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Evaluation of Ornamental Corn Production and Cultivars for North Florida 99-03

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Material and Methods

There is an increased interest in production of new or specialty crops with high value. Fall holiday crops are in high demand each year in Florida. Very little production exists in North Florida for fall holiday crops such as pumpkin, gourds, and ornamental corn. High production risks in the fall for these crops include: proper cultivar selection, insect pests, diseases, and unfavorable weather due to normal hurricane seasons. One possible solution reducing these risks for ornamental corn is to produce the crop in the spring season, harvest, dry, and store the crop until the fall holiday season.

Two cultivars, 'Fiesta' and 'Calico', were evaluated for spring production in 1997 and 1999. Both crops were established by seeding unreplicated plots on March 19, 1997 and April 26, 1999. Plots were established using a full-bed black polyethylene mulch system with drip irrigation. Final beds were 36 inches wide and 6 inches high and were spaced 5 feet apart. Two rows per bed were established at an in-row spacing of 12 inches. The fertilizer program in both years was 500 lbs/A of 13-4-13 (N-P_2O_5-K_2O) including minor elements applied pre plant and the remaining N and K_2O fertilized weekly during season. Final N and K_2O rates were 175 lbs/A.

Insects and diseases were managed by pesticide applications as needed. During and after the silking stage, insecticide applications were made twice weekly to control armyworm and corn earworm damage on the ears. Ears were harvested when husks began to dry. Harvest was conducted on July 3, 1997 and July 19, 1999. Harvested ears were husked back without totally removing the husks. Ears were then graded and weighed by grade. Grade categories were fancy, select, and cull. Fancy ears were of superior quality, full tip fill, and no other defects. Select ears had nearly full tip fill, (up to 1.5 inches of poor tip fill) and were nearly free of other defects. Culls were poorly filled or had other defects making those ears clearly unmarketable. A representative sample of 10 fancy ears from each plot was measured to determine mean ear length.

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Results and Observations

Spring production of ornamental corn was done successfully in both seasons. Insect and disease management were both critical, especially control of the ear worm complex. 'Fiesta' produced higher fancy yields in both years, 12,500 ears in 1997 and 8,640 ears in 1999. This compared to fancy 'Calico' yields of 4,360 ears in 1997 and 3,380 ears in 1999. Average ear lengths were similar for both cultivars in both years at about 8 to 8.5 inches per ear.

It appears 'Fiesta' is better adapted to production in North Florida. Area retailers were surveyed for prices they typically expect to pay for high quality ornamental corn. The prices ranged from $0.50 to $1.00 per ear. The retail price for high quality fancy ears was at least or near $1.00 per ear. Further information is needed to quantify cost of production, drying, storage, and marketing of ornamental corn. Proper storage techniques on small farms will need further research. Storage will be required from July to October. During this period, exposed ears are very susceptible to several stored grain pests.

Table 1. Comparison of two ornamental corn cultivars for yield, quality, and ear length at Live Oak, FL - Spring, 1997 and 1999.

Year	Cultivar	Seed Source	Yield (per acre)						Fancy Average Ear Length (inches)
			Fancy[Z]		Select		Cull		
			Number	Weight (lbs)	Number	Weight (lbs)	Number	Weight (lbs)	
1997	Fiesta	Stokes	12,550	5,550	6,450	2,410	2,000	580	8.1
1997	Calico	Stokes	4,360	2,280	10,720	5,110	4,530	1,690	8.7
1999	Fiesta	Stokes	8,640	3,390	2,960	970	4,470	960	8.4
1999	Calico	Stokes	3,830	2,200	3,420	1,680	4,290	1,680	8.0

[z]Fancy grade ears were filled uniformly to the end of the cob. Select grade ears were nearly filled to tip but left up to 1.5 inches of the tip poorly filled. The select ears may still have some marketability as a second quality grade. Culls were very poorly filled ears and unmarketable.