

An evaluation of cauliflower cultivators for spring production in Auckland

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Abstract

A trial was conducted from May to November 2001 at UNITEC with cauliflower cultivators Ambassador, Atlantis, Carron, Caluron, Hunter, Snow March and Pavillion suggested from seed catalogues to be suitable for commercial production in spring in Auckland. Cultural practices for propagation and during the growth of the crop were as close as possible to normal commercial practice. The two best cultivators proved to be Caluron and Pavillion because they had a high percentage of saleable heads, an acceptable head weight, fast maturity and a relatively long harvest period.

Additional key words: saleable yield, spread of harvest.

Introduction

Trials to evaluate cauliflower (*Brassica oleracea* var. *botrytis* L.) cultivators suitable for fresh market spring production are continually being conducted by seed companies in New Zealand. The results of this work appear in the form of recommendations in company seed catalogues. Because seed company trials do not cover all areas the crop is grown, any other trials are of benefit to growers and the industry. In this paper we describe a trial conducted in 2001 on some of the cultivators recommended in seed catalogues as being suitable for spring production.

Materials and Methods

Seven cultivators (Ambassador, Atlantis, Carron, Caluron, Hunter, Snow March and Pavillion) of cauliflower were sown in trays containing a standard seedling raising mix on 16 May 2001. They trays were kept in a greenhouse until seedlings emerged and then were placed outside so that the seedlings could be hardened for a week before being transplanted in the field. The seedlings had 5-6 leaves at transplanting time. Seeds of all cultivators germinated well.

The trial area was prepared by mowing the weeds and then rotary hoed on 18 June 2001. The day before transplanting (2 July 2001) the area was again rotary hoed and urea (46%N) at the rate of 300 kg/ha was incorporated. The soil had a very high analysis for other nutrients (P, Ca, Mg, S, Mn, Fe & Mo) and an adequate pH of 6.3, and so no other fertiliser was applied. There was no sign of nutrient disorder symptoms, like whiptail or hollow stem, during crop growth or at harvest. Two replicates

were planted in a randomised block design, with 15 plants per plot. Rows were 0.75m apart and plants 0.5m apart in the row. Guard rows were planted on both sides of the trial area. The trial area was regularly weeded by hand between transplanting and harvest.

Heads were harvested weekly, from 16 weeks after transplanting. Saleable, good quality heads were measured and weighed after they were cut and trimmed. A saleable head was white in colour, compact and had green leaves covering the head. Unsaleable, poor quality heads were cut and discarded each week. Heads were unsaleable for one or more of the following reasons - colour was yellow or black, heads were rotted, velvety, bruised, not even buttoned. The data were subject to an analysis of variance using the GENSTAT statistical package GenStat® Release 6.1 (2002).

Table 1. Harvest data fro spring grown cauliflowers in Auckland.

Cultivar	% saleable heads harvested	Head wt (kg)
Pavillion	77	2.10
Caularon	74	1.99
Carron	66	1.80
Ambassador	63	1.78
Hunter	60	1.70
Atlantis	50	1.49
Snow March	47	1.31
LSD _{0.05} (df = 6)	7	0.65
p-value	0.06	0.18

Results and Discussion

The percentage of saleable heads and the average weight of saleable heads are given in Table 1. The percentage of saleable heads in cvs Pavillion and Caularon was significantly higher than in the other cultivators. Their percentage of saleable heads was similar to that obtained for cultivators suggested as suitable for spring production in trials at Levin Horticultural Research Centre (Bussell 1981). The average weight of saleable heads was within the preferred range of 1.5 to 2.5kg. Both Caularon and Pavillion reached maturity quickly, for the time of year, at 17 weeks after transplanting. Harvesting was spread over 6 weeks, which would be helpful in generating a steady income for a grower. We

conclude that Caularon and Pavillion are good cultivators for spring production in Auckland. This trial demonstrates the value of local trials, since they identify the best choice of cultivators for an area.

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References

- Bussell, W.T. 1981; Year round fresh cauliflower. *New Zealand Commercial Grower* 36: 28-29.
- Payne, R.W. 2002. GenStat® Release 6.1. GenStat Committee. VSN International, Oxford.