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ORANGE BULLDOG PERFORMS WELL IN TRIALS AND A HIT WITH GROWERS

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The University of Georgia has developed a new pumpkin variety called 'Orange Bulldog', which has greater virus disease resistance compared to conventional pumpkins. Over the past several years we have been testing this variety against commercial pumpkins in both spring/summer and fall trials. In addition, we have been sharing seed with growers over the past two years and soliciting feedback.

Materials and Methods

Land for the 2006 trial was prepared according to University of Georgia Cooperative Extension Service recommendations for pumpkins. Fertilizer was applied according to University of Georgia Soil Test Laboratory recommendations. Weed control followed standard recommendations for Georgia. No fungicides or insecticides were used with either trial.

In 2006 transplants were set on formed 6-ft on-center beds with an in-row spacing of 6 ft. on 26 June 2006. Plant stand was recorded on 20 July 2006. Pumpkins were harvested on 19 September 2006 with total weight and fruit count recorded. Data were subjected to analysis of covariance with plant stand as a covariate.

In 2007 seed were sown on 21 May 2007 with a similar planting arrangement as in 2006. Pumpkins were harvested on 7 August 2007 and total weight and counts were recorded.

These experiments were arranged in a randomized complete block design with four replications. Each experimental unit or plot was 10 hills.

Seed for approximately one acre was shared with approximately 30 growers under a non-propagation agreement. Growers were asked to fill out and return a survey of their results with 'Orange Bulldog'.

Results and Discussion

Results from these trials mirror previous trials in which 'Orange Bulldog' outperforms conventional pumpkins during fall trials. In 2006, three of the conventional pumpkin varieties had no yield, while none of these commercial lines had yields near 'Orange Bulldog'. This reflects high virus infection rates in the conventional lines. These viruses during fall production can infect plants when very young resulting in plant death before any yield can be realized.

In the summer 2007 trial, 'Orange Bulldog' had significantly higher yield than all the entries except for PMK-06-04 and 'Alladin'. In past trials, 'Orange Bulldog's performance has been comparable to commercial varieties during spring/summer trials when virus pressure is much lower.

Tissue analyses for viruses on 'Orange Bulldog' and conventional pumpkins has indicated that 'Orange Bulldog' is infected with zucchini yellow mosaic virus, but that symptom development is slight, while in conventional pumpkins, papaya ringspot virus has predominated with severe symptom development particularly during fall production when insect vectors (aphids) are at their highest.

Table 1. Pumpkin variety trial, fall 2006.

Variety	Yield (lbs/acre)	Count (No./acre)
Orange Bulldog	22,763	2,662
Aladdin	360	61
Magic	366	30
Pro Gold 200	944	151
Gladiator	1,420	121
Wizard	0	0
Spartan	414	30
Autumn King	0	0
Gold Rush	0	0
Coefficient of Variation:	92%	87%
Fisher's Protected LSD ($p \leq 0.05$):	3,521	387

Of the 20 respondents to the survey, 85% were commercial growers (Table 3). All the growers produced the pumpkins for the fall market. The customer evaluation, production performance, and marketability were 3.3, 3.7, and 3.2, respectively on a 1-4 scale with 1-poor and 4 excellent. In addition, 94% of those responding were interested in growing the pumpkin again.

In addition, fall vine cover is very good for growers who 're-seed' a pick-your-own field operation. 'Orange Bulldog' can have some problems with insects, particularly whiteflies and pickle worms. Growers should scout their fields regularly and spray if insect damage warrants. In conclusion, we see this pumpkin as having a good fit for local markets of pick-your-own and roadside markets.

'Orange Bulldog' seed will be available this coming season (2008). If you wish to purchase seed, please contact the senior author for information.

Table 2. Pumpkin variety trial, summer 2007.

Variety	Source	Total (lbs/acre)	Count (No./acre)
PMK-06-04	D. Palmer	34,633	3,418
PMK-02-03	D. Palmer	12,297	4,296
PMK-06-02	D. Palmer	14,759	4,417
PMK-06-01	D. Palmer	12,508	4,175
PMK-06-05	D. Palmer	23,159	2,178
Gold Medal F ₁	Rupp	5,409	484
Red Eye	Rupp	26,091	2,450
Gold Challenger F ₁	Rupp	23,513	1,845
Alladin	Seedway	30,743	2,481
Orange Bulldog	UGA	43,140	3,570
Coefficient of Variation:		52%	30%
Fisher's Protected LSD ($p \leq 0.05$):		14,242	1,065

Table 3. Grower survey of 'Orange Bulldog'.

Commercial Growers	Season	Customer Evaluation ^z	Production Performance ^z	Marketability ^z	Interested in growing again
85%	Fall	3.3	3.7	3.2	94%

^zEvaluation scale: 4-Excellent, 3-Good, 2-Fair, 1-poor

