

Round Eggplant Variety Trials and Jicama Organic Fertilizer Experiment

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Waimanalo Research Station Pau hana Vegetable Crops Field Day March 3, 2000- 3:00 PM

INTRODUCTION:

Welcome to the University of Hawaii Waimanalo Research Experiment Station. The Station consists of 130 Acres of land at 60 feet elevation. Research work in the station is with fruit, ornamental, agroforestry and vegetable crops. Today we will show the results of an ongoing round eggplant variety demonstration trial. We are evaluating 31 eggplant varieties ranging from oval purples, lavender, round shaped, 'finger', and several white fruit varieties. We will also display the results of an organic amendment study with jicama (yam bean root) to evaluate the use of chicken manure and bone meal amendments.

Climate in Waimanalo Station:

Mean Annual Temperature: 75 F (24.6C), monthly range 70-80F (22-27C)

Mean annual rainfall 55 in (1380 mm). Annual Range= 500-1800 mm

Soil type- Vertic Haplustolls, derived from lava and coral

pH about 6.5, good base status, low organic matter

Soil analysis from these plots show high or very high P & K, and thus only N applications are recommended.

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NALO EGGPLANT 1999 FIELD PLOT DESIGN

date _____

		Fullness			
Purple Rain (nice fruit)	Improved Bonica (looks good)	Cloud Nine (looks good)	Snowy (nice white oval fruit)	Black Bell (hi yields)	Bonica Tech (looks good, good yields)
Purple Blush	Glory	F-85-468	Little Fingers (looks good)	Millionaire	Italian DeFrank
Slim Jim	Green Tiger	Charming (looks good, hi yields)	Classic (looks good)	Tango (hi yields, looks good))	Nita x Waimanalo (standard long, looks good)
Osterei	Neon 600 (nice fruit)	Tasca	Sonata	Madonna	Waimanalo Long
Blue Marble	Violetta (nice fruit)	Sierra	Ghostbuster	Neon (nice color)	Hara Began (vigorous, nice slender green fruit)

R1

R2

R3

R4

R5

R6

IRRIGATION LINE

WILI WILI HEDGE

Round Eggplant Variety Trial, 1999-2000

Ted Goo, Roger Corrales, and Hector R. Valenzuela,

Introduction

A specialty eggplant variety trial was established in the spring '99 at the UH Waimanalo Experiment Station. Seeds of 31 varieties were sown on 9 March on 72-cell Speedling trays at the Magoon Greenhouse in Manoa. The seedlings were transplanted in the field on 30 April. Plant spacing was 6 ft between rows and 3 feet between plants. Each plot consisted of 7 plants for a total length of 18 feet per plot. Only one replication was used per variety. For this reason, this study is considered only a demonstration of available varieties in the market, and the results are thus far from conclusive. As such, any varieties that may look promising from this trial, should first be grown on a small-scale to evaluate adaptability to the particular environmental conditions found on your farm.

Cultural practices were followed as is standard for commercial eggplant production in Hawaii. The crop was drip irrigated as needed and 3-ft weed mats were placed between the rows to reduce weed competition. Prior to planting 1 bag of chicken manure (80 lbs.) and 20 lbs. of bone meal were applied per 100 ft of row. Because the soils on these plots are very fertile and high in P & K, no additional fertilizer was applied until the early fruiting stages. Only supplemental applications of calcium nitrate were applied thereon once per month.

Initial Results

Most varieties were first harvested on 18 June (49 days after transplanting). Purple Rain, Slim Jim, Violetta, Sonata, and Italian were first picked a week later on 25 June (56 days after planting). Some varieties such as Purple Rain and the UH varieties (Waimanalo and Nitta x Waimanalo) were slow starters and didn't come into full production until a couple of weeks later. Yield results are shown on Tables 1-3. Plant growth evaluations and a pest damage index is provided on Table 4. Standard varieties grown in Hawaii, and used as reference varieties for this trial included **Black Bell & Classic** (oval types), and **Waimanalo Long** and **Nitta x Waimanalo** (standard Japanese long-types). As another reference, yields obtained in a long eggplant variety trial conducted on Waimanalo in 1993 after about 6 months of harvest with the varieties Nitta x Waimanalo, and Millionaire (both grown in this trial) were 36.0 and 28.5 lbs. per pound of marketable fruit, respectively.

To date (March 3, 2000) the plants have been harvested twice weekly for 8 months. Grade A yields from these first three months of harvests ranged from about 37-78 pounds per plant. The top-yielding varieties are listed below. However, it should be noted, that particular fruit traits that are in demand by some niche markets might be more important than high yield potentials alone. That is, growers may want to pay notice to those varieties with very attractive fruits in addition to those that show high yield potentials.

Promising varieties:

Round/Oval, deep purple/black: **Black Bell, Bonica Tech, and Glory**. **Improved Bonica** also had attractive fruits.

Round lavender/purple or deep pink: **Purple Blush and Violetta**. The others in this group are also very attractive but had lower yields.

Long/oval purple/lavender: **Neon 600** (Cooks) and **Charming**.

White: **Tango** and **Cloud Nine**.

Other Specialties: **Green Tiger** (Laotian or Filipino market), **Little Finger** (Asian and Filipino market), and **Hara Began** (long green).

