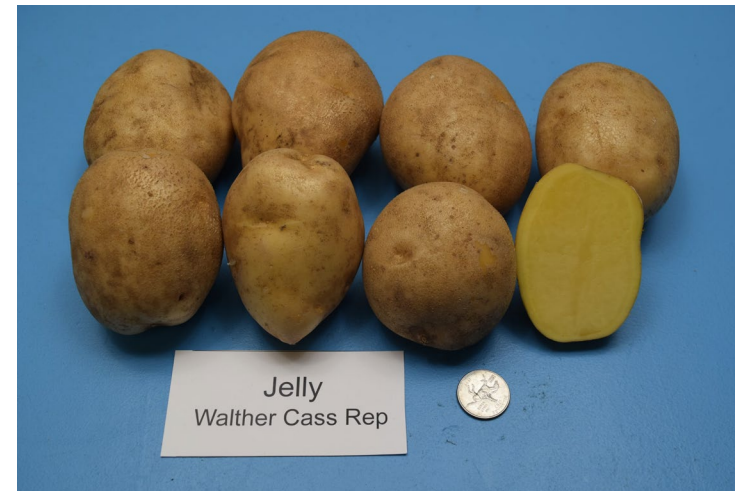
**Jelly:
2022 Styma**



**Golden Globe:
2022 Walther,
Mid-Michigan**



**Jelly:
2022 Walther,
Mid-Michigan**





W15240-2Y, Univ. of Wisconsin

Golden Skin and Flesh, Full Season Harvest (NW64-6 X W9576-11Y)

**W15240-2Y:
2022 Jenkin's**



**Jelly:
2022 Jenkin's**



**W15240-2Y:
2022 Kitchen's**



**Jelly:
2022 Kitchen's**





W15248-17Y, Univ. of Wisconsin

Golden Skin and Flesh, Full Season Harvest (Oneida Gold X W9576-13Y)

**W15248-17Y:
2022 Jenkin's**



**Jelly:
2022 Jenkin's**



**W15248-17Y:
2022 Kitchen's**



**Jelly:
2022 Kitchen's**





Yellow Flesh Overview

(Slight Netted Appearance)

- Allora (Norika Am.) – Pear shapes
- W13103-2Y (U. of Wis.) – Uniform round
- Jelly (SunRain) - Storage check, netted skin, pear shapes



Allora
Styma Table



W13103-2Y
Styma Table



Jelly
Styma Table



W13103-2Y, Univ. of Wisconsin

Golden Skin and Flesh, Full Season Harvest (Soraya X W9576-4Y)

**W13103-2Y:
2022 Jenkin's**



**Jelly:
2022 Jenkin's**



**W13103-2Y:
2022 Kitchen's**



**Jelly:
2022 Kitchen's**

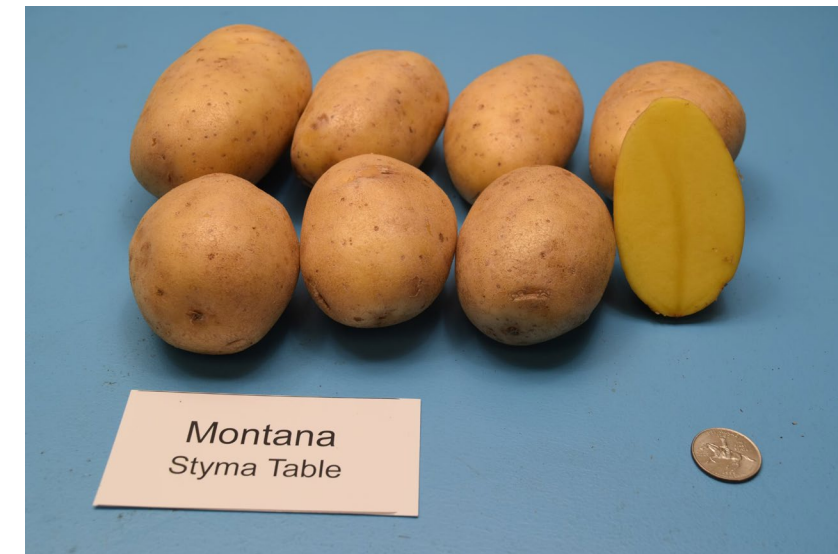




Yellow Flesh Overview

(Common Scab Susceptible)

