two stations on the coast of Co. Galway, west Ireland, by de Valera[4] in July and October 1941; it has also been found in Cornwall by Drew[5] on the Lizard Peninsula, where it was well established in August 1950, and she has found specimens of *Falkenbergia* cast ashore on the Lizard and at Falmouth, in August 1950. It is not without interest, therefore, to note the presence of *Asparagopsis armata* on the Scilly Isles. Several plants were found growing tangled among *Chondrus crispus* (L.) Stackh. and *Laurencia pinnatifida* (Gmel.) Lamour, on a boulder which projected from the sandy shore at the south end of Pentle Bay, Tresco, at extreme low water, spring tide, on March 24, 1951. The specimens have the characteristic reflexed barbs on otherwise bare branches; the fronds are up to four inches long, and these specimens show neither cystocarps nor spermatangial branches. I am grateful to Dr. Mary W. Parke for her kindness in identifying the specimens and for the loan of literature.

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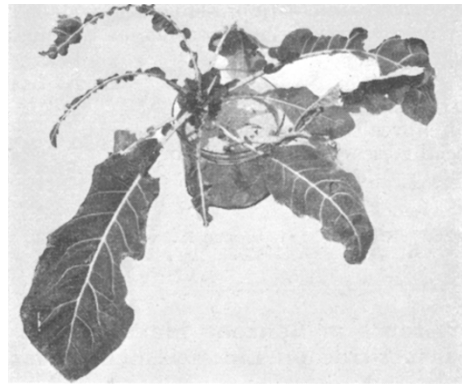
Production of 'Whiptail' in Cauliflower Grown in Sand Culture

The importance of molybdenum deficiency in the incidence of 'whiptail' in cauliflower and broccoli in acid soils is now established[1–4]. The disorder was known only under field conditions until recently, when cauliflower plants grown in molybdenum-deficient sand cultures[5] showed symptoms closely resembling certain aspects of the disease. In later work[6,7], analogous effects (death of the growing point and malformation of young leaves) developed in several *Brassica* species; but their occurrence was sporadic and unpredictable, except that they appeared after temporary recovery from an initially severe deficiency. Two features characteristic of many cases of 'whiptail', namely, plants with dark blue-green, narrow, elongated middle foliage and large well-developed outer leaves free from chlorosis, were generally lacking in the work cited.

'Whiptail' plants in all respects typical of those seen in the field[3,4] have now been produced consistently at will in sand cultures. The main conditions are an abundant supply of nitrogen (350 p.p.m. nitrogen (25 m.eq./l.nitrate)), and a carefully controlled low level of molybdenum (0·00005 p.p.m.), given regularly in the solution from sowing. In these circumstances growth is initially vigorous and foliage is dark green. Old leaves are large; but young leaves later break down and fail to develop laterally. They often continue rapid elongation (recorded only once previously[5]), even when practically devoid of lamina, and attain their normal length, thus producing the characteristic appearance from which the name has its origin (see photograph). Death of the growing point may occur suddenly. In other plants severe deficiency (less than 0·000005 p.p.m. molybdenum) with lower nitrogen-levels inhibited the appearance of the 'whiptail' symptoms, which readily developed after increasing the supply of nitrogen and



molybdenum to the levels stated. The molybdenum level is apparently adequate for considerable (but still restricted) nitrate assimilation, but remains insufficient to satisfy some other role in leaf development in certain Brassicæ.

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Relation of the Essential Oils of *Coronopus didymus* to the Tainting of Butter

Coronopus didymus is a cruciferous weed which grows abundantly in the summer rainfall areas of northern New South Wales and southern Queensland. When eaten by cows, a characteristic taint is produced in the milk, cream and butter, resembling, particularly in butter, a scorched or burnt flavour. This taint is intensified by heat treatment of the cream and is responsible for considerable economic loss. The taint cannot be controlled by removal of the cows from the affected areas a few hours before milking, or by modern methods of cream processing in the factory.

Benzyl cyanide and two high-boiling hydrocarbons were found to constitute the greater part of the essential oil of *C. didymus*. The hydrocarbons were without significant effect on the flavour of cream or butter. Benzyl cyanide conferred a distinct flavour on dairy products, as did benzyl *iso*thiocyanate, which McDowall *et al.*[1] have shown to occur in the plant. Neither of these compounds reproduced the burnt flavour so characteristic of the taint caused by *C. didymus*. This was traced to a relatively minor constituent of the essential oil, benzyl mercaptan, which was isolated from partially decomposed *C. didymus*, while benzyl disulphide was present to the extent of about 5 per cent in the essential oil of the fresh plant. The taint has been detected when the concentration in butter is as low as 1 part in a hundred million, well below the threshold of