

Colorado Potato Certification Service

Annual Summary

2019 Crop

In conjunction with CCPGA Annual Meeting – February 3, 2020



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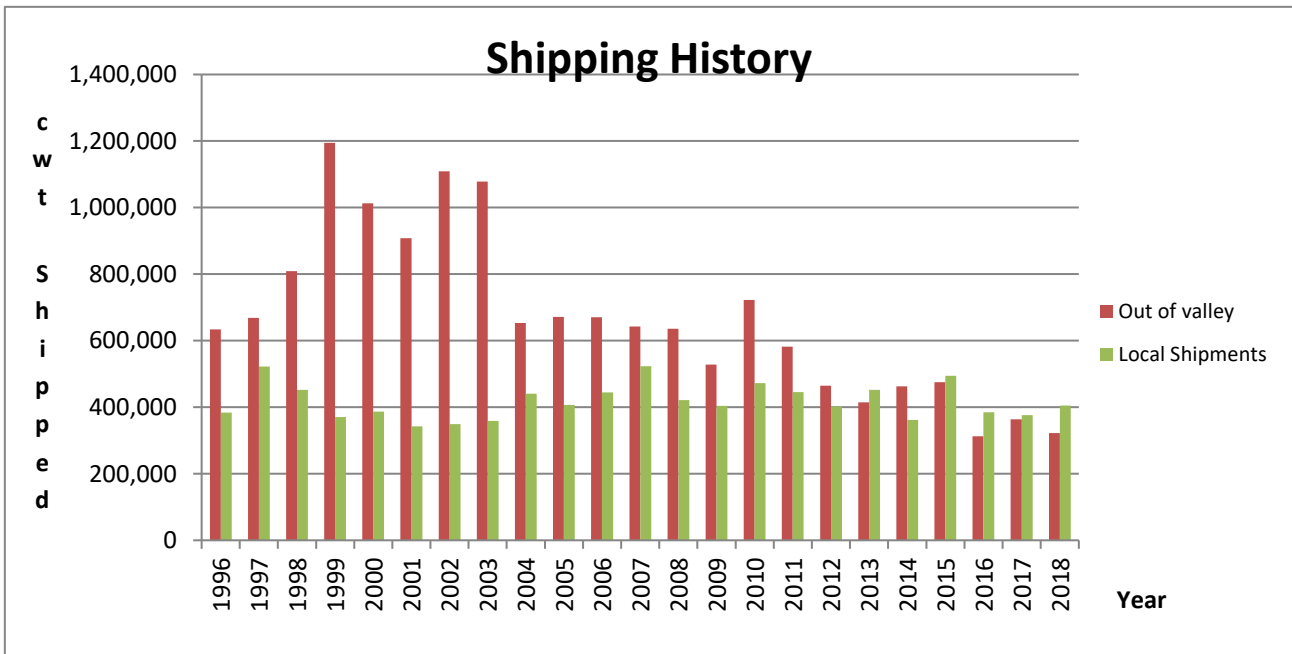
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Bulk Shipment History

Year	Out of valley	% Out of Valley	Local Shipments	% Local	Totals	Acres Accepted
1996	634,075	62%	383,931	38%	1,018,006	12,164
1997	668,790	56%	522,298	44%	1,191,088	10,724
1998	809,081	64%	451,906	36%	1,260,987	13,400
1999	1,194,801	76%	370,519	24%	1,565,320	14,150
2000	1,013,069	72%	386,727	28%	1,399,796	15,932
2001	907,683	73%	342,880	27%	1,250,563	13,031
2002	1,109,101	76%	349,678	24%	1,458,779	15,106
2003	1,078,482	75%	359,283	25%	1,437,765	13,197
2004	652,760	60%	441,006	40%	1,093,766	12,492
2005	670,933	62%	407,103	38%	1,078,036	12,813
2006	670,781	60%	443,984	40%	1,114,765	12,920
2007	642,893	55%	523,111	45%	1,166,004	10,786
2008	635,336	60%	421,660	40%	1,056,996	12,240
2009	527,789	57%	404,465	43%	932,254	11,520
2010	722,594	60%	471,898	40%	1,194,492	12,170
2011	581,880	57%	445,445	43%	1,027,325	13,286
2012	464,588	54%	401,741	46%	866,329	13,834
2013	414,425	48%	452,131	52%	866,556	9,737
2014	462,421	56%	361,573	44%	823,994	10,975
2015	474,953	49%	494,339	51%	969,292	9,357
2016	312,576	45%	385,134	55%	697,710	9,713
2017	364,110	49%	376,226	51%	740,336	8,413
2018	322,010	44%	404,833	56%	726,843	7,858