- **Natascha (Solana-Hanse) -**
- **Yukon Gold (AGCA.) - Storage check**
- **Danina (SunRain) -**
- **Montana (SunRain) -**

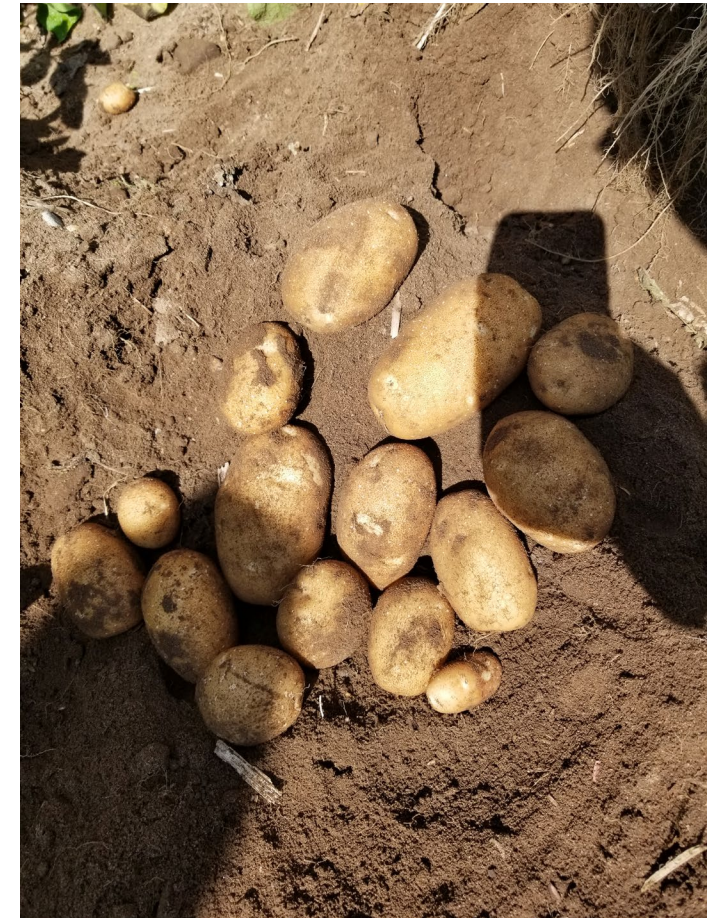




Russet Overview

(Common Scab Tolerant, Blocky Tuber Type, less HH than RN)

- **A12327-5VR** – High yield, blocky
- **AF6855-4** – High yield blocky
- **W13A11229-1Rus** – Uniform type
- **W13008-1Rus** - Earliness
- **A08433-4STO** – High yielding, blocky
- **CO10085-1Rus** – High SG



A08433-4STO, Walther's Newberry



MSU POP Trials Medius.re Data; Compare

- 19 trial locations
- 5-year averages
- variable trial records

MSUR										
2022, 2021, 2020, 2019, 2018					19 trial blocks selected					
		Goldrush	Russet Norkotah	Silverton Russet	A12327-5VR	AF6855-4	W13A11229-1rus	W13008-1RUS	A08433-4sto	CO10085-1RUS
Trial										
Variety Records		23	46	47	12	2	20	8	44	19
Research Data										
Yield No1		303	367	420	552	542	438	447	459	357
Yield Total		443	483	504	669	636	550	522	569	495
% No1		67.1%	74.0%	82.5%	82.7%	85.0%	77.2%	84.4%	78.9%	71.4%
Size Small		18.9%	16.5%	11.1%	6.7%	11.0%	19.1%	11.6%	12.8%	18.8%
Size Mid		60.2%	62.4%	67.5%	50.8%	71.5%	73.7%	67.4%	67.3%	65.3%
Size Large		7.2%	11.6%	15.0%	31.9%	13.5%	3.6%	17.0%	11.6%	6.2%
% Culls		14.0%	9.5%	6.4%	10.6%	4.0%	3.7%	4.1%	8.3%	9.8%
Specific Gravity		1.070	1.072	1.070	1.076	1.082	1.084	1.075	1.077	1.084
Hollow Heart		6.1%	24.8%	8.2%	10.3%	10.0%	13.0%	0.0%	11.6%	1.8%
Vascular Discoloration		5.7%	9.6%	6.2%	7.5%	0.0%	6.5%	6.9%	4.5%	2.6%
Internal Brown Spots		0.0%	0.2%	5.0%	4.2%	0.0%	0.5%	0.6%	0.5%	2.6%
Brown Center		0.0%	1.2%	1.9%	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%
Common Scab Rating		0.0	0.5	0.3	0.2	0.5	0.6	0.4	0.4	0.8
Plant Vigor		3.0	3.0	3.4	3.6	3.0	3.1	4.2	3.1	3.5
Vine Maturity		2.5	2.8	3.3	3.2	2.8	3.0	2.5	3.8	3.3



