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Planting pineapples into polythene has improved yields, fruit size and rate of maturity.

Promising results with pineapples at Carnarvon

Pineapples were investigated commercially in Carnarvon in the early 1930's but drought, sunscorch, alkaline soils and problems with transport and marketing caused the infant industry to collapse in 1936. Recently however, trials at Gascoyne Research Station have shown that pineapples can produce good yields of high quality fruit in the area.

The trials have been aimed at establishing the viability of pineapple production at Carnarvon and have been carried out by officers of the Horticulture Division.

Pineapple selection

Plants and fruits in any pineapple block vary greatly in yield and appearance, some being marketable and some being reject. When a single plant is selected however, progeny derived vegetatively from it are identical genetically and produce a much more uniform crop.

Selection of suitable parent material obtained locally or from Queensland has been, and is continuing as an important aspect of the Carnarvon trials. Yields of parental and offspring materials are recorded, together with details of plant characteristics and fruit quality.

Results of a recent trial of selected parent materials gave a yield equivalent to 40 tonnes per hectare of high quality fruits averaging 50c each on the Perth market. The fruit was described as having a very rich flavour, with higher sugar and acid levels than Queensland fruit. The variety Smooth Cayenne, with an average trial weight of 1.45 kg per fruit, has proved the most suitable variety for the fresh fruit trade.

Although pineapples may be propagated by means of tops (taken off a fruit), slips (which arise from the fruit stalk) or suckers (from buds on the main stem), slips produce the best quality fruit.

Pineapples can be planted at any time of the year, but plantings in August and September appear to be especially suitable as they bear crops within 20 months.

Irrigation and fertilisers

Pineapples suffer from “wet feet” and should not be overwatered. Several watering regimes have been tested, but highest yields in a recent trial were obtained by watering at 21-day intervals from October to April and at 42-day intervals from May to September. Although more frequent watering may be necessary during heat-wave periods, the total requirement from planting to harvesting was only 6750 cubic metres per ha—one fifth of the amount recommended for bananas in the same area.

The trials have indicated that fertilisers are not needed for pineapples in Carnarvon soils.

Cultural operations

Experience has indicated that pineapples are best planted into banks constructed 1.5 m apart and no more than 25 cm high, on well-drained soils that have been ploughed and/or disced. The chemical Diuron can be used to control weeds growing in the furrows and no additional cultivation is needed.

The banks are covered with sheets of 0.038 mm ultra violet stable black polythene and the planting slips punched through the sheets in two rows 40 cm apart containing plants at 40 cm intervals. This gives a plant population of 33 333 pineapples per hectare.

Trial results have suggested that planting into polythene gives quicker maturity, increases yields by about 40 per cent and increases fruit size by some 15 per cent compared with non-polythene plantings.
The increases are probably caused by—
- uniform soil moisture surrounding the plants;
- good weed control;
- less evaporation and therefore less salt accumulation near the root zone;
- improved soil temperatures during cool months.

Experience has also suggested that if the polythene is coated on one side with aluminium it will reduce high soil temperatures during the summer.

**Flower induction**
Hormones such as Holdon or Phyomone (alpha naphthalene acetic acid) and Pinesett (beta hydroxethyl hydrazone) are sprayed on pineapples to induce flowering and promote earlier harvesting and uniform cropping. Under Carnarvon conditions applications can be made at any time of the year (although it is least successful from January to March) and can advance harvesting by as much as 12 months.

Two applications, 21 days apart, have proved most effective, but only once the longest leaf has grown to a metre. The plants flower 40 to 50 days later and are ready to harvest after a further four to six months.

**Disease and pests**
Pineapples are subject to nematode attack but where this pest has caused difficulty with previous crops on the planting area, fumigation with a nematocide such as DD (dichloropropene-dichloropropane) provides effective protection.

Mealy bug and white leaf spot have appeared occasionally but control measures are unwarranted. Sunburn (sometimes a serious problem with crops ripening during very hot weather) can be minimised by protecting the fruit with paper bags.

There has been some incidence of a “die-back” problem. This has been limited to small areas and is still being investigated.

Generally however, little disease or pest trouble has been experienced with experimental crops and no need for fungicides or insecticides is anticipated.