Acknowledgements: Thanks to Roger Corrales and the Waimanalo Staff for field maintenance and help in the harvests. To Trisha Wong for help in data input and data collection, the seed companies for providing seed samples, Gordon Lum (Island commodities, tel. 682-5844) for providing bone-meal samples, Wisdom Ind. for irrigation supplies, and the DOA for financial support.

CULTIVARS GROUPED FROM HIGHEST TO LOWEST GRADE A YIELDS

Table 1. Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station, picked from June 1999 to Feb. 2000 (8 months of harvest, harvested 73 times).

Cultivar	Grade A	Grade A	Total wt.	Total wt.	Grade A	Grade A	Fruit No.	Gr A Fruit size
Black Bell	215448.2	76.6A	237096.6	84.3A	87.4BDAC	103.3FEG	0.76BA	
Tango	213764.4	76.0A	230464.2	81.9BA	81.6EBDAC	222.0B	0.76BA	
Purple Blush	180104.6	64.0BA	203724.7	72.4BAC	87.9BDAC	135.1FCEBD	0.36JIHK	
Neon 600	177349.2	63.1BA	195391.7	69.5BDAC	82.0EBDAC	121.7FCEGD	0.47FIHG	
Glory	176739.3	62.8BAC	194720.9	69.2EBDAC	87.6BDAC	84.4FEG	0.52FEG	
Tasca	176650.1	62.8BAC	198352.0	70.5BDAC	87.8BDAC	80.6FEG	0.79BA	
F-85-468	175576.7	62.4BAC	187734.0	66.7EBDAC	82.4EBDAC	95.4FEG	0.72BDC	
Cloud 9	174773.9	62.1BAC	193104.6	68.7EBDAC	86.0EBDAC	144.9CEBD	0.49FHG	
Charming	173512.6	61.7BAC	189722.4	67.4EBDAC	85.3EBDAC	148.4CEBD	0.37JIHK	
Sonata	172094.0	61.2BAC	193289.0	68.7BDAC	84.7EBDAC	83.1FEG	0.82BA	
Improved Bonica	171477.1	61.0BAC	185905.5	66.1EBDAC	80.9EBDAC	74.4FEG	0.89A	
Purple Rain	170972.4	60.8BAC	185784.8	66.0EBDAC	93.5A	99.6FEG	0.57FEDG	
Neon	165305.9	58.8BDAC	183891.8	65.4EBDAC	86.4EBDAC	110.0FEGD	0.54FEG	
Violetta	160356.8	57.0BDAC	174820.4	62.2EBDAC	92.1BA	81.6FEG	0.70BDC	
Sierra	158289.9	56.3BDAC	170380.5	60.6A-F	89.9BAC	79.0FEG	0.71BDC	
Snowy	146320.7	52.0BDEC	157068.9	55.8EDCF	84.0EBDAC	157.0CEBD	0.33JIK	
Ghostbuster	142646.3	50.7FBEDC	163922.9	58.3EBDCF	88.3BDAC	113.1FCEGD	0.44JIHG	
Classic	135727.6	48.3FBEDC	149023.9	53.0EDCF	78.9EBDC	70.1FEG	0.70BDC	
Little Finger	133638.2	47.5FBEDC	161865.9	57.5EBDCF	82.7EBDAC	195.9CBD	0.27K	
Italian DeFrank	130394.5	46.4FBEDC	160247.1	57.0EBDCF	78.0EDC	92.7FEG	0.52FEG	
Osterei	116500.5	41.4FGDEC	126971.0	45.1EGF	86.4EBDAC	203.9CB	0.29JK	
Nitta x Waimanalo	112128.6	39.9FGDE	135783.4	48.3EDGF	74.9EDF	138.3FCEBD	0.31JK	
Green Tiger	109548.1	38.9FGDE	143039.8	50.9C-G	77.5EDC	408.9A	0.27K	
Hara Began	95848.3	34.1FGE	114997.4	40.9GF	78.4EDC	166.3CEBD	0.22LK	
Blue Marble	91377.8	32.5FGE	109990.1	39.1GF	75.5EDF	170.4CEBD	0.60FEDC	
Slim Jim	84934.3	30.2FG	108471.7	38.6GF	83.6EBDAC	360.1A	0.09L	
Madonna	73522.3	26.1G	80961.4	28.8G	73.6EF	42.0FG	0.66BEDC	
Waimanalo Long	73125.9	26.0G	106638.9	37.9GF	65.3GF	113.1FCEGD	0.25K	
Millionaire	63092.0	22.4G	87024.6	30.9G	53.9H	92.9FEG	0.26K	
Fullness	59953.3	37.3G	80412.3	50.0G	57.4GH	66.2G	0.58FEDG	

Data analysis: Numbers followed by the same letter within each column are not statistically different according to Duncan's New multiple range test at a 95% confidence level (P<0.05).

CULTIVARS GROUPED BY ALPHABETICAL ORDER

Table 2. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station, picked from June 1999 to Feb. 2000 (8 months of harvest, harvested 73 times).

