

# Evaluation of Twelve Pepper Cultivars in Southwest Michigan

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## **Objective**

The objective of this trial was to evaluate performance of 12 pepper cultivars for adaptability to Southwest Michigan growing conditions. Cultivars included seven bells, four jalapenos, and one sweet banana.

## **Summary**

Significant differences were noted in most traits evaluated. Bell pepper total yield ranged from 1,645 ('Paladin') to 1,421 ('Declaration') bushels per acre. 'Paladin,' 'Excursion II,' and AC8620 were among the leaders in yield of jumbo-, extra large-, large-, and medium-sized fruit. 'Red Bull' had the largest average of No. 1 fruit weight (209 grams per fruit). 'Taos' and 'Capsico' were the highest yielding jalapeno cultivars (1,351 and 1,248 bushels per acre, respectively). They were also among the leaders in yield of No. 1 fruit and average No. 1 fruit weight. The jalapeno J-7 had darker green fruit than other jalapenos. 'Pageant,' the lone sweet banana, had a total yield of 1,641 bushels per acre and an average fruit weight of 65 grams per fruit.

## **Methods**

### ***Fertilizer***

Prior to planting, 0-0-60, sulfur and solubor were broadcast and incorporated at 200, 20, and 20 lbs./A, respectively. Pre-plant nitrogen was supplied through a hairy vetch cover crop planted in August 2006. After planting, 43 gal./A of Nitro Formula (17-0-0-5Ca-1.5Mg Zn-B) was applied through the drip irrigation system prior to first fruit set. After fruit set, 20 lbs./A per week of Urea Mate (5-10-27 + micronutrients) was again supplied through the drip system. Fertilization began June 11, 2007 and ended August 20.

### ***Fumigation/Weed Control***

Beds were fumigated with 300 pounds per acre 67/33% methyl bromide/chloropicrin at bed shaping, and plastic laying on May 2, 2007. Between-row weeds were controlled through cultivation and hand hoeing.

### ***Planting***

Seed was started in a greenhouse on April 2, 2007 and planted to the field on May 23. Beds were 6 inches high and spaced 5.5 feet on centers. Plants were set in double rows 14 inches between rows and 18 inches between plants (10,560 plants per acre). The trial was planted and analyzed as a completely randomized design with 16 plants per plot and four replications. Plots were separated by four guard plants. Bell peppers were planted in one trial and jalapenos and banana pepper in another. Each trial was analyzed separately. The banana pepper was excluded from statistical analysis.

### ***Plant Care***

Plots were irrigated daily and pests controlled using standard commercial practices.

### ***Harvest and Data Collection***

Harvest was conducted three times: August 2, 16, and 30, 2007. Fruit was graded and weighed for each category.

### **Results**

The seven bell peppers were similar in total yield, with only 'Declaration' having a significantly lower value than 'Paladin,' the top yielding entry (Table 1). All cultivars also had similar yields of extra large and No. 2 fruit. The greatest differences were found in the yields of large, medium, and cull fruit. Average No. 1 fruit weight also varied, with 'Red Bull,' 'Declaration,' and HMX6646 having similarly high weights (Table 1).

'Declaration,' HMX6646, and 8620 had comparable cull yields (248, 247, and 194 bushels per acre, respectively). Fruit was culled primarily due to blossom end rot (BER) symptoms at first harvest. BER symptoms were probably made worse due to high temperatures experienced through June and especially in July when fruit would have been developing.

'Taos' was the top performing jalapeno cultivar in total yield and yield of No. 1 fruit (Table 2). However, 'Capsico' was similar to 'Taos' for both traits. Both cultivars were also in the top three for average No. 1 fruit weight. J-7 had fruit that was obviously darker green than the other three entries.

**Table 1.** Yield in bushels per acre and quality of seven bell pepper cultivars grown at the Southwest Michigan Research and Extension Center, Benton Harbor, Michigan in 2007. Average fruit weight is expressed in grams per fruit.

Variety	SS	Total Yield	Average No.1 Fruit Weight	Yield Jumbo	Yield Extra Large	Yield Large	Yield Medium	Yield No. 2	Yield Cull
Paladin	SY/RG	1,645	184	329	333	321	377	239	47
Excursion II	AC	1,637	186	364	324	319	287	220	124
8620	AC	1,596	179	217	329	344	279	233	194
ACX 270	AC	1,584	175	151	315	381	312	265	161
HMX6646	HM	1,565	196	330	333	263	218	175	247
Red Bull	SK	1,489	209	316	288	267	212	241	165
Declaration	HM	1,421	208	369	297	203	118	185	248
	<b>Lsd=.05</b>	<b>184</b>	<b>20</b>	<b>172</b>	<b>ns</b>	<b>89</b>	<b>138</b>	<b>ns</b>	<b>69</b>

**Table 2.** Yield in bushels per acre of four jalapeno and one sweet banana ('Pageant') peppers grown at the Southwest Michigan Research and Extension Center, Benton Harbor, Michigan in 2007. 'Pageant' was not included in statistical analysis. Average fruit weight is expressed in grams per fruit.

Variety	SS	Total Yield	Yield No. 1	No 1 Fruit Weight	Yield No. 2	Yield Cull
Taos	SY/RG	1,351	1,112	37	157	82
Capsico	SY/RG	1,248	1,030	40	173	46
J-7	AT	1,139	916	39	159	64
Compadre	SY/RG	1,098	944	36	125	28
Pageant	SY/RG	1,641	1163	65	360	118
	<b>Lsd=.05</b>	<b>134</b>	<b>124</b>	<b>3</b>	<b>46</b>	<b>28</b>