



2000 Pumpkins Variety Trial Results 2000-03

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Test Objectives

Evaluate commercially available varieties and advanced breeding lines of pumpkin for plasticulture production.

Production Methods

- White-on-black plastic and drip irrigation
- Pumpkin direct seeded on July 28 (3 seeds per hill, thinned to 1 plant per hill) at a within-row spacing of 3 feet. Center-to-center distance between beds: 7.5 feet. Plot length: 30 ft. Plant population: approximately 2,000 plants/acre (22 sq-ft/plant).
- Fertilization: 500 lbs/acre of 13-4-13 pre-plant, and weekly injections of N and K to provide a total of 150 lbs of N and K₂O.
- Thiodan and Bravo fungicides sprayed on August 4, 11, 18, 25, September 1, 8, 15 and 20.
- Admire systemic insecticide injected via drip tape on August 7 and September 1.
- Plots harvested on September 28, 2000.

Does and Don'ts in Pumpkin Production

- 'I'll worry about selling at harvest time' (the money is in selling, not growing!)
- Irrigate and fertilize: pumpkins need a continuous supply of water and fertilizer.
- Check proper fruit set: bees are necessary (native or honey bees).
- It is critical to control insect pests (such as aphids, silverleaf whitefly, and melon worms) early. The systemic insecticide Admire has been very helpful in controlling whitefly.

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- Schedule planting to match marketing window.
- Follow spray schedule for insect and disease control.
- At harvest, clip the fruits off the vine (do not tear stem) with full color (color development generally stops at harvest).
- HANDLE WITH CARE. Instruct harvesting crew that pumpkins are ALIVE (dropping them on the ground, stepping on them or stacking them will reduce shelf life).
- Remove excessive dirt before selling.
- Select varieties and plant several types: not all pumpkins are alike!

Desirable Attributes

- Yield and uniformity.
- Fruit color.
- Strong, dark stem (it is not a handle!)
- Disease resistance (mainly powdery mildew).

Table 1. Seed Source, Observed Days to Harvest, Yield, Fruit Number and Size, and Estimated Retail Value of Selected Pumpkin Varieties (2000 - NFREC, SV)

Variety/ Experimental Line	Seed Source ¹	Observed DTH ² (Days)	Total Mkt. Wt (lbs/acre)	Total Fruit (No./acre)	Fruit Wt. ³ (lbs/fruit)	Retail Value ⁴ (\$/acre)
Desktop						
PSR-93590-69 (F1)	Petoseed	62	10,282	3,298	3	5,038
Pik-A-Pie (F1)	Rupp Seeds	63	9,661	3,201	3	4,734
Lil' Ironsides (F1)	Harris Seeds	64	8,627	6,467	1	4,227
Touch-Of-Autumn (F1)	Rupp Seeds	63	8,588	5,432	2	4,208
Oz (F1)	Harris Seeds	64	7,107	2,457	3	3,482
<u>Peek-A-Boo (F1)</u>	<u>Rupp Seeds</u>	<u>62</u>	<u>6,260</u>	<u>3,039</u>	<u>2</u>	<u>3,067</u>
Baby Bear (OP)*	Rupp Seeds	63	3,046	1,423	3	1,492
C.R. ⁵		2	4,865	2,309		2,384
Small/Medium Jack-o-Lantern						
EX-4622837(F1)	Asgrow	62	23,707	2,619	9	6,875
PX-93590-19 (F1)	Petoseed	62	23,067	1,940	12	6,689
EX-4622827 (F1)	Asgrow	62	20,506	2,328	9	5,947
Gold Fever (F1)	Rupp Seeds	63	19,122	2,522	8	5,545
XPH-1853 (F1)	Asgrow	63	18,818	5,141	4	5,457
Gold Standard (F1)	Rupp Seeds	62	16,970	2,328	7	4,921
SVR-4623437 (F1)	Asgrow	66	16,878	2,037	8	4,895
Howdee Doodee (F1)	Rupp Seeds	62	16,015	1,940	8	4,644
Gold Bullion (OP)	Rupp Seeds	63	15,971	1,746	10	4,632
Merlin (F1)	Harris Seeds	62	13,890	1,892	7	4,028
<u>PSR-93590-39 (F1)</u>	<u>Petoseed</u>	<u>62</u>	<u>13,386</u>	<u>1,164</u>	<u>12</u>	<u>3,882</u>
Phantom (F1)	Petoseed	64	11,650	1,164	10	3,378
PSR-93590-44 (F1)	Petoseed	63	9,875	1,358	7	2,864
Var. #510 (F1)*	A&C	62	9,598	825	12	2,783
Mystic (F1)	Harris Seeds	65	8,898	2,845	3	2,580
PSR-93590-59 (F1)	Petoseed	62	4,384	388	11	1,271
EX-4643439 (F1)	Asgrow	66	1,358	194	7	394
C.R.		2	10,549	1,167		3,059
Miniature						
Jack-Be-Quick (OP)*	Rupp Seeds	63	3,725	11,349	0.3	10,101
<u>Wee-B-Little (OP)</u>	<u>Johnny</u>	<u>66</u>	<u>1,028</u>	<u>3,104</u>	<u>0.3</u>	<u>2,763</u>
C.R.		ns	ns	ns		ns
Specialty						
Casper (white, OP)*	Rupp Seeds	62	19,555	2,328	8	5,671
<u>Lumina (white, OP)</u>	<u>Rupp Seeds</u>	<u>62</u>	<u>11,010</u>	<u>1,164</u>	<u>11</u>	<u>3,193</u>
Golden Delicious (red, OP)	Rupp Seeds	62	8,497	970	9	2,464
Jarrhadale (blue, OP)	Johnny	72	6,955	970	7	2,017
Valenciano (white, OP)	Johnny	68	2,153	388	6	624
C.R.		0	10,401	1,561		3,016