Cultivar	Grade A	Grade A	Total wt.	Total wt.	Total wt.	Grade A	Grade A	Fruit No.	Gr A Fruit size
Blue Marble	91377.8	32.5FGE	109990.1	39.1GF	87.4BDAC	103.3FEG	0.76BA		
Bonica Tech	218023.7	77.5A	237310.7	84.4A	75.5EDF	170.4CEBD	0.60FEDC		
Charming	173512.6	61.7BAC	189722.4	67.4EBDAC	87.0BDAC	101.6FEG	0.76BA		
Classic	135727.6	48.3FBEDC	149023.9	53.0EDCF	85.3EBDAC	148.4CEBD	0.37JIHK		
Cloud Nine	174773.9	62.1BAC	193104.6	68.7EBDAC	78.9EBDC	70.1FEG	0.70BDC		
F-85-468	175576.7	62.4BAC	187734.0	66.7EBDAC	86.0EBDAC	144.9CEBD	0.49FHG		
Fullness	59953.3	37.3G	80412.3	50.0G	82.4EBDAC	95.4FEG	0.72BDC		
Ghostbuster	142646.3	50.7FBEDC	163922.9	58.3EBDCF	57.4GH	66.2G	0.58FEDG		
Glory	176739.3	62.8BAC	194720.9	69.2EBDAC	88.3BDAC	113.1FCEGD	0.44JIHG		
Green Tiger	109548.1	38.9FGDE	143039.8	50.9C-G	87.6BDAC	84.4FEG	0.74BAC		
Hara Began	95848.3	34.1FGE	114997.4	40.9GF	77.5EDC	408.9A	0.27K		
Improved Bonica	171477.1	61.0BAC	185905.5	66.1EBDAC	78.4EDC	166.3CEBD	0.22LK		
Italian DeFrank	130394.5	46.4FBEDC	160247.1	57.0EBDCF	80.9EBDAC	74.4FEG	0.89A		
Little Finger	133638.2	47.5FBEDC	161865.9	57.5EBDCF	78.0EDC	92.7FEG	0.52FEG		
Madonna	73522.3	26.1G	80961.4	28.8G	82.7EBDAC	195.9CBD	0.27K		
Millionaire	63092.0	22.4G	87024.6	30.9G	73.6EF	42.0FG	0.66BEDC		
Neon	165305.9	58.8BDAC	183891.8	65.4EBDAC	53.9H	92.9FEG	0.26K		
Neon 600	177349.2	63.1BA	195391.7	69.5BDAC	86.4EBDAC	110.0FEGD	0.54FEG		
Nitta x Waimanalo	112128.6	39.9FGDE	135783.4	48.3EDGF	82.0EBDAC	121.7FCEGD	0.52FEG		
Osterei	116500.5	41.4FGDEC	126971.0	45.1EGF	74.9EDF	138.3FCEBD	0.31JK		
Purple Blush	180104.6	64.0BA	203724.7	72.4BAC	86.4EBDAC	203.9CB	0.29JK		
Purple Rain	170972.4	60.8BAC	185784.8	66.0EBDAC	87.9BDAC	135.1FCEBD	0.47FIHG		
Sierra	158289.9	56.3BDAC	170380.5	60.6A-F	93.5A	99.6FEG	0.57FEDG		
Slim Jim	84934.3	30.2FG	108471.7	38.6GF	89.9BAC	79.0FEG	0.71BDC		
Snowy	146320.7	52.0BDEC	157068.9	55.8EDCF	83.6EBDAC	360.1A	0.09L		
Sonata	172094.0	61.2BAC	193289.0	68.7BDAC	84.0EBDAC	157.0CEBD	0.33JIK		
Tango	213764.4	76.0A	230464.2	81.9BA	84.7EBDAC	83.1FEG	0.82BA		
Tasca	176650.1	62.8BAC	198352.0	70.5BDAC	81.6EBDAC	222.0B	0.36JIHK		
Violetta DF	160356.8	57.0BDAC	174820.4	62.2EBDAC	87.8BDAC	80.6FEG	0.79BA		
Waimanalo Long	73125.9	26.0G	106638.9	37.9GF	92.1BA	81.6FEG	0.70BDC		
					65.3GF	113.1FCEGD	0.25K		

Data analysis: Numbers followed by the same letter within each column are not statistically different according to Duncan's New multiple range test at a 95% confidence level (P<0.05).

GROUPED BY FRUIT TYPE

Table 3. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station picked from June 1999 to Feb. 2000 (8 months of harvest, harvested 73 times).