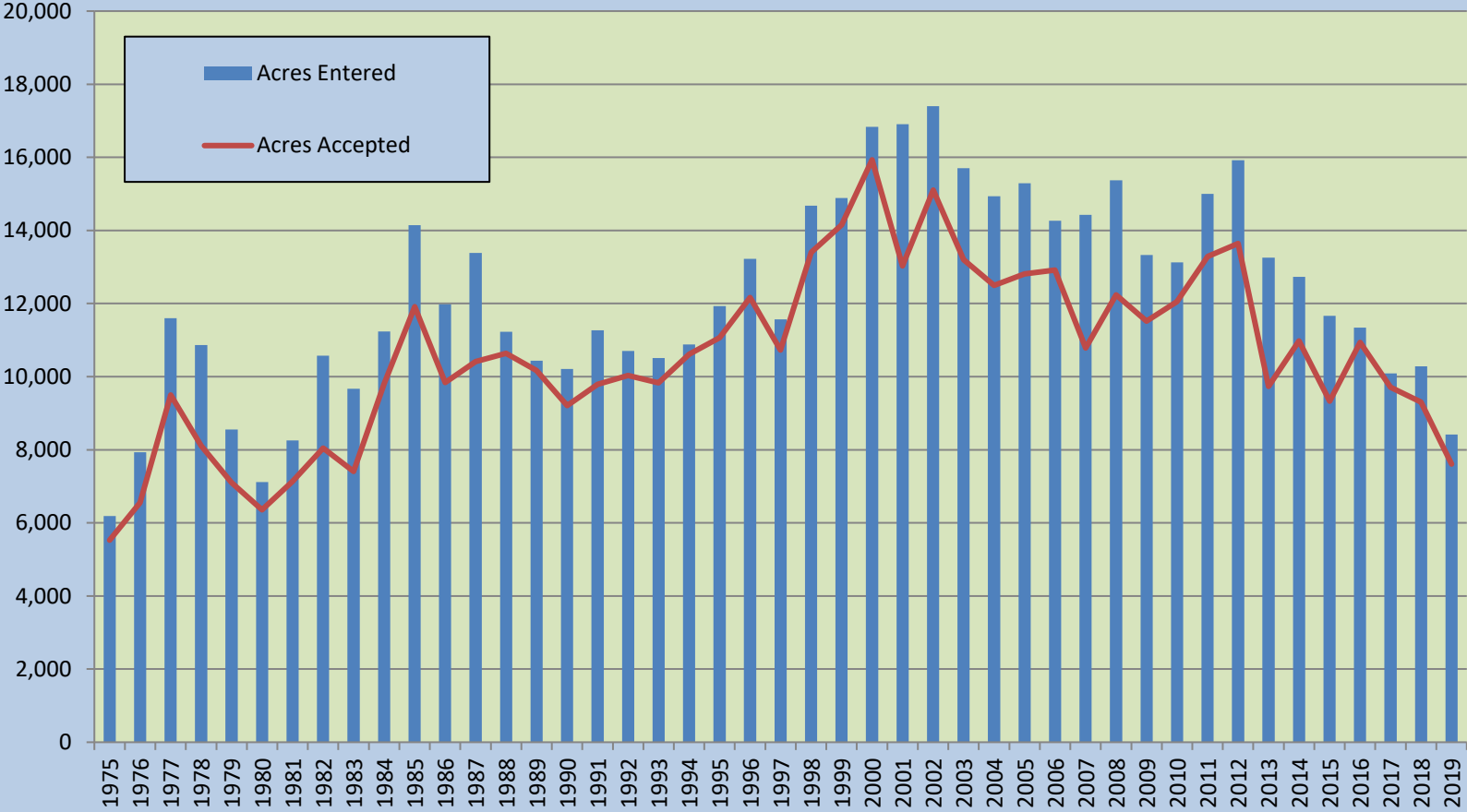


Colorado Potato Certification Program

Cumulative Results

Year	Acres Entered	Acres Approved	%	BRR	%	PLRV	%	MO	%	BL	%	Admin.	%
1975	6,184	5,527	89.4	135	2.2	392	6.3						
1976	7,931	6,555	82.7	638	8.0	380	4.8						
1977	11,597	9,497	81.9	1,143	9.9	497	4.3						
1978	10,867	8,108	74.6	532	4.9	1,854	17.1						
1979	8,552	7,099	83.0	157	1.8	458	5.4						
1980	7,113	6,358	89.4	470	6.6	10	0.1						
1981	8,256	7,140	86.5	452	5.5	236	2.9						
1982	10,572	8,048	76.1	1,375	13.0	634	6.0						
1983	9,671	7,408	76.6	1,437	14.0	697	7.2						
1984	11,233	9,795	87.2	1,133	10.1	254	2.3						
1985	14,142	11,913	84.2	1,754	12.4	35	0.2						
1986	11,977	9,840	82.2	1,780	14.9	1	0.0						
1987	13,385	10,413	77.8	2,387	17.8	14	0.1						
1988	11,224	10,636	94.8	406	3.6	0	0.0						
1989	10,438	10,166	97.3	37	0.4	0	0.0						
1990	10,210	9,210	90.2	763	7.4	16	0.2						
1991	11,271	9,790	86.8	577	5.1	155	1.4	198	1.80				
1992	10,702	10,034	93.8	203	1.9	80	0.7	0	0.00				
1993	10,508	9,834	93.6	259	2.5	0	0.0	213	2.00				
1994	10,878	10,610	97.6	72	0.7	3	0.1	75	0.70	10	0.10	108	1.00
1995	11,928	11,070	92.8	144	1.2	0	0.0	471	3.90	173	1.50	70	0.60
1996	13,225	12,164	95.4	269	2.0	0	0.0	50	0.40	0	0.00	190	1.40
1997	11,571	10,724	92.7	0	0.0	13	0.1	455	3.90	0	0.00	379	3.30
1998	14,678	13,400	91.3	0	0.0	31	0.2	493	3.40	94	0.60	660	4.50
1999	14,883	14,150	95.4	0	0.0	0	0.0	396	2.70	0	0.00	261	1.80
2000	16,831	15,932	94.7	146	0.9	7	0.1	397	2.40	46	0.30	303	1.80
2001	16,906	13,031	77.1	1,158	6.8	0	0.0	1,330	7.90	36	0.20	1,334	7.90
2002	17,400	15,106	86.8	895	5.1	2	0.1	1,013	5.80	122	0.70	259	1.50
2003	15,705	13,197	84.0	592	3.8	530	3.4	809	5.20	86	0.50	834	5.30
2004	14,933	12,492	83.7	254	1.7	151	1.0	1,393	9.30	37	0.20	452	3.00
2005	15,289	12,813	83.8	542	3.5	49	0.3	417	2.70	148	1.00	1,358	8.90
2006	14,268	12,920	90.6	0	0.0	0	0.0	518	3.60	228	1.60	602	4.20
2007	14,429	10,786	74.7	94	0.7	0	0.0	3,423	23.70	5	0.03	122	8.50
2008	15,373	12,240	79.6	0	0.0	0	0.0	3,034	19.70	68	0.40	29	0.20
2009	13,326	11,520	86.4	0	0.0	50	0.4	1,052	7.90	632	4.70	72	0.50
2010	13,122	12,053	91.8	245	1.9	0	0.0	459	3.50	187	1.40	177	1.30
2011	14,998	13,286	88.6	665	4.4	0	0.0	825	5.50	137	0.90	75	0.50
2012	15,918	13,641	85.6	0	0.0	0	0.0	1,578	9.90	243	1.50	385	2.40
2013	13,256	9,737	73.0	0	0.0	5	0.1	3,161	23.00	297	2.20	43	0.30
2014	12,730	10,975	86.2	0	0.0	2	0.0	1,206	9.50	213	1.70	102	0.80
2015	11,667	9,329	80.0	0	0.0	4	0.1	1,622	14.10	671	5.20	40	0.40
2016	11,341	10,938	96.4	0	0.0	0	0.0	148	0.01	194	0.02	48	0.01
2017	10,093	9,713	96.7	0	0.0	0	0.0	296	0.03	60	0.01	24	0.01
2018	10,282	9,306	90.5	0	0.0	0	0.0	533	0.05	177	0.02	147	0.01
2019	8,413	7,609	90.4	0	0	0	0.0	601	0.08	317	0.04	0.23	0.01