A12327-5VR

High Yield, Scab and PVY Tolerant, Heavy Skin (A06862-11VR X La Belle Russet)

**A12327-5VR:
2022 Kitchen's**



**Silverton Russet:
2022 Kitchen's**



**A12327-5VR:
2022 Walther Rep.,
Three Rivers**



**Silverton Russet:
2022 Walther Rep.,
Three Rivers**





AF6855-4

Dual Purpose, High Yield, Flat Blocky Tuber Type, Common Scab Tolerant (AF5071-2 X AF4296-3)

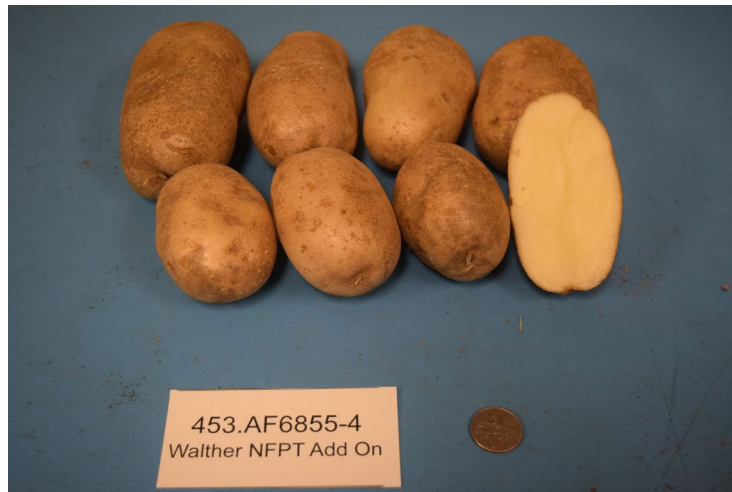
**AF6855-4:
2022 Lennard's**



**Silverton Russet:
2022 Lennard's**



**AF6855-4:
2022 Walther,
Three Rivers**



**Silverton Russet:
2022 Walther Rep.,
Three Rivers**





W13A11229-1Rus (Portage Russet)

Dual Purpose, High SG and Yield, Flat Blocky Oblong Tuber Type (A01325-1 X A06131-19)

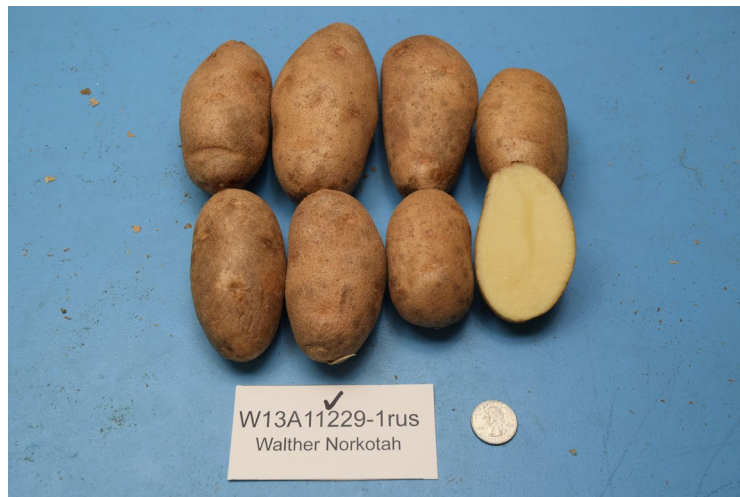
**W13A11229-1Rus:
2022 4-L Farms**



**Silverton Russet:
2022 4-L Farms**



**W13A11229-1Rus:
2022 Walther Rep.,
Three Rivers**



**Silverton Russet:
2022 Walther Rep.,
Three Rivers**





W13008-1Rus

Earliness, Above Average Yield, Flat Blocky Oblong Tuber Type ()