Cultivar	Grade A	Total wt.	Total wt.	Grade A	Total wt.	Grade A	Fruit No.	Gr A fruit size
Black Bell	215448.2	237096.6	84.4A	76.6A	87.0BDAC	101.6FEG	0.76BA	
Glory	176739.3	194720.9	84.3A	62.8BAC	87.4BDAC	103.3FEG	0.76BA	
Tasca	176650.1	198352.0	69.2EBDAC	62.8BAC	87.6BDAC	84.4FEG	0.74BAC	
F-85-468	175576.7	187734.0	70.5BDAC	62.4BAC	87.8BDAC	80.6FEG	0.79BA	
Sonata	172094.0	193289.0	66.7EBDAC	61.2BAC	82.4EBDAC	95.4FEG	0.72BDC	
Improved Bonica	171477.1	185905.5	68.7BDAC	61.0BAC	84.7EBDAC	83.1FEG	0.82BA	
Sierra	158289.9	170380.5	66.1EBDAC	56.3BDAC	80.9EBDAC	74.4FEG	0.89A	
Classic	135727.6	149023.9	60.6A-F	48.3FBEDC	89.9BAC	79.0FEG	0.71BDC	
Madonna	73522.3	80961.4	53.0EDCF	26.1G	78.9EBDC	70.1FEG	0.70BDC	
Millionaire	63092.0	87024.6	28.8G	22.4G	73.6EF	42.0FG	0.66BEDC	
			30.9G		53.9H	92.9FEG	0.26K	
<i>Round lavender/purple or deep pink</i>								
Purple Blush	180104.6	203724.7	72.4BAC	64.0BA	87.9BDAC	135.1FCEBD	0.47FIHG	
Violetta DF	160356.8	174820.4	62.2EBDAC	57.0BDAC	92.1BA	81.6FEG	0.70BDC	
Italian DeFrank	130394.5	160247.1	57.0EBDCF	46.4FBEDC	78.0EDC	92.7FEG	0.52FEG	
Blue Marble	91377.8	109990.1	39.1GF	32.5FGE	75.5EDF	170.4CEBD	0.60FEDC	
Fullness	59953.3	80412.3	50.0G	37.3G	57.4GH	66.2G	0.58FEDG	
<i>Long/Oval Purple/Lavender</i>								
Neon 600	177349.2	195391.7	69.5BDAC	63.1BA	82.0EBDAC	121.7FCEGD	0.52FEG	
Charming	173512.6	189722.4	67.4EBDAC	61.7BAC	85.3EBDAC	148.4CEBD	0.37IHK	
Purple Rain	170972.4	185784.8	66.0EBDAC	60.8BAC	93.5A	99.6FEG	0.57FEDG	
Neon	165305.9	183891.8	65.4EBDAC	58.8BDAC	86.4EBDAC	110.0FEGD	0.54FEG	

Data analysis: Numbers followed by the same letter within each column are not statistically different according to Duncan's New multiple range test at a 95% confidence level ($P < 0.05$).

CULTIVARS GROUPED BY FRUIT TYPE

Table 3, continued. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Eggplant Cultivars, harvested 20-22 times)

	<i>White Oval/Round</i>				<i>Green Long & Round</i>				<i>Long purple and Little Finger</i>		
	Yield	FW	%GA		Yield	FW	%GA		Yield	FW	%GA
Tango	213764.4	76.0A	230464.2	81.9BA	81.6EBDAC	222.0B	249758.7	82.7EBDAC	195.9CBD	0.36JIHK	
Cloud Nine	174773.9	62.1BAC	193104.6	68.7EBDAC	86.0EBDAC	144.9CEBD	186575.9	74.9EDF	138.3FCEBD	0.49FHG	
Snowy	146320.7	52.0BDEC	157068.9	55.8EDCF	84.0EBDAC	157.0CEBD	137829.7	83.6EBDAC	360.1A	0.33JK	
Ghostbuster	142646.3	50.7FBEDC	163922.9	58.3EBDCF	88.3BDAC	113.1FCEGD	140064.6	65.3GF	113.1FCEGD	0.44JIHG	
Osterei	116500.5	41.4FGDEC	126971.0	45.1EGF	86.4EBDAC	203.9CB	134235.9	86.4EBDAC	113.1FCEGD	0.29JK	
Green Tiger	109548.1	38.9FGDE	143039.8	50.9C-G	77.5EDC	408.9A	126648.3	77.5EDC	408.9A	0.27K	
Hara Began	95848.3	34.1FGE	114997.4	40.9GF	78.4EDC	166.3CEBD	107339.5	78.4EDC	166.3CEBD	0.22LK	
Little Finger	133638.2	47.5FBEDC	161865.9	57.5EBDCF	82.7EBDAC	195.9CBD	133638.2	82.7EBDAC	195.9CBD	0.27K	
Nitta x Waimanalo	112128.6	39.9FGDE	135783.4	48.3EDGF	74.9EDF	138.3FCEBD	112128.6	74.9EDF	138.3FCEBD	0.31JK	
Slim Jim	84934.3	30.2FG	108471.7	38.6GF	83.6EBDAC	360.1A	84934.3	83.6EBDAC	360.1A	0.09L	
Waimanalo Long	73125.9	26.0G	106638.9	37.9GF	65.3GF	113.1FCEGD	73125.9	65.3GF	113.1FCEGD	0.25K	

Data analysis: Numbers followed by the same letter within each column are not statistically different according to Duncan's New multiple range test at a 95% confidence level (P<0.05).

Yield Data from first 3 months of Harvests (June to September 1999)

CULTIVARS GROUPED FROM HIGHEST TO LOWEST GRADE A YIELDS

Table 4. .Mean yields of Grade A fruit, Total Fruit weight, and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station, Summer 1999 (10-12 weeks of harvest, harvested 20-22 times).