Acreege Entered vs Accepted



Acres Entered Comparison, Top 50 Cultivars by 2019 Acreage						
VARIETY	2014 Acreage	2015 Acreage	2016 Acreage	2017 Acreage	2018 Acreage	2019 Acreage
AC99330-1P/Y			22	36	38	20
Alegria	189	197	122	259	268	326
Apache						19
Asterix	71	47	9	13	60	36
Atlantic	194	158	229	255	174	216
Austrian Crescent	8	28	30	114	83	36
Banana					56	18
Bintje						15
Canela Russet	1567	1681	970	1245	853	731
Centennial Russet	943	401	542	681	632	410
Cerisa						18
Chieftain	60	79	71	58	103	124
Chipeta	281	313	348	436	227	153
Ciklamen					121	258
Classic Russet	1075	745	302	130	132	76
CO05037-3W/Y		5	14	11	25	30
CO05068-1RU					24	54
CO98012-5R					24	17
Colomba						15
Dakota Ruby					60	33
Elmo						14
Fenway Red					47	74
Innovator	136	165	25	42	90	18
IPM-ABR						72
Lamoka	69	56	95	221	507	171
LaRatte	408	281	190	253	263	266
Latona	220	88	46	48	65	81
Mesa Russet	18	57	74	303	286	85
Modoc					272	153
Molli	87	71	18	25	55	43
Mozart	254	111	15	75	115	63
MSR061-1						23
NY115	72	74	69	129	75	74
Penni					43	143
Purple Majesty	26	18	19	59	34	32
Red Endeavor						31
Reveille Russet					24	190
Ricky Russet					39	42
Rio Grande Russet	647	660	311	297	367	172
Russet Norkotah	2281	2125	2156	2256	2495	2289
Salinero					23	103
Satina	91	254	104	136	152	142
Sifra					22	20
Soraya	108	147	17	34	108	124
Tebina						104
Teton Russet			585	543	562	371
US 624-95						29
Waneta						51
Wendy						83
Yukon Gold	323	242	291	264	247	171

2019 CERTIFICATION PROGRAM RESULTS - ACREAGE REJECTED OR WITHDRAWN

CULTIVAR	TOTAL ACREAGE			REASON				
	Rejected	Withdrawn	Total	LR	MO	BL	VM	ADMIN
AC00395-2RU	0.05				0.05			
Alegria	60					60		
Atlantic	60				60			
Bintje	13.2				13.2			
Canela Russet	71.7				71.70			
Chieftain	60					60		
Ciklamen	107.4					107.4		
CO02033-1W	0.05				0.05			
CO03243-3W	0.02				0.02			
CO04233-1RU	0.07				0.07			
CO97087-2RU	0.31				0.31			
FL 1867	51				51			
French Fingerling	0.65				0.65			
IPM-ABR	13.57				13.57			
Keystone Russet	0.014				0.014			
Mesa Russet	2.26				2.26			
Molli	22.2						22.2	
Reveille Russet	2.28				2.23			0.05
Rio Grande Russet	60				60			
Russet Norkotah 278	121				121			
Russet Norkotah 296	120				120			
Russet Norkotah 3	31.5				31.5			
Russet Norkotah 8	0.18							0.18
Soraya	15.5					15.5		
TOTAL	812.90	0.00	812.90	0.00	547.57	242.90	22.20	0.23

Total Acres Entered: 8,414.0

Total Acres Accepted: 7,609.0

LR=Leafroll, MO=Mosaic, BL=Blackleg, VM=Variety mix, Admin=Administrative reasons

2018 CERTIFICATION PROGRAM RESULTS - DOWNGRADED ACRES

CULTIVAR	TOTAL ACREAGE			LR	MO	BL	VM	ADMIN
	Total							
AC05039-2RU	0.11				0.11			
Atlantic	46.69				46.69			
Banana	0.27				0.27			
Canela Russet	21.23				21.23			
Chieftain	14.00				14.00			
Chipeta	28.56				28.56			
CO02024-9W	0.03				0.03			
CO02321-4W	0.14						0.14	
CO03187-1RU	0.13				0.13			
CO04067-10W/Y	0.05				0.05			
CO05068-1RU	0.39				0.39			
CO07131-1W/Y	0.11				0.11			
CO08155-2RU/Y	0.04				0.04			
CO97215-2P/P	0.03				0.03			
CO98012-5R	2.21				2.21			
Colorado Rose	0.04				0.04			
Mesa Russet	1.34				1.34			
MSW485-2	2.31				2.31			
NY140	0.10				0.10			
Red Luna	0.13				0.13			
Reveille Russet	15.95				15.95			
Rio Colorado	0.07				0.07			
Rio Grande Russet	1.75				1.75			
Rose Finn Apple	0.53				0.53			
Russet Norkotah 296	40.00				40.00			
Russet Norkotah 8	25.82				25.82			
Russet Nugget	1.50				1.50			
Sangre 10	0.04				0.04			
Total	203.58	0.00	0.00	0.00	203.43	0.00	0.14	0.00

Grower Entry - Colorado Potato Certification Program Cumulative Acres

Cultivar	TOTAL ACREAGE			REASON					
	Rejected	Withdrawn	Total	LR	MO	BL	VM	ADMIN	
Alegria	60					60			
Canela	30				30				
Chieftan	60					60			
Ciklamen	107.4					107.4			
TOTAL	257.4	0	257.4	0	30	227.4	0	0	

LR=Leafroll, MO=Mosaic, BL=Blackleg, VM=Variety mix, Admin=Administrative reasons

Grower Entry - Colorado Potato Certification Program Cumulative Results

Year	Acres Entered	Acres Approved	%	BRR	%	PLRV	%	MO	%	BL	%	Admin.	%
2013	2,496	2,060	82.5	0	0.00	0	0.00	375.8	15.07	55.4	2.22	0.0	0.00
2014	3,647	3,292	90.3	0	0.00	0	0.02	177.8	4.88	102.5	2.81	0.4	0.01
2015	2,828	2,222	78.6	0	0.00	0	0.00	353.0	12.50	354.0	0.00	0.6	0.00
2016	2,840	2,660	93.7	0	0.00	0	0.00	21.6	0.76	158.0	0.06	0.2	0.00
2017	1,412	1,299	92.0	0	0.00	0	0.00	90.4	6.40	0.0	0.00	22.5	1.60
2018	1,469	1,448	99.0	0	0.00	0	0.00	20.3	1.00	0.0	0.00	0.0	0.00
2019	1,657	1,429	86.0	0	0.00	0	0.00	30.0	1.00	227.4	13.00	0.0	0.00