¹ seeds may be ordered from other sources

² all varieties were harvested 62 DAP. Relative maturity was rated at harvest based on color development

³ mean fruit weight may be smaller than that of typical fruits

⁴ based on a local store survey, retail values estimated using \$0.29/lb for Small/Medium j-o-l and specialty, \$0.49/lb for Desktop, and \$0.69/fruit for miniature

⁵ C.R. = critical range. Represents the smallest difference to be observed between two means to be able to conclude with a 95% confidence that the difference between these two means is real, and is not due to plot size

* standard (reference) variety for the category

Table 2. Fruit Shape and Stem Length of Selected Pumpkin Varieties (2000 - NFREC, SV)

Variety/ Experimental Line	Seed Source ¹	Stem Length ² (in.)	Fruit Height (in.)	Fruit Diam. (in.)	Height: Diameter Ratio ³
Desktop					
PSR-93590-69	Petoseed	4.1	6	7	0.82
Baby Bear	Rupp Seeds	2.8	4	5	0.78
Pik-A-Pie	Rupp Seeds	2.1	6	6	0.98
Oz	Harris Seeds	2.0	5	6	0.96
Peek-A-Boo	Rupp Seeds	1.8	6	7	0.89
Lil Ironsides	Harris Seeds	1.6	4	5	0.87
Touch-Of-Autumn*	Rupp Seeds	1.6	5	5	0.94
Small/Medium Jack-o-Lantern					
PSR-93590-44	Petoseed	4.4	9	9	1.01
Gold Fever	Rupp Seeds	3.9	9	9	0.95
Howdee Doodie*	Rupp Seeds	3.8	9	10	0.89
EX-4622827	Asgrow	3.1	10	11	0.91
PSR-93590-39	Petoseed	2.6	12	9	1.36
Merlin	Harris Seeds	2.5	10	9	1.07
PSR-93590-59	Petoseed	2.5	7	6	1.10
SVR-4623437	Asgrow	2.5	12	11	1.10
EX-4622837	Asgrow	2.4	11	10	1.03
Mystic	Harris Seeds	2.4	6	7	0.93
Phantom	Petoseed	2.4	11	10	1.06
Gold Bullion*	Rupp Seeds	2.3	8	10	0.88
Gold Standard	Rupp Seeds	2.3	8	9	0.92
PX-93590-19	Petoseed	2.3	12	10	1.22
Var. #510	A&C	2.1	11	10	1.07
XPH-1853	Asgrow	1.9	7	8	0.83
Miniature					
Jack-Be-Quick	Rupp Seeds	1.3	2	3	0.57
Wee-B-Little	Johnny	0.4	3	3	1.10
Specialty					
Jarrhadale (blue)	Johnny	2.5	6	9	0.69
Golden Delicious (red)	Rupp Seeds	2.1	11	10	1.09
Valenciano (white)	Johnny	1.8	6	8	0.67
Lumina (white)	Rupp Seeds	1.3	7	9	0.74
Casper (white)	Rupp Seeds	1.1	9	9	1.01

¹ seeds may be ordered from other sources

² harvesters were instructed to cut as-long-as-possible a handle

³ fruits with a 1.0 to 1.2 ratio appear 'tall'; fruits with a 0.9 to 1.0 ratio appear 'blocky'; and, fruits with a 0.8 to 0.5 ratio appear 'flat'

* reported as Powdery Mildew Tolerant

Next page: Admire 2F (Bayer Corp. - EPA Reg No. 03125-00422-AA-00000) Supplemental Labeling for use on cucurbits (from <http://www.cdms.net/manuf/1prod.asp?manuf=128&pd=33>)

Eric Simonne (Ext. Spec. - Vegetables) and Bob Hochmuth (Multicounty Agent -Vegetables)
TIS-VS 101 (10/18/00)

Supplemental Labeling

Admire[®] 2 Flowable

Systemic Insecticide

EPA Reg. No. 3125-422

ADMIRE 2 Flowable now can be used on cucurbits for control of various pests. The amended labeling as accepted for registration is as follows.