	(lb/ Acre)	(lb/ plant)	(lb/ Acre)	Total wt. (lb/ plant)	Grade A (Percent)	Fruit No. (Grade A/ plant)	Gr A fruit size (lbs)
Charming	105403.3	37.5A	111582.7	39.7AB	94.4BA	69.4BCD	0.540
Black Bell	103935.8	37.0A	115640.4	41.1A	90.2BAC	46.0CD	0.803
Tango	100947.8	35.9AB	108709.6	38.6ABC	89.9BAC	101.6BCD	0.353
Bonica Tech	94759.5	33.7AB	99586.4	35.4A-D	97.0A	41.9CD	0.805
Purple Blush	90259.8	32.1ABC	100311.3	35.7A-D	90.6BAC	54.8CD	0.585
Glory	88933.8	31.6ABC	94768.4	33.7A-E	95.6BA	37.3CD	0.848
F-85-468	87678.4	31.2ABC	91294.1	32.5A-F	97.2A	44.8CD	0.695
Cloud Nine	86449.6	30.7A-D	91117.3	32.4A-F	93.4BA	73.4BCD	0.419
Neon 600	83920.9	29.8ABC	87541.0	31.1A-E	97.4A	53.1CD	0.562
Tasca	79306.6	28.2A-E	93574.9	33.3A-E	88.4BAC	33.7D	0.836
Neon	78210.4	27.8A-E	80721.1	28.7A-G	97.6A	46.9CD	0.593
Improved Bonica	77547.4	27.6A-E	80924.4	28.8A-G	97.2A	31.7D	0.869
Snowy	76902.1	27.3A-F	81322.2	28.9A-G	95.8A	82.8BCD	0.330
Sierra	73198.0	26.0A-G	81472.5	29.0A-G	90.0BAC	33.2D	0.785
Sonata	69428.8	24.7A-F	79072.8	28.1A-F	91.0BAC	34.7CD	0.711
Purple Rain	69110.5	24.6A-E	77592.8	27.6A-F	86.3A-D	34.1CD	0.720
Classic	66913.3	23.8A-G	72378.2	25.7A-G	81.7BDC	30.4D	0.782
Ghostbuster	64189.7	22.8A-H	77432.5	27.5A-G	86.7A-D	46.4CD	0.492
Little Finger	61110.8	21.7A-H	68038.4	24.2A-G	92.8BA	84.6BCD	0.257
Violetta Di Firenze	59897.3	21.3A-H	65322.0	23.2A-G	95.1BA	25.6D	0.833
Green Tiger	56604.7	20.1B-H	88491.7	31.5A-F	91.8BAC	218.3A	0.092
Italian DeFrank	52141.9	18.5B-H	62300.2	22.1A-G	85.9A-D	31.9D	0.582
Nitta x Waimanalo	48135.6	17.1C-H	53705.0	19.1D-G	91.9BAC	52.9CD	0.324
Blue Marble	47675.9	16.9C-H	55543.8	19.7C-G	85.3A-D	139.9B	0.121
Osterei	41558.4	14.8D-H	46809.6	16.6D-G	87.4A-D	63.7BCD	0.232
Milonaire	40789.3	14.5E-H	48392.0	17.2D-G	74.8D	54.8CD	0.264
Hara Began	39595.9	14.1E-H	49558.9	17.6D-G	86.8A-D	58.1CD	0.242
Waimanalo Long	31432.6	11.2E-H	52153.5	18.5B-G	78.3DC	43.1CD	0.259
Fullness	29213.3	18.2HGF	38640.3	24.0EGF	74.9D	28.0D	0.649
Slim Jim	27236.3	9.7HG	34292.5	12.2GF	84.6A-D	110.4BC	0.088
			30729.0	10.9G	87.5A-D	14.6D	0.646

ALPHABETICAL ORDER- First 3 months of Harvest

Table 5. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station, Summer 1999 (10-12 weeks of harvest, harvested 20-22 times)