Full Certified Grower - Colorado Potato Certification Program Cumulative Results

Year	Acres Entered	Acres Approved	%	BRR	%	PLRV	%	MO	%	BL	%	Admin.	%
2013	10,760	7,677	71.4	0	0.00	2.0	0.02	830.0	7.72	158.0	1.47	102.0	0.95
2014	9,082	7,683	84.6	0	0.00	2.5	0.03	1021.3	11.25	111.0	1.23	101.0	1.12
2015	8,838	7,107	80.4	0	0.00	4.3	0.05	1268.1	14.35	417.5	4.72	40.0	0.45
2016	8,501	8,278	97.4	0	0.00	0.0	0.00	126.1	1.48	36.0	0.42	48.0	0.56
2017	8,680	8,413	96.9	0	0.00	0.0	0.00	206.0	2.37	60.0	0.69	0.0	0.01
2018	8,813	7,858	89.2	0	0.00	0.0	0.00	513.1	5.82	176.8	2.00	118.2	1.34
2019	6,756	6,180	90.4	0	0.00	0.0	0.00	517.6	7.66	15.5	0.23	0.2	0.00

Tissue Culture Lab

Potato Certification Service

2019 Summary

Active Clone Bank:

Cultivars actively propagated, maintained, and tested 3 times/year.

2016	210
2017	221
2018	248
2019	193

Long-Term Storage Clone Bank:

Maintenance of cultivars rarely used. Maintained every 3 years.

2016	345
2017	330
2018	330
2019	336

Miscellaneous Cultivars Not In Clone Bank:

Primarily cultivars held for private owners.

2016	100
2017	100
2018	115
2019	131

Approximate Number of Plantlets Sent Out

Year	Colorado Growers	SLVRC	Out of State Labs	Misc.
2017	1,246	26,215	214	1,402
2018	1,579	29,600	144	598
2019	1,067	34,280	194	1,010

New Varieties

Year	Received as Tuber	Received as Tissue Culture	Cleanup Required
2017	15	34	15
2018	9	46	12
2019	13	28	8

2019 PCS Disease Testing

9 CCPGA Greenhouse Growers
58 greenhouse crops grown in 2019 (2 inspections per crop)
2.2 million plants produced

ELISA Testing for 2020

- *Increase in summer testing
- *Increase in greenhouse testing
- *Increase in clonebank and PHT sprout testing

Projections for 2020 - anticipating additional commercial lots being tested at post harvest in conjunction with the Colorado Seed Act

Bacterial Testing for PHT, Greenhouse tubers and clonebanks for 2019

212 PHT *Clavibacter michiganensis* (BRR) tests (for possible export)
141,315 *Pectobacterium* (Erwinia) tests for Greenhouse tubers
471 *Clavibacter michiganensis* (BRR) tests for Greenhouse tubers
204 Bacterial tests for PCS and Growers Clonebank
1047 Potato Spindle Tuber Viroid Test

Disease Confirmation Testing - Calendar Year 2019

Special Request Testing from Individual Growers

Suspect pathogens tested:

(Scientific Name)

(Common Name)

Candidatus Liberibacter Sol.	Chemical damage
<i>Meloidogyne spp.</i>	Zebra Chip
<i>Tobravirus</i>	Root Knot Nematode
<i>Furovirus</i>	Tobacco Rattle Virus
<i>Clavibacter michiganensis</i>	Potato Mop Top Virus
<i>Tospovirus</i>	Bacterial Ring Rot
<i>Fusarium</i>	Tomato Spotted Wilt Virus
<i>Pectobacterium</i>	Dry Rot
<i>Collectotrichum</i>	Erwinia/Soft Rot
<i>Helminthosporium solani</i>	Black Dot
<i>Phytophthora infestans</i>	Silver Scurf
<i>Phythium</i>	Late Blight
<i>Alternaria</i>	Leak
<i>Phytophthora erythroseptica</i>	Early Blight
<i>Spongospora Subterranea</i>	Pink Rot
	Scab, Common / Powdery Scab
	Other Viruses

15 requests from CCPGA Seed Growers

20 requests from Commercial Growers

ELISA TESTING DATA

Year	Acres Entered	Summer field leaves picked	Summer Elisa wells	Insp. Samp.	PCS CB Elisa wells	Growers GH/CB Elisa wells.	Breeding SLVRC GH/Sprouts	PHTlvs. Sprouts wells	National Surveys/ Research	PCR Research	Commercial Testing	PHT PVY-n Lvs./Spr . Wells	Totals wells
2001	16,906	235,882	86,763		9,994	23,201		26,573	0				146,531
2002	17,400	247,700	117,511		7,304	17,631		11,517	2,363				156,326
2003	15,705	209,265	98,782		13,485	19,148		57,136	0				188,551
2004	14,933	220,020	102,194		12,848	17,054		12,516	16,692				161,304
2005	15,289	243,980	96,692		10,842	20,944		34,746	0				163,224
2006	14,268	233,688	97,402		9,141	17,209		18,122	7,945				149,819
2007	14,429	203,340	92,231		24,560	15,125		47,228	9,005				188,149
2008	15,373	162,070	74,860		23,280	17,821		49,048	0				165,009
2009	13,326	228,400	88,178		10,595	23,830		17,374	0				139,977
2010	13,122	233,643	97,282		6,429	30,608		12,822	0				147,141
2011	14,720	450,385	87,909	2,168	7,324	25,509		13,754	0				136,664
2012	15,918	248,554	84,936	1,995	9,204	26,208		24,134	0				146,477
2013	13,200	375,000	69,646	1,590	6,781	22,081		36,789	15,892				152,779
2014	12,729	260,643	101,552	1,911	6,571	20,188	2,064	15,738	10,110				158,134
2015	11,667	31,030	12,594	2,174	8,360	21,182	322	19,032	1,996	2,159	574	1,088	69,481
2016	11,341	43,683	14,810	1,592	6,330	21,408	4,391	13,676	6	602	1,529	952	65,296
2017	10,093	34,315	12,226	218	7,116	22,066	7,171	27,864	539	331	0	1,900	79,431
2018	10,282	38,790	18,817	956	9,839	22,546	1,132	21,815	360	495	21	1,582	77,563
2019	8,414	32,935	11,677	2,777	7,304	23,627	1,090	17,145	0	506	10	2,171	66,307

2019 PCS PCR Disease Testing

Testing Now Available:

- PVY
- CMS/Bacterial Ring Rot (*Clavibacter michiganensis*)
- PVY Strain ID
- PMTV/TRV/PVY (Multiplex Test) (*Furovirus, Tobravirus*)

Future Testing:

