



Raspberry

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This Agriculture Note provides information on Raspberry Farming.

Product

A member of the *Rubus* genus, the majority of Raspberries are bred from *Rubus idaeus* which has its origin in Europe and *Rubus strigosus* originating in North America. These perennial plants have a root system that remains productive for many seasons. The plant sends out canes from the roots which live for two years producing fruit along their length in the second season of growth after which they die and are replaced by regenerative growth. Fruit is produced summer to autumn depending on the particular variety, within the second year.

The fruit is renowned for its high level of vitamin C and contains useful quantities of iron as well as other essential vitamins and minerals. The fruit is present as an "aggregate" composed of 70 to 130 individual "drupelets" held together geometrically by fine interlacing hairs. When the fruit is harvested from the plant it is viewed as a hollow fruit with no core. Canes from the plant may reach a length of 3.5 metres and may bear spines, thorns, prickles or be totally thornless.

Physical Requirements

Soil for optimum growth should present characteristics of good moisture holding capacity yet be free draining which excludes soils which are either too sandy or too heavy. Areas where growth is seen as most productive usually experience cold winters and mild summers, the mild temperatures of summer producing high quality juicy berries.

Weed control before establishment of a planting will assure future weed infestations are minimal as this can become a difficult problem to overcome once canes have begun to emerge.

The root system is contained within the top 20 centimetres of the soil although some may travel further depending on friability of the soil thus the watering requirements for the individual plantings will be highly dependent on soil type. There are several important times for crop irrigation and these are at flowering and fruit set together with the few weeks prior to the first picking which aids in uniform sizing and high juice content. Irrigation is usually

performed by use of micro-irrigation consisting of drip feeders or mini sprinklers which reduce the incidence of fungal disease and aid in reduced water consumption and efficient fertilisation to the root zone.

Fertilisation practices are determined by the individual site and result in increased cane growth and fruit set. On mature crops a complete fertiliser such as 8:4:8 is sufficient to provide the essential elements for increased plant growth and virility although liquid feed passed through the irrigation can be very beneficial.

Crops have their canes trained to keep them above the surface of the soil by some form of trellising method depending on the cropping method being manual or mechanical.

Manual pruning and training requires the regeneration of canes by removing those that are the previous seasons spent canes (i.e. three year old canes) and the training of "primocanes" (i.e. one year old canes) onto the trellising system.

Harvesting is usually performed manually except in large operations of above 10 to 15 hectares which encompasses few growers within Victoria.

The establishment of a new plantation must be performed using material that has been provided through the Raspberry Certification Scheme. The Raspberry Certification Scheme is conducted by the ARGA **not only** to ensure freedom from viruses and soil borne pathogens