Cultivar	Grade A	Grade A	Total wt.	Total wt.	Grade A	Total wt.	Grade A	Fruit No.	Gr A fruit size
Blue Marble	47675.9	16.9C-H	55543.8	19.7C-G	90.2BAC	46.0CD	0.803		
Bonica Tech	94759.5	33.7AB	99586.4	35.4A-D	85.3A-D	139.9B	0.121		
Charming	105403.3	37.5A	111582.7	39.7AB	97.0A	41.9CD	0.805		
Classic	66913.3	23.8A-G	72378.2	25.7A-G	94.4BA	69.4BCD	0.540		
Cloud Nine	86449.6	30.7A-D	91117.3	32.4A-F	81.7BDC	30.4D	0.782		
F-85-468	87678.4	31.2ABC	91294.1	32.5A-F	93.4BA	73.4BCD	0.419		
Fullness	29213.3	18.2HGF	38640.3	24.0EGF	97.2A	44.8CD	0.695		
Ghostbuster	64189.7	22.8A-H	77432.5	27.5A-G	74.9D	28.0D	0.649		
Glory	88933.8	31.6ABC	94768.4	33.7A-E	86.7A-D	46.4CD	0.492		
Green Tiger	56604.7	20.1B-H	88491.7	31.5A-F	95.6BA	37.3CD	0.848		
Hara Began	39595.9	14.1E-H	49558.9	17.6D-G	91.8BAC	218.3A	0.092		
Improved Bonica	77547.4	27.6A-E	80924.4	28.8A-G	86.8A-D	58.1CD	0.242		
Italian DeFrank	52141.9	18.5B-H	62300.2	22.1A-G	97.2A	31.7D	0.869		
Little Finger	61110.8	21.7A-H	68038.4	24.2A-G	85.9A-D	31.9D	0.582		
Madonna	26512.2	9.4H	30729.0	10.9G	92.8BA	84.6BCD	0.257		
Milionaire	40789.3	14.5E-H	48392.0	17.2D-G	87.5A-D	14.6D	0.646		
Neon	78210.4	27.8A-E	80721.1	28.7A-G	74.8D	54.8CD	0.264		
Neon 600	83920.9	29.8ABC	87541.0	31.1A-E	97.6A	46.9CD	0.593		
Nitta x Waimanalo	48135.6	17.1C-H	53705.0	19.1D-G	97.4A	53.1CD	0.562		
Osterei	41558.4	14.8D-H	46809.6	16.6D-G	91.9BAC	52.9CD	0.324		
Purple Blush	90259.8	32.1ABC	100311.3	35.7A-D	87.4A-D	63.7BCD	0.232		
Purple Rain	69110.5	24.6A-E	77592.8	27.6A-F	90.6BAC	54.8CD	0.585		
Sierra	73198.0	26.0A-G	81472.5	29.0A-G	86.3A-D	34.1CD	0.720		
Slim Jim	27236.3	9.7HG	34292.5	12.2GF	90.0BAC	33.2D	0.785		
Snowy	76902.1	27.3A-F	81322.2	28.9A-G	84.6A-D	110.4BC	0.088		
Sonata	69428.8	24.7A-F	79072.8	28.1A-F	95.8A	82.8BCD	0.330		
Tango	100947.8	35.9AB	108709.6	38.6ABC	91.0BAC	34.7CD	0.711		
Tasca	79306.6	28.2A-E	93574.9	33.3A-E	89.9BAC	101.6BCD	0.353		
Violetta Di Firenze	59897.3	21.3A-H	65322.0	23.2A-G	88.4BAC	33.7D	0.836		
Waimanalo Long	31432.6	11.2E-H	52153.5	18.5B-G	95.1BA	25.6D	0.833		
					78.3DC	43.1CD	0.259		

CULTIVARS GROUPED BY FRUIT TYPE- First 3 months of Harvest

Table 6. Mean yields of Grade A fruit, Total Fruit weight (marketable plus culls), and Percent Grade A fruit of Eggplant Cultivars Grown at the UH Waimanalo Experiment Station, Summer 1999 (10-12 weeks of harvest, harvested 20-22 times)

Cultivar	Grade A	Total wt.	Grade A	Total wt.	Grade A	Fruit No.	Gr A fruit size
Bonica Tech	94759.5	99586.4	33.7AB	41.1A	90.2BAC	46.0CD	0.803
Glory	88933.8	94768.4	31.6ABC	33.7A-E	97.0A	41.9CD	0.805
F-85-468	87678.4	91294.1	31.2ABC	32.5A-F	95.6BA	37.3CD	0.848
Tasca	79306.6	93574.9	28.2A-E	33.3A-E	97.2A	44.8CD	0.695
Improved Bonica	77547.4	80924.4	27.6A-E	28.8A-G	88.4BAC	33.7D	0.836
Sierra	73198.0	81472.5	26.0A-G	29.0A-G	97.2A	31.7D	0.869
Sonata	69428.8	79072.8	24.7A-F	28.1A-F	90.0BAC	33.2D	0.785
Classic	66913.3	72378.2	23.8A-G	25.7A-G	91.0BAC	34.7CD	0.711
Millionaire	40789.3	48392.0	14.5E-H	17.2D-G	81.7BDC	30.4D	0.782
Madonna	26512.2	30729.0	9.4H	10.9G	74.8D	54.8CD	0.264
					87.5A-D	14.6D	0.646
<i>Round lavender/purple or deep pink</i>							
Purple Blush	90259.8	100311.3	32.1ABC	35.7A-D	90.6BAC	54.8CD	0.585
Violetta Di Firenza	59897.3	65322.0	21.3A-H	23.2A-G	95.1BA	25.6D	0.833
Italian DeFrank	52141.9	62300.2	18.5B-H	22.1A-G	85.9A-D	31.9D	0.582
Blue Marble	47675.9	55543.8	16.9C-H	19.7C-G	85.3A-D	139.9B	0.121
Fullness (round blk)	29213.3	38640.3	18.2HGF	24.0EGF	74.9D	28.0D	0.649
<i>Long/Oval Purple/Lavender</i>							
Charming	105403.3	111582.7	37.5A	39.7AB	94.4BA	69.4BCD	0.540
Neon 600 (Cooks)	83920.9	87541.0	29.8ABC	31.1A-E	97.4A	53.1CD	0.562
Neon	78210.4	80721.1	27.8A-E	28.7A-G	97.6A	46.9CD	0.593
Purple Rain	69110.5	77592.8	24.6A-E	27.6A-F	86.3A-D	34.1CD	0.720

Continues...