W13008-1Rus:
2022 4-L Farms



Silverton Russet:
2022 4-L Farms



W13008-1Rus:
2022 Walther Rep.,
Three Rivers



Silverton Russet:
2022 Walther Rep.,
Three Rivers





A08433-4STO

Flat Block Tuber Type, Full Season Harvest (A01667-3 X Dakota Trailblazer)

**A08433-4STO:
2022 Kitchen's**



**Silverton Russet:
2022 Kitchen's**



**A08433-4STO:
2022 Walther Rep.,
Three Rivers**



**Silverton Russet:
2022 Walther Rep.,
Three Rivers**





CO10085-1Rus

High SG, Full Season Harvest (CO03364-5Rus X Silverton Russet)

**CO10085-1Rus:
2022 Kitchen's**



**Silverton Russet:
2022 Kitchen's**



**CO10085-1Rus:
2022 Walther Rep.,
Three Rivers**



**Silverton Russet:
2022 Walther Rep.,
Three Rivers**





Red Skin, White Flesh Overview

(Common Scab Tolerant, Bright and Uniform Red Skin)

- **NDAF113484B-1** – Mid-season maturity, slight eyebrows
- **NDA050237B-1R** – Late-season maturity, uniform round
- **AAF11546-3** – Mid-season maturity, slight deeper eyes
- **MSCC553-1R** – Full season, smaller uniform tuber type, PVY resistant





MSU POP Trials Medius.re Data; Compare

- 16 trial locations
- 5-year averages
- variable trial records

MSUT						
2022, 2021, 2020, 2019, 2018			16 trial blocks selected			
		Dark Red Norland	NDAF113484B-1	NDA050237B-1R	AAF11546-3	MSCC553-1R
Trial						
Variety Records		39	27	18	3	6
Research Data						
Yield No1	347	421	437	371	298	cwt/A
Yield Total	412	479	509	458	355	cwt/A
% No1	83.2%	86.9%	86.2%	78.7%	85.3%	1.###
Size Small	13.1%	8.1%	13.5%	18.3%	13.5%	
Size Mid	82.0%	84.7%	83.0%	78.3%	83.0%	
Size Large	0.8%	2.0%	1.6%	0.7%	0.3%	
% Culls	4.1%	5.2%	1.9%	2.7%	3.2%	
Specific Gravity	1.061	1.062	1.063	1.057	1.074	
Hollow Heart	1.9%	0.0%	0.6%	0.0%	1.7%	
Vascular Discoloration	8.3%	11.0%	8.9%	10.0%	10.0%	
Internal Brown Spots	2.4%	2.3%	1.1%	0.0%	0.0%	
Brown Center	0.0%	0.8%	0.6%	0.0%	0.0%	
Common Scab Rating	0.4	0.5	0.6	0.1	0.3	
Plant Vigor	3.6	3.2	3.4	3.5	3.6	
Vine Maturity	1.8	2.6	3.9	2.6	3.0	
Red Skin Waxiness	3.0	3.2	3.6	3.2	3.0	
Red Skin Skin Color	3.1	3.5	4.1	4.0	4.2	
Red Skin Uniformity	2.7	3.8	4.1	4.0	4.1	
Red Skin Silver Scurf	2.5	2.5	2.1	1.1	0.8	



NDAF113484B-1

Uniform round to oval, Mid-Season Harvest (ND060570B-1R X ND8555-8R)

**NDAF113484B-1:
2022 4-L Farms**



**Dark Red Norland:
2022 4-L Farms**



**NDAF113484B-1:
2022 Walther Rep,
Mid-Michigan**



**Dark Red Norland:
2022 Walther Rep,
Mid-Michigan**





NDA050237B-1R, “Becca Rose”

Uniform Round, Late Harvest (ND028678-1RY X ND028770B-4R)

**NDA050237B-1R:
2022 4-L Farms**



**Dark Red Norland:
2022 4-L Farms**



**NDA050237B-1R:
2022 Walther Rep,
Mid-Michigan**



**Dark Red Norland:
2022 Walther Rep,
Mid-Michigan**





NDA050237B-1R ‘Becca Rose’