This labeling must be in the possession of the user at time of pesticide application.

RECOMMENDED APPLICATIONS		
VEGETABLES - Cucurbits (Direct-seed or Transplant) (Except those grown for seed)		
CROP	PEST	RATE PER APPLICATION
Balsam pear (bitter melon)	Aphids	Soil Application 16 to 24 fl oz/A (See conversion charts for linear application or individual plant application rates.)
Calabaza	Cucumber beetles	
Chayote (fruit)	Thrips	
Chinese okra (<i>Luffa acutangula</i>)	(Foliar-feeding thrips only)	
Chinese waxgourd (Chinese preserving melon)	Whiteflies	
Citron melon	(Including sweetpotato or silverleaf whitefly)	
Cuban pumpkin		
Cucumber		
Gherkin		
Gourds		
Edible melons including hybrids (including cantaloupe, casaba, Chinese melon, crenshaw, honeydew melons, honey balls, mango melon, muskmelon, Persian melon, winter melon),		
Pumpkin		
Squash (including summer, winter, acorn, spaghetti, opel),		
Watermelon including hybrids		

(continued in next column)

RECOMMENDED APPLICATIONS
VEGETABLES - Cucurbits (continued) (Direct-seed or Transplant) (Except those grown for seed)
SOIL APPLICATION (continued)
The rate applied affects the length of control. Use the high rate where infestations occur later in crop development, or where pest pressure is continuous.
ADMIRE will not control thrips infesting flowers or blooms.
Do not apply a soil application within 21 days of harvest.
For vegetable crops listed, do not apply more than 24 fluid ounces of ADMIRE 2 Flowable per acre per year as a single soil application.
NOTE: Regardless of the type of application (soil or foliar) or type of formulation, do not apply more than 0.5 lbs ai of ADMIRE or PROVADO per acre per year.

RECOMMENDED APPLICATIONS
VEGETABLES - Cucurbits (continued) (Direct-seed or Transplant) (Except those grown for seed)
SOIL APPLICATION
Apply specified dosage in sufficient carrier volume to insure uniform application and incorporate into the soil using one of the following methods:
(1) In a narrow band centered on the plant row in the bedding operation 14 or fewer days prior to planting. For best results band width should be 2" or less and placed 4 to 5" below the seed depth where soil is continuously moist.
(2) In-furrow spray at or below seed level or a narrow surface band above the seedline during planting. For surface-banded applications incorporate to a depth of 1-1/2" with sufficient irrigation within 24 hours to insure satisfactory insect control. Seedline or surface-banded applications are more effective in sprinkler-irrigated fields, or areas with adequate natural rainfall to maintain proper soil moisture.
(3) As a post-seeding drench, transplant drench, or hill drench. Applications should be made with sufficient water to insure incorporation into the root zone.
(4) As a sidedress after plants are established. Applications should be placed within 2 to 4 inches to the side of each row and incorporated 1 or more inches deep. Applications should be made to each row if there are two rows per bed. Applications made outside this zone or under prolonged dry soil conditions may not provide adequate protection. ADMIRE should be placed in the soil where sufficient moisture is maintained and available for continuous root uptake of ADMIRE and will allow for proper root development in the treatment zone. For optimal control in furrow-irrigated melons, ADMIRE should be injected into the side of the bed at or up to 1-1/2 inches above the bottom of the water furrow. NOTE: Sidedress applications of ADMIRE will provide protection of only the actively growing leaves of the plant and new leaves developed after the application is made. Sidedress applications will not control insect pests that attack older leaves (crown leaves) that exist at the time of application. If insect control on crown leaves is required, other control methods must be used in conjunction with the sidedress application of ADMIRE.
(5) In drip or trickle irrigation water. Emitters should be positioned as close to the plant base as practical to allow for rapid uptake by the root system. As distance between emitter and plant base increases, allow sufficient time for roots to train to the emitter site prior to ADMIRE treatment. Applications made prior to root system training to the emitter site may result in delayed uptake and shortened residual control. Flush irrigation lines to clear all particulate matter prior to injection of ADMIRE. Inject ADMIRE into the lines after the irrigation filters. Inject ADMIRE slowly into the irrigation water to allow for uniform distribution throughout the system. See directions for use in chemigation systems.

(continued in next column)