Table 7. Growth evaluation of eggplant varieties at the UH Waimanalo Experiment Station, July 9, 1999 (70 days after transplanting; and 10-21 days after first harvest, depending on variety), and Cercospora damage index, Jan. 2000.

	Plant height (inches)	Canopy width (in)	Vigor (1-10)	Pest Index (1-10)	Cercospora (Index 1-5)	Fruit Description	Fruith length (in)	Fruit width (in)	Comments
Black Bell	27.6	43.3	6	6	3	Round blk/purple	7.1	4.7	Low br, med strong growth
Blue Marble	39.4	27.6	4	8	3	Round purple, deep violet	5.0	5.4	Upright, weak & sparse growth
Bonica Impr	35.4	45.3	7	4	2	Oval black	0.0	0.0	Low br, weak, fallen branches
Bonica Tech	35.4	39.4	8	3	3	Round blk/purple	7.4	4.4	Low br, strong growth, somewhat upright
Charming	23.6	39.4	8	3	1	Long light purple	9.6	2.2	Low br, strong growth
Classic	39.4	43.3	7	6	4	Oval dark purple	5.5	3.3	Low br, weak, 1 plant collapsed
Cloud Nine	43.3	51.2	9	3	4	Oval white	4.7	3.5	Low br, strong growth
F-85-468	43.3	47.2	9	3	2	Round black	4.7	3.5	Low br, strong growth
Fullness	31.5	43.3	6	8	2	Small round black	7.1	3.5	Low br, medium weak growth
Ghostbuster pruning	45.3	55.1	10	4	5	Oval white	5.4	2.3	Low br, weak, fallen branches, needs pruning
Glory	35.4	39.4	8	3	4	Round black	7.7	4.6	Low branch, strong growth
Green Tiger	35.4	39.4	8	3	2	Small green, striped	2.1	2.3	Low branches, strong
Hara Began	47.2	47.2	10	2	2	Long green	0.0	0.0	Low branches, strong, one plant collapsed.
Italian	31.5	35.4	6	7	1	Round lavender	4.8	5.1	Low br, med strong growth, needs pruning
Little fingers	39.4	39.4	7	3	3	Purple little fingers	0.0	0.0	Low br, weak growth
Madonna	23.6	31.5	4	8	2	Oval, half-long, purple	0.0	0.0	Low branches, weak growth
Millionaire	27.6	35.4	3	9	2	Oval purple/blk	6.9	1.8	Upright, weak
Neon	51.2	51.2	9	4	4	Deep lavender oval	0.0	0.0	Low br, weak, fallen branches, needs pruning

Index Values: Plant vigor index (ranges from 1-10) 10= best; Pest pressure damage index (ranges from 1-10), 10= worst damage; Pest damage was primarily from mites, thrips, and to a lesser degree from leafhoppers. Cercospora damage assessment was conducted on January 11, 2000 (ranges from 1-5), 0= no damage, 5= most severe damage (100%).

pruning															
Neon 600	47.2	49.2	10	3	5	5	Oval deep pink	7.7	3.1	3.1	Low branches, strong growth				
Nit x Waim branches	39.4	55.1	9	3	3	3	Long purple	0.0	0.0	0.0	Upright, strong growth, some low				
Osterei	35.4	39.4	5	7	4	4	Round white	2.9	2.3	2.3	Upright, weak & sparse growth				
Purple blush	31.5	47.2	8	4	3	3	Round white/purple	4.0	3.7	3.7	Upright, strong growth				
Purple rain	39.4	52.8	9	2	1	1	Oval purple, white stripes	7.0	3.9	3.9	Low branches, v/ strong				
Sierra	39.4	43.3	8	5	5	5	Oval purple	7.7	4.1	4.1	Low br, weak, fallen branches				
Slim Jim	31.5	27.6	7	6	1	1	Slim purple	5.9	1.8	1.8	Upright				
Snowy	35.4	47.2	8	2	5	5	Oval white, nice	6.5	2.1	2.1	Low br, strong growth				
Sonata	43.3	47.2	9	4	3	3	Dark purple oval	7.1	3.1	3.1	Low br, fallen branches				
Tango	43.3	51.2	8	6	4	4	Oval white	0.0	0.0	0.0	Low br, med strong grwth, needs pruning!				
Tasca	39.4	66.9	8	5	3	3	Oval purple	6.4	3.9	3.9	Many low branches, needs pruning!				
Violetta	43.3	47.2	7	8	2	2	Round purple, nice	4.8	4.8	4.8	Low branches, med weak				
Waimanalo	39.4	35.4	7	7	3	3	Long purple	0.0	0.0	0.0	Upright, strong growth				

