

EXECUTIVE SUMMARY

TITLE OF PROJECT: Processing cauliflower cultivar evaluation

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OBJECTIVE: Evaluate cultivars for suitability for Ontario requirements, in terms of yield and various quality parameters.

MATERIALS AND METHODS: Nineteen cauliflower cultivars were seeded on 4 June, 2004 into 200 cell black plastic plug trays filled with a commercial soil-less mix. Cultivars were transplanted into the field on 6 July using a mechanical transplanter and were arranged in a randomized complete block design with four replications. Plots consisted of a single row, 13 m long with 1.0 m between rows and 0.45 m between plants in the row. Plots were fertilized with a preplant application of 150 kg/ha N (34-0-0) and 100 kg/ha K₂O (0-0-60) and were sidedressed with 25 kg/ha N (34-0-0) on 26 July and 9 Aug. Weeds and insect pests were controlled using recommended practices. Plots were irrigated (3/4") on 8 July, 12 Aug., 24 Sept. Plots were tied on 31 Aug., 5 Sept., and 11 Sept. just as the curds became visible. Plots were harvested on 10, 17, 22, 28 Sept., and 6 Oct. and were graded according to industry standards.

RESULTS AND DISCUSSION: Plant growth was rapid with all cultivars harvested within 66 to 92 days after planting. Alaska produced the highest yield of No. 1 heads followed by Titan, Phoenix, Flamenco and Artica. BOS 5096, Bejo 2566, HMX 3947, and Stargate produced the highest yield of No. 2 grade heads. Very few heads were considered unmarketable with less than 5 t/ha produced for all cultivars. Quasar had the highest average weight per head followed by BOS 5096, Bejo 2566, Titan, Flamenco, and Artica. Over 95% of curds for Phoenix, BOS 5020 and Balboa were No. 1 grade. The surface of many curds developed a granular (ricey) appearance and this was the main reason for loss of quality. Bejo 2566 and Quasar had the largest percent of ricey curds. Curd quality was generally good to fair but many curds that appeared normal on top had become ricey at the base regardless of curd diameter. BOS 5096 and Bejo 2566 were moderately to severely ricey at the base of the curd. In addition, all cultivars developed a fuzzy appearance on the surface of the curd with Artica, Alaska, White Magic, Incline, HMX 3947, and Balboa more severely affected. There appears to be some cultivars that have the potential for self-blanching especially if harvested closer to a diameter of 15-17 cm. Maturity was very uniform with only two to three harvests required for most cultivars.