Red Skin, White Flesh for Long-Term Storage

ND028678-1RY X ND028770B-4R



Strengths

- Above average yield potential
- US#1 yield average 437 cwt/A (244-670), 3-year average
- Low percentage of internal defects
- Common and powdery scab tolerant
- Late blight tolerant
- Uniform round tuber type
- Dark, bright, uniform red skin color



NDA050237B-1R

Red Skin, White Flesh for Long-Term Storage

ND028678-1RY X ND028770B-4R

Weaknesses

- Late bulking
- Late vine maturity





NDA050237B-1R

Things to Learn About This Variety:

- What storage pathogens is it susceptible to?
- How cold and long can it be stored?
- How susceptible to silver surf is this variety?
- How well does this variety set and maintain skin?





AAF11546-3

Dark Red Skin, Round to Oval, Mid-Season Harvest (NDA050237B-1R X ND8555-8R)

**AAF11546-3:
2022 Horkey**



**Dark Red Norland:
2022 Horkey**



**AAF11546-3:
2022 Walther Rep,
Mid-Michigan**



**Dark Red Norland:
2022 Walther Rep,
Mid-Michigan**





MSCC553-1R

Small Uniform Round, Full Season Harvest (Red Marker #2 X ND7132-1R)

**MSCC553-1R:
2022 4-L Farms**



**MSCC553-1R:
Walther Rep.
Mid-Michigan**



**Dark Red Norland:
2022 4-L Farms**



**Dark Red Norland:
2022 Walther Rep,
Mid-Michigan**





https://msupotato.medius.re

Medius.Re x +

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Research. Reclaimed.

Michigan State University > Potato

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Dashboard

Reliable data. Collaborative insight. Better Decision.

8,939 Variety Records 12,769 Images 108 Documents

MICHIGAN STATE UNIVERSITY

TRIALS ANALYTICS DOCUMENTS COMPARISON

MICHIGAN STATE UNIVERSITY TRIAL GROUPS

MSU Chip Trials

- MSU Russet Trials
- MSU Tablestock Trials
- MPIC Research Trials

MSU CHIP TRIALS

MSUC

General	
Replicates	string

Research Data	
Partner	id
Partner Location	id
Planting Date	weather_start_date
VineKill Date	datetime
Harvest Date	weather_end_date
Yield No1	cwt/Å ① number
Yield Total	cwt/Å number
% No1	% percent
Size Small	% ① percent
Size Mid	% ① percent

Trials Analytics Comparison Documents

Find Variety..

LATEST MSUC TRIALS

2022 > MSUC > Sandyland
MRC 2022 Bulk Bin 2 Sandyland
Research Data Plot Images

2022 > MSUC > Sandyland
Sandyland 2022 SNAC Storage Chip Trial
MSU-MI | Sandyland
Research Data Storage Plot Images

2021 > MSUC > MSU-MI
2021 Black Spot Bruise Chip Trial
MSU-MI
Plot Images

2022 > MSUC > MSU-MI
MRC 2022 Chip Box Bin Trial
MSU-MI
Plot Images

2022 > MSUC > Hampton - Storage
Hampton 2022 Storage Chip Trial
MSU-MI | Hampton Potato Growers
Research Data

2021 TO 2022 SNAC OUT OF STORAGE REPORT

Michigan State University Montcalm Research Center
MPIC Demonstration Storage

Investigators: Chris Long, Potato Extension Specialist, longch@msu.edu
Trina VanAtta, Research Assistant, trvanatta@msu.edu
Damen Kurzer, Research Technician, kurzerda@msu.edu

Objective: To assess the storability of seven chipping varieties by evaluating sugar concentrations, chip color, and visual defects during storage.

Materials and Methods:
The MSU Potato Outreach Program planted seed at Sandyland Farms, LLC, in Howard City, MI on May 17, 2021 at 10" within row spacing and 34" between row spacing. Vine kill

RECENTLY SEARCHED VARIETIES

W1512S-4	Atlantic x W10670-3	
Atlantic	Waukegan x Lenape	
USDA-MD		
W13A1122S-1rus	University of Wisconsin	
W1524B-17Y	University of Wisconsin	Oneda Gold x W9576-13Y

Williamston

36°F

overcast clouds

overcast clouds	moderate rain	broken clouds
37°F	39°F	33°F
Wed - Jan 18	Thu - Jan 19	Fri - Jan 20