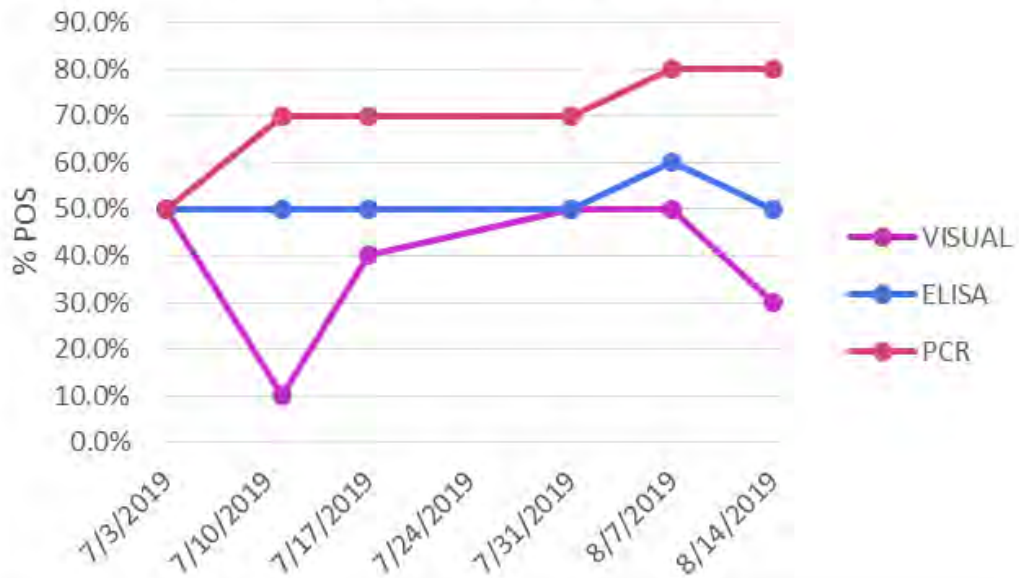
- Late Blight
- Leaf Roll
- Zebra Chip
- Spindle Tuber

PCR Test	Wells/Tests	Growers	Lots
TRV/PMTV/PVY	40	6	7
TRV/PMTV/PVY-PCS Protocol Validation	60		
CMS/Bacterial Ring Rot	52	3	4
PVY-Rogue Plot Tubers	679		
PVY ID-Rogue Plot Leaves	721		
PVY ID	17	3	3
PVY ID-PHT Survey	102	17	75
PVY ID-Yield Trial	102		
PVY-Tuber PHT	1100	12	19
Totals:	2873	40	107

2019 Rogue Plot Study

The purpose of this project is to determine if visual symptoms of PVY can be seen that are consistent with the results of an ELISA lab test, or if PVY strain influences the ability to see an infected plant in the field. Four different varieties (Russet Norkotah 278, Canela Russet, Rio Grande Russet, and Yukon Gold) were planted for our study in the 2019 growing season. Once these plants had grown large enough to be inspected 5 positive and 5 negative plants from each variety were flagged. Each week through the growing season a different inspector would give a visual inspection, and then a single leaf from each main stem of each plant was picked to be tested on both ELISA and PCR. This study also monitors the timing of any spread of PVY within the original 10 plants and records the timing and strain of PVY discovered. This project is also helping to determine how long into the growing season the virus titer remains viable for testing.

COMPARISON OF PVY DETECTION METHODS IN CANELA RUSSET



STRAINS OF PVY DETECTED IN CANELA RUSSET



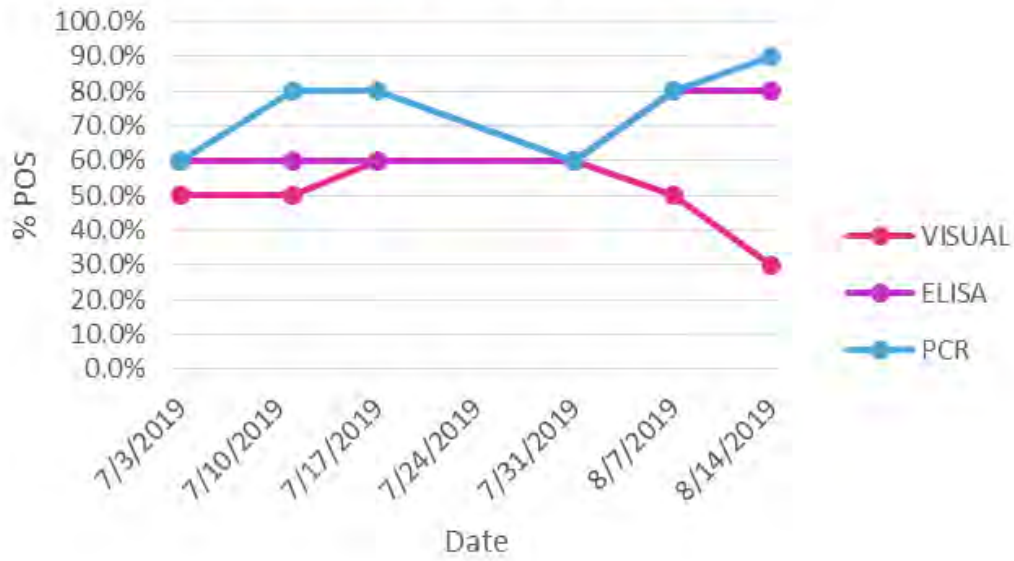
COMPARISON OF PVY DETECTION METHODS IN RUSSET NORKOTAH 278



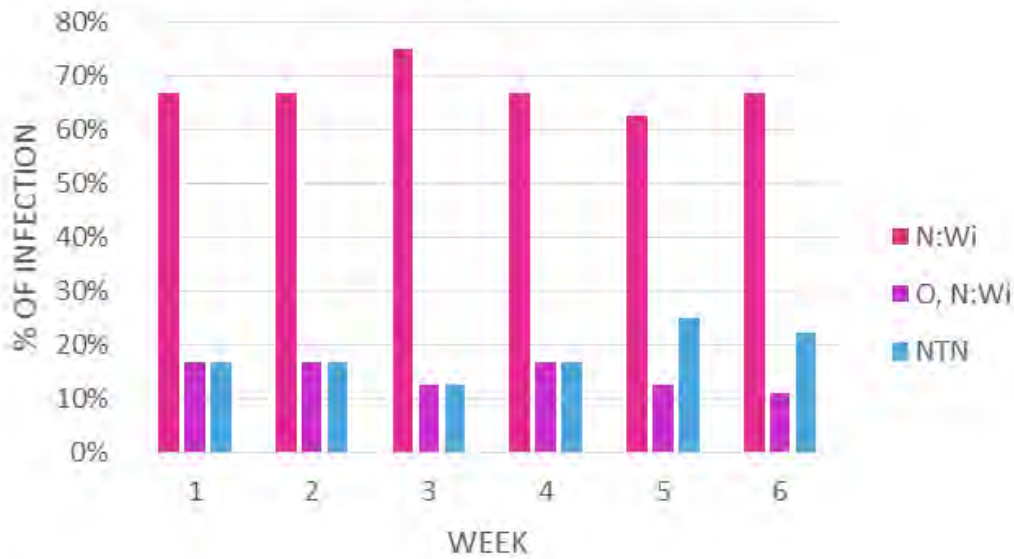
STRAINS OF PVY DETECTED IN RUSSET NORKOTAH 278



