

# Trial Report: UGA Snap bean trial Spring 2016

Conducted by:

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## Production

Location: Tifton, GA

Entries: 13 snap bean varieties + 2 *non-commercial varieties not included in report.*

Planting Date/Spacing: Seeded on 24 Mar. at a population of 97,887 seeds/acre (1.78 inches in row spacing) with 36" row spacing.

Plot size: 70-foot total (2 rows of 35-feet each) with 10-foot alleys between adjacent plots. Four replicates of each variety were planted in a randomized complete block design.

Fertility: 1000 lbs/acre 5-10-15 preplant broadcast with 2 subsequent applications of calcium nitrate (25 lbs/acre N each). Calcium nitrate applied 1 week prior to flowering and at fruit set. A season total of 100 lbs/acre N was applied.

Irrigation: Overhead irrigation at 1-1.25 inches per week.

Herbicide: Preplant incorporated Treflan with 8 oz/acre Dual Magnum broadcast immediately after planting. Heavy rains were expected the day after planting so a low rate of Dual Magnum was used to reduce any chance of injury. Two subsequent cultivations with conducted with Basagran applied after second cultivation.

Pest Control: Weekly fungicide sprays according to UGA recommendations and insecticide sprays as needed.

## Data Collection

Harvests: 20 and 23 May. Relative maturity and vigor were estimated on 17 May. Beans in this report were harvested on 20 May (57 days after planting). Beans were mechanically harvested and planted in a randomized complete block design; therefore, most had to be picked on the same day to avoid damaging adjacent beans. A single row Pixall bean harvester was used to pick beans.

Grading: Beans were washed and graded by hand and using a shaker table (Figure 1) to remove pin beans, broken beans and curved beans. Field yields and graded yields were then obtained. For determining yield a bushel box was estimated to contain 28 lbs of beans (30 lb market weight – weight of box).

Statistics: SAS version 9.3 was utilized. Data was subject to the GLM procedure and Fisher's Least Significance test.

Table 1. Entries in the 2016 snap bean trials			
Abbott and Cobb	Harris Moran	Seminis	Syngenta
Dominator	Caprice	Sybaris	Achiever
	Colter	Valentino	Momentum
	HMX5106	BA1006	
	HMX5107	BA0958	
		SV1137GF	
		SV3231GG	



**Figure 1.** (From top left) Bean plot on 30 days after planting. Harvest using a 1-row mechanical picker, grading with a shaker table.

**Results.**

Vigor ratings were differed among varieties (Table 2). Vigor was determined on a 1-9 scale with 5 being “average” for a snap bean, 9 being extremely vigorous and 1 being poor vigor. Most beans were near “average”, with vigor ranging from 4.75 to 7.0. Relative maturity was not analyzed statistically, but was included as an estimate of days to harvest. For this measurement the variety ‘Caprice’ was used as the baseline and varieties were given a +1 or -1 if they were 1 day ahead or 1 day behind ‘Caprice’ respectively (Table 2). Beans were harvested at 57 days after planting.

Non-graded yields ranged from 153 - 227 bushels per acre. ‘Colter’ was the highest yielding variety in the field and after grading but it was not statistically different from 8 other varieties. It should be noted that beans were washed prior to obtaining the field or non-graded weights. The removal of dirt from the beans resulted in an approximate 5-10% difference in weight compared to immediately after harvest. The percentage pack out ranged from 74-84%. For a few varieties the percent packout reduced their relative standing for marketable yield compared to field yields; however usually this difference was minor.

**Table 2. Vigor ratings and relative maturity of varieties.  
Ratings conducted at 54 days after planting.**

Variety	Vigor (1-9)		Average Relative Maturity (+ or – days) <sup>y</sup>
HMX5106	7.3	a <sup>z</sup>	-1.75
Colter	6.5	ab	0
Achiever	6.3	ab	+0.25
Momentum	6.3	ab	-0.50
SV3231GG	6.0	ab	-1.50
SV1137GF	6.0	ab	-0.75
BA0958	5.8	ab	-1.75
Dominator	5.8	ab	-1.25
BA1006	5.8	ab	-0.75
HMX5107	5.5	ab	0
Valentino	5.3	ab	+0.75
Caprice	5.3	ab	0
Sybaris	4.8	b	-3.0

<sup>z</sup>Numbers within the same column followed by the same letter(s) are not significantly different at P<0.05 according to Fisher's Least Significant Difference Test.

<sup>y</sup>Relative maturity is the average estimate of all 4 replicates and therefore may not result in a whole number of days. Maturity was estimated to be when the majority of beans were sieve size 4 or greater.

**Table 3. Field and graded yields for snap bean variety grown in Tifton, GA in Spring 2016.**

Variety	Bushels/Acre <sup>z</sup>				(%)	
	Field Yields <sup>y</sup>		Graded Yields		Percent Pack Out	
Colter	227	a <sup>x</sup>	190	a	83.3	ab
HMX5107	225	ab	181	abc	80.1	a-d
SV1137GF	223	abc	182	ab	81.7	abc
Momentum	211	a-d	165	a-e	78.2	cde
Caprice	210	a-d	173	a-d	82.0	abc
Dominator	197	a-d	159	a-e	80.4	a-d
Achiever	184	a-d	146	a-e	80.0	bcd
BA1006	172	a-d	141	a-e	82.3	abc
HMX5106	167	bcd	123	e	74.1	ef
Sybaris	164	cd	131	de	80.4	a-d
BA0958	163	cd	132	de	80.5	a-d
Valentino	157	d	132	cde	84.6	a
SV3231GG	153	d	129	de	84.0	ab

<sup>z</sup>Bushels calculated based on 28 lbs of bean.

<sup>y</sup>Field yields were taken after washing.

<sup>x</sup>Numbers within the same column followed by the same letter(s) are not significantly different at P<0.05 according to Fisher's Least Significant Difference Test.