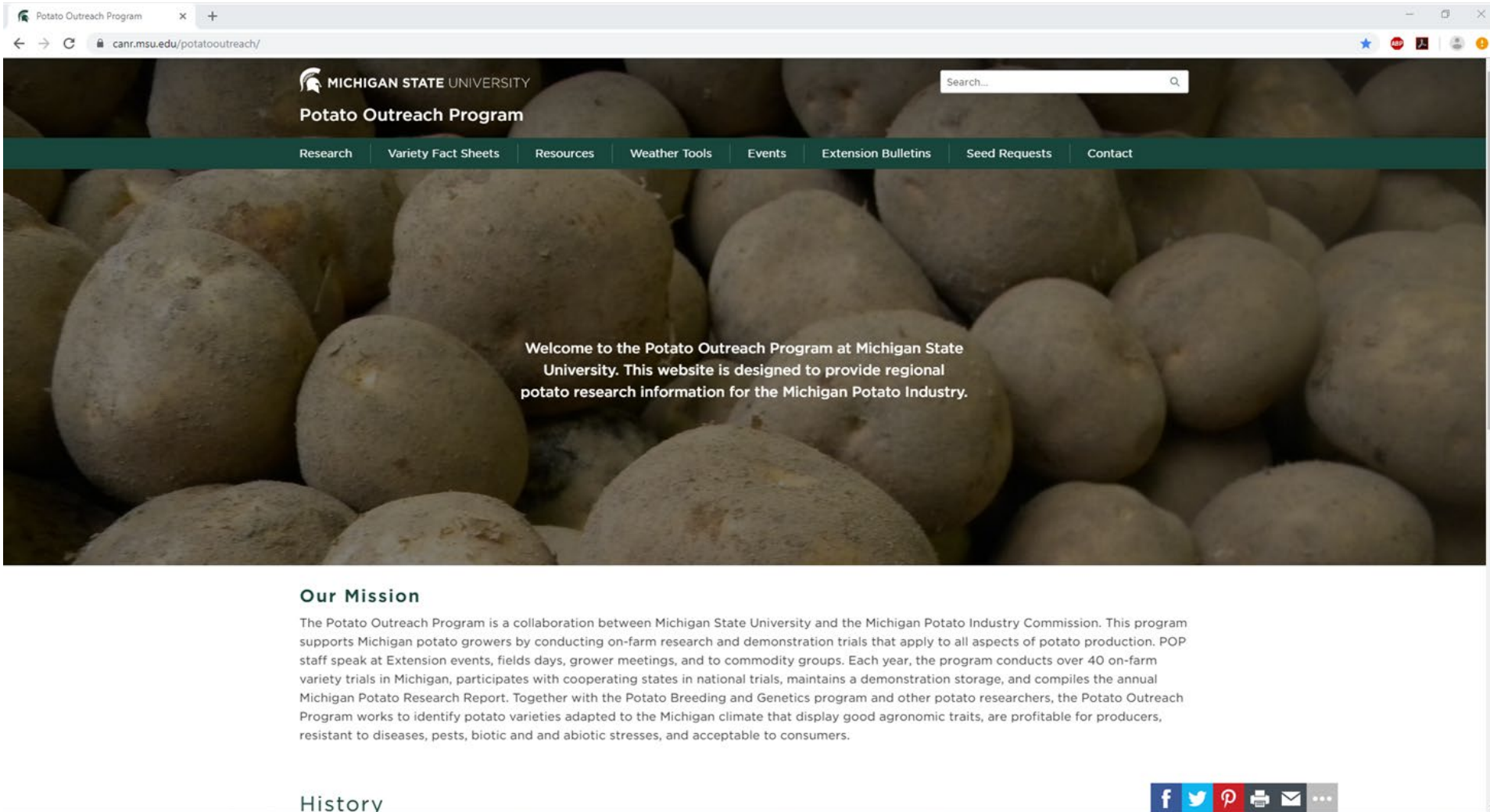
DATA STRUCTURE - EXPLAINED

Trial Groups

Trial Groups are the top tier of the research data structure. Each trial group contains a pre-defined set of data fields that make the data collected within it consistent. Trial groups are often used to separate different categories within a commodity, different research focus or to distinguish between researches work.



<https://canr.msu.edu/potatooutreach/>





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- MPIC
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Ian Smith