Eggplant Variety Description

- Black Bell (Willhite)** Standard oval or globular variety recommended in Hawaii, Florida (1987), and Georgia. Fruit: 68 days, Round oval-shaped, glossy, deep purple black color; growth; tolerant to TMV.
- Blue Marble F1 (Burpee)** fruit: 62 days, originally from Italy. Deep-violet color, the fruit is white near the stem with white flesh very mild and delicious, round about size of a grape-fruit, purplish leaves. growth: resistance:
- Bonica F1 (Technisem)**- Early, 60-75 d, oval, deep purple, 300-400 g (10-14 oz), green calyx, TMV, CMV.
- Bonica Improved (Evergrow)** fruit med. early maturing, fruit glossy, long egg shaped, 400-530 grams (14-19 oz); black purple color with green calyx; good for shipping; uniform; high yield growth: med. tall plant; resistant to TMV.
- Charming (Known You Seed)** fruit: 55 days, purple redish fruit, attractive appearance and luster, 230 gr per fruit (8 oz), tender white flesh; med. Early, 2-3 fwrs per node; growth: very well branched resistance.
- Classic F1 (Harris Moran)** Standard deep oval or teardrop variety recommended in places such as Hawaii, Florida, and N. Carolina. Fruit; early mid-season, elongated oval, glossy black purple; fancy fruit appearance; good luster to fruit color; performance limited in winter production areas; growth: med. tall; upright; resistance:
- Cloud Nine (Petoseed).** NA
- F-85-468 (Known You),** NA.
- Fullness (Known-You)** fruit; sphere shaped eggplant, has a silky smooth and uniform appearance; color almost black, pale green flesh, and violet calyx and blossom; vigorous and average early, growth; vigorous and average earliness;
- Ghostbuster F1 (Harris Moran)** A white variety recommended for production in Wisconsin. Fruit; mid-season, white, round oval; med.-small fruits; sweeter flavor than dark skinned eggplants. growth; medium; Sturdy plants, provide a dense foliage cover.
- Glory (Evergrow)** NA
- Green Tiger (Cook's),** small round golf-sized fruit with attractive white stripes.
- Harabegan (Willhite)** fruit; elongated shape, shinning green fruits are borne in bunches; hard and bear less seeds; fruits when boiled do not form paste.
- Little Fingers (Harris Moran)** 68 days, Recommended for production in N. Carolina and in Ohio. Fruit; glossy black; oriental type but with green calyx; very productive; fruits borne in clusters of 5-10 fruits; growth; medium; a specialty; dense foliage canopy; also used for mini (baby) vegetable market.
- Madonna F1 (De Ruiter)** fruit; half long violet; med.; excellent fruit quality both in shape and colour growth: size med. vigourous; open plant; all crops both indoor and outdoor; easy setting and early yielding.
- Millionaire (American Takii)** Extra early, Long shape, brilliant black, purple calyx, 200 gr in weight, extra early, finest long black, upright, good for greenhouse and open field growing. Upright habit. For cooking and pickling.

- Neon F1 (Shamrock)** fruit; tear drop shaped, light purple; strong calyx attachment; high yielding; very attractive for the specialty market; fruit: growth: resistance: tolerant to vt.
- Neon 600 Hybrid (Cook's)** Pink variety recommended for production in Wisconsin. Beautiful dark pink, almost cylindrical, just over 60 days after transplanting, abundantly borne and strong, bushy plants. Tender and totally bitter free.
- Nitta/Waimanalo F1 (UH)** Standard hybrid UH Japanese long-eggplant.
- Osterei Hybrid (Cook's)** White, especially productive and yields handfuls of small oval white fruits, great for grilling or slicing. Good container variety too, and for small gardens..
- Purple Blush (Burpee)** 62 days, fruit unique color; sweeter than other eggplants, oval 6" long, 4 1/2" across; pearly white skin blushed with lavender.
- Purple Rain (Burpee)** 66 days, fruit wine-purple color streaked with creamy white; the white flesh is almost seedless and mild, never bitter, sweet taste and large.
- Sierra (Evergrow)** fruit med. maturing; black purple fruit with green calyx; growth easy planting tall plant; resistance resist to tmv
- Slim Jim (Cook's)** For market to sell baby vegetables to specialty markets. Lavender to purple fruits borne in clusters close to the main stem, and color up while still the size of a peanut. Great as an ornamental potted plant for patio gardeners.
- Snowy F1 (Harris Moran)** , very uniform, fruit is white with firm flesh and long cylindrical shape, 7-8 in long, 2.5 in diameter. Released by Ferry Morse in 1995.
- Sonata F1 (Harris Moran)** fruit; mid-season, elongated oval, glossy black purple; premium; fancy fruit; sets fruit under cool conditions; growth; tall sturdy upright.
- Tango F1 (De Ruiter)** White variety recommended for production in Wisconsin. premium crop, fruit; long cylindrical, white.
- Tasca F1 (Vilmorin, also see Twilley)** fruit: oval-elongated, highly productive over a long season; excellent fruit appearance; shiny dark purple/black fruit; bright green spineless calyx. Firm flesh with slow seed development; growth; canopy is vigorous with good foliage; highly productive; has good setting under cool conditions.
- Violetta di firenze (Cook's)** Oblong to round fruits, rich lavender, sometimes striped with white. Great for stuffing or a centerpiece.
- Waimanalo Long (UH)** Standard open-pollinated UH Japanese long eggplant. Released in 1972.

DISEASE CODES:

F1 (in front of variety name)= hybrid variety.

A,Al: alternaria stem canker

CMV: cucumber mosaic virus

F1 (under disease section):

 fusarium wilt (race 1)

F2: fusarium wilt (race 2)

V,Vt: verticillium wilt

T,TMV: Tobacco mosaic virus

St: stemphylium (grey leaf spot)

N,RN: root knot nematode

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