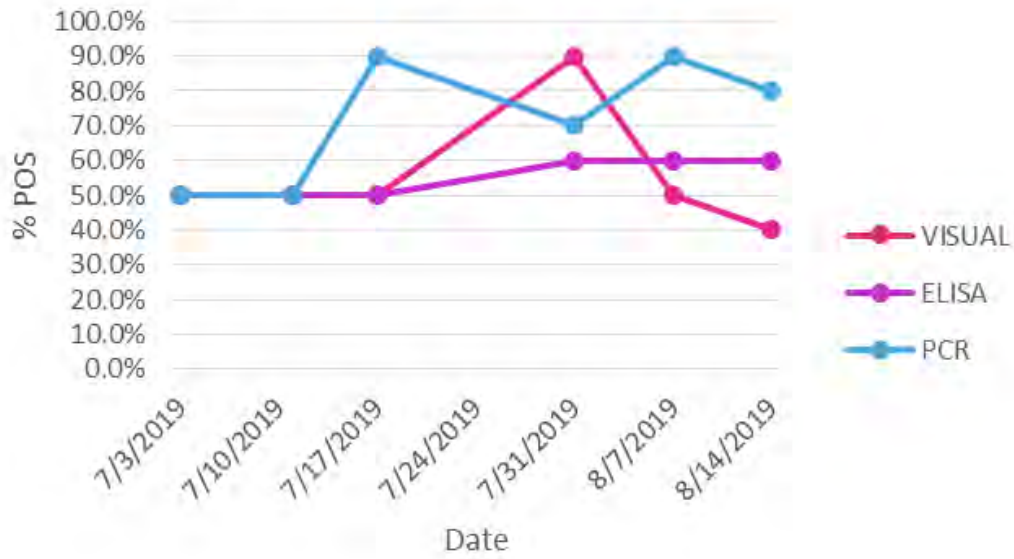
COMPARISON OF PVY DETECTION METHODS IN RIO GRANDE RUSSET



STRAINS OF PVY DETECTED IN RIO GRANDE RUSSET



COMPARISON OF PVY DETECTION METHODS IN YUKON GOLD

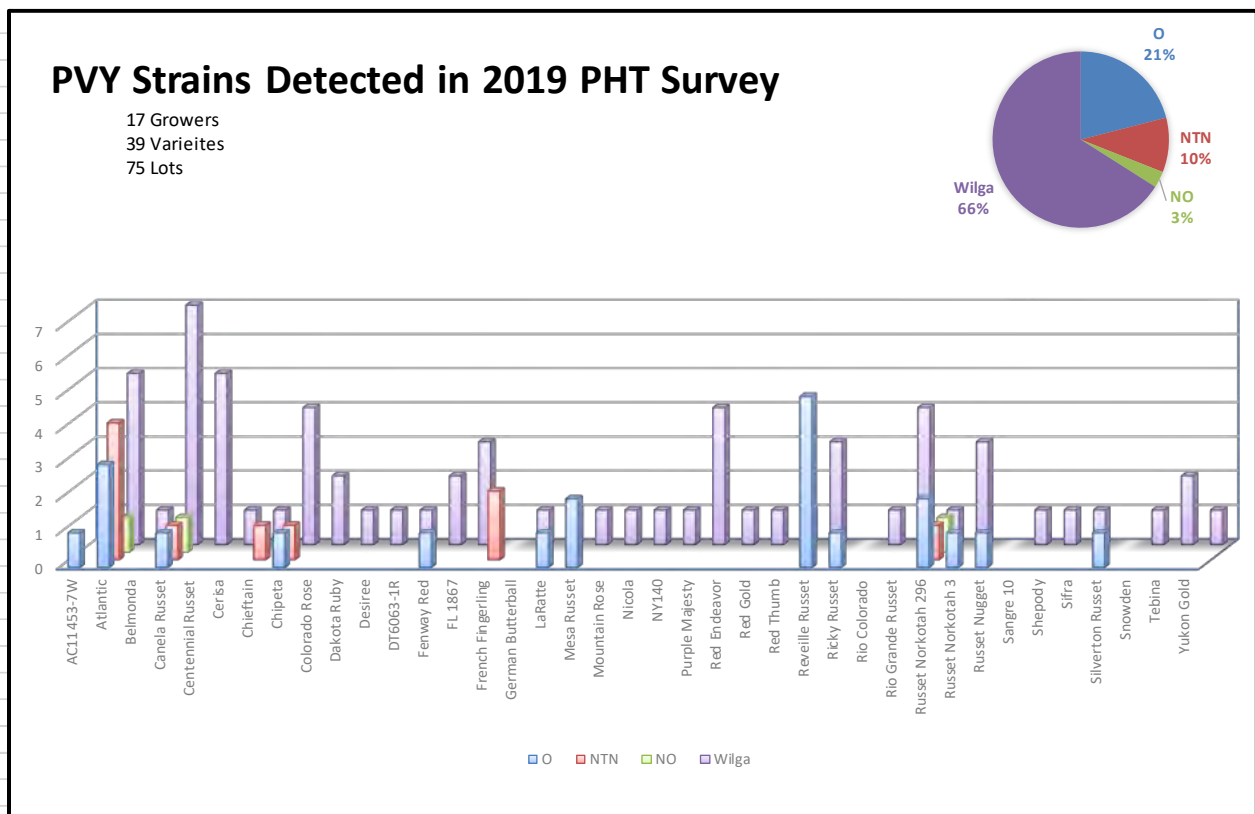


STRAINS OF PVY DETECTED IN YUKON GOLD

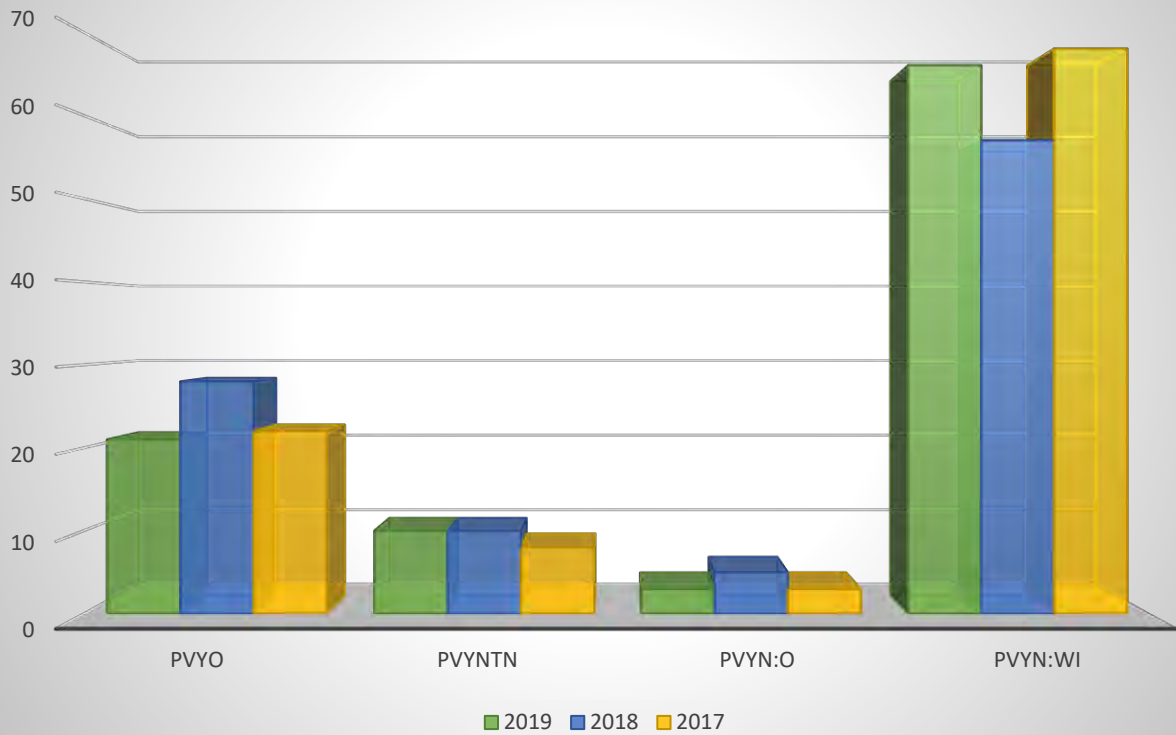


Post Harvest Test PVY Strain ID Survey

Once again, a PVY Strain ID survey was conducted at the Post Harvest Test (PHT) this year to keep up on the current PVY strains that affect our area. The survey is random and included 17 different growers, 39 varieties, and 75 different lots. There were some minor changes from last year, but overall PVY^{N:Wi} (Wilga) is the most prevalent strain. The PVY^{NTN} (NTN) strain is up slightly from 2 years ago. This is the strain that causes tuber necrosis in some varieties and we hope that our recertification tolerance of 1% will keep this in check. The other two PVY strains found were PVY^O, the ordinary strain, and PVY^{N:O}, a recombinant strain that has both characteristics of the ordinary strain and N. There are some interesting patterns that come from this survey. Atlantic, Canela Russet, and Russet Norkotah 296 have all four PVY strains found in our area and in some cases have multiple virus strain infections. We also have strain ID data for the last 3 years contained in the second graph. The strains of PVY do not appear to have changed much over that time.



% PVY Strain of PHT Survey



2019 PHT Results Summary (PHT Readings taken December 5-21, 2019 in Oahu, Hawaii.)

All Seed Lots (Except G1 lots)

Mosaic level	# lots	% lots	# acres	% acres
0%	202	46.5%	2705.4	39.9%
>0%-3%	141	32.5%	2592.1	38.3%
0.0-3.0%	343	79.0%	5297.5	78.2%
3.1 - 5.0%	40	9.2%	564.4	8.3%
5.1% - 8.0%	21	4.8%	404.2	6.0%
>8.0%	30	6.9%	509.6	7.5%
Total	434		6775.7	

All Seed Lots (Only G1 lots)

Mosaic level	# lots	% lots	# acres	% acres
0%	138	72.3%	81.1	65.8%
>0%-3%	21	11.0%	35.6	28.9%
0.0-3.0%	159	83.2%	116.7	94.7%
3.1 - 5.0%	15	7.9%	4.1	3.3%
5.1% - 8.0%	7	3.7%	0.3	0.2%
>8.0%	10	5.2%	2.1	1.7%
Total	191		123.2	

Full Certified Lots (Except G1 lots)

Mosaic level	# lots	% lots	# acres	% acres
0%	189	48.8%	2195.8	40.4%
>0%-3%	118	30.5%	2138.0	39.3%
0.0-3.0%	307	79.3%	4333.8	79.7%
3.1 - 5.0%	32	8.3%	303.8	5.6%
5.1% - 8.0%	19	4.9%	336.5	6.2%
>8.0%	29	7.5%	463.2	8.5%
Total	387		5437	

Grower Entry Lots (Except G1 lots)

Mosaic level	# lots	% lots	# acres	% acres
0%	13	27.7%	510	38.1%
>0%-3%	23	48.9%	454	33.9%
0.0-3.0%	36	76.6%	964	72.0%
3.1 - 5.0%	8	17.0%	261	19.5%
5.1% - 8.0%	2	4.3%	68	5.1%
>8.0%	1	2.1%	46	3.5%
Total	47		1338	

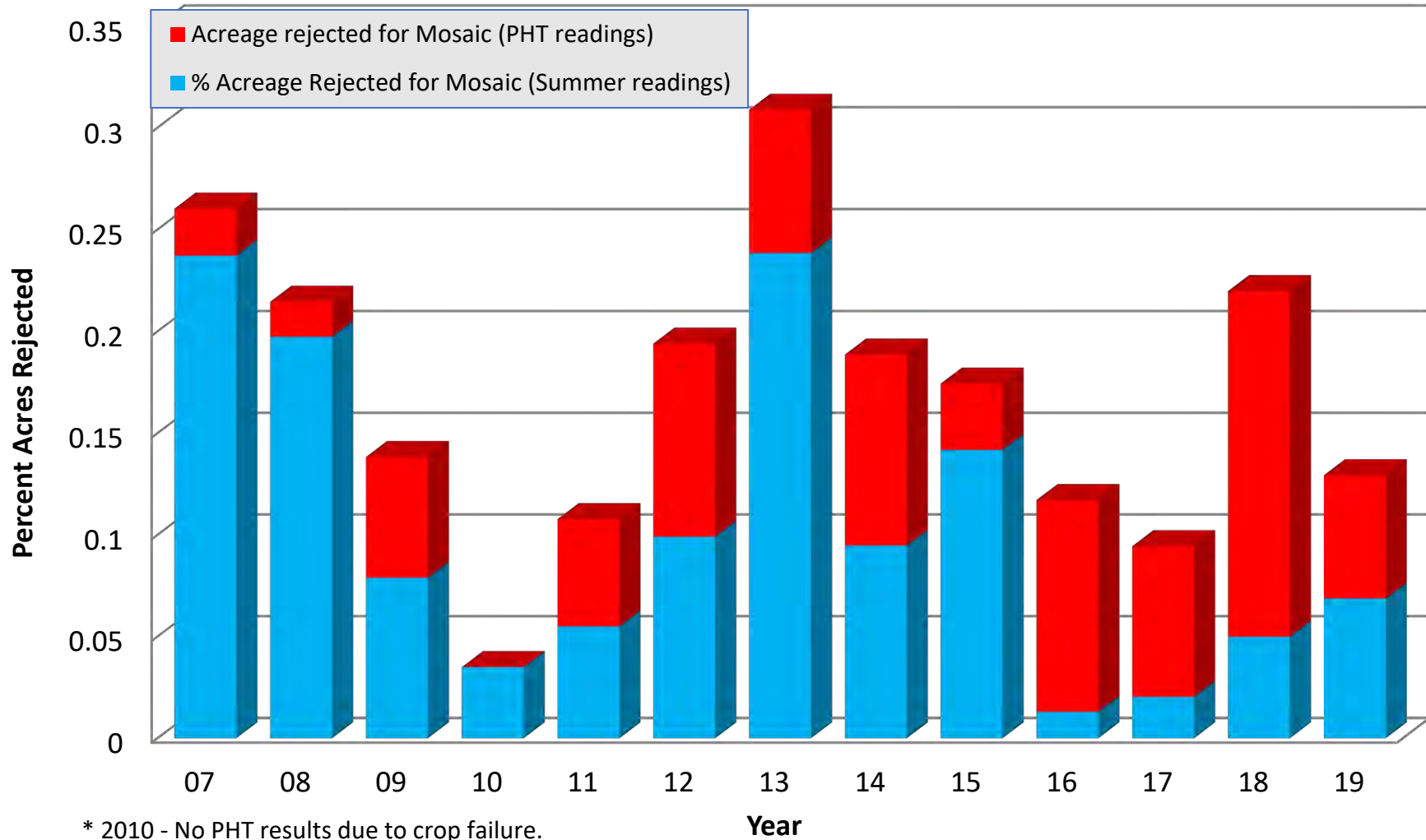
Total number of lots & acres with PVY^{N/NTN} in 2019 PHT (only lots under 5% PVY were tested). These leaves were tested using ELISA in Hawaii. This testing was done on seed lots originating in Colorado in order to be in compliance with the Colorado Seed Law.

Lots with PVY ^{N/NTN}			Acres with PVY ^{N/NTN}		
# lots	% lots	% lots tested out of all lots with PVY	# acres	% acres	% acres tested out of all lots with PVY
64	30.3%	72.8%	887	31.7%	65.3%

Leaves with PVY ^{N/NTN}		
# plants tested	# plants with PVY ^{N/NTN}	% PVY ^{N/NTN} in overall PVY population
829	114	13.8%

A total of **15** seed lots contained more than 1.0% NTN in 2019.

Percent Acreage Rejected for Mosaic (2007-2019)



* 2010 - No PHT results due to crop failure.

* In 2014 the PHT tagging tolerance changed from 10% to 8%. PHT acreage represents all seed lots over tagging tolerance.

* G1 PHT data is not included. The PHT was in Yuma, AZ (2009-2012) and on Oahu, HI (2007, 2008, 2013-2019).

* GE acres included in totals: 2007-0 a, 2008-22a, 2009-0 a, 2011-337 a, 2012-549 a, 2013-114 a, 2014-61 a, 2015-463 a, 2016-469 a, 2017-141 a, 2018-426 a, 2019-46 a.

These costs are an estimate of what the total PHT expense will be for the 2019 seed crop (Updated January 31, 2020).

	# tubers tested	Shipping	Acreage/rent	Per Diem/travel/housing	Labor	Lab supplies	Other Supplies	Total	Cost/tuber
Hawaii	141,775	\$13,470.13	\$45,711.20	\$29,143.70	\$4,580.25	Billed separate	\$2,236.49	\$95,141.77	\$0.67
Ft Collins GH	7,300	-	\$714.00	\$3,699.92	\$438.44	\$2,920.00	\$1,711.05	\$10,330.97	\$1.30
Direct Tuber Pilot^a	5,125	-	-	-	-	\$13,020.00	-	\$13,020.00	\$2.54
Overall Total	154,200	\$13,470.13	\$46,711.20	\$32,843.62	\$5,580.25	\$15,940.00	\$3,947.54	\$118,492.74	\$0.76

^aThe cost for lab supplies is not final yet. The estimated cost is \$13,020.00.

**2019 Crop
December 31, 2019
2019/2020 Fiscal Year To Date Expenses
Colorado Potato Certification Service (PCS)
General Budget Worksheet
SP# 5392852**

2019/2020 Budget: **\$749,000.00**
(July 1, 2019 - June 30, 2020)

YTD Payments to CSU: **\$250,584.42**

	Actual	FY 19/20 Budget (through June 30, 2020)
<u>PCS YTD INCOME:</u>		
Acreage Fees:	\$259,487.18	\$285,500.00
Acreage Fees (\$2 CCPGA grower fee):	-\$13,512.40	-\$17,000.00
Disease Testing:	\$141,369.07	\$175,000.00
PCR Testing:	\$845.00	\$5,000.00
Post Harvest Test:	\$0.00	\$105,000.00
Bulk Certificates:	\$15,527.31	\$90,000.00
Tissue Culture:	\$400.00	\$5,000.00
Miscellaneous:	\$1,780.91	\$2,000.00
Total	\$405,897.07	\$650,500.00
<u>PCS YTD EXPENSES:</u>		
Personnel (Salaries & Hourly):	\$262,314.40	\$505,000.00
Travel:	\$4,541.28	\$15,000.00
Disease Lab:	\$15,735.62	-
PCR Lab:	\$5,592.35	-
Tissue Culture Lab:	\$946.08	-
Total Lab Operations:	\$22,274.05	\$62,500.00
Post Harvest Test:	\$50,982.01	\$135,000.00
Vehicle:	\$8,618.20	\$10,000.00
General Expenses:	\$7,153.15	\$21,500.00
Total	\$355,883.09	\$749,000.00

*Numbers in red are budgeted values for this fiscal year. They do not reflect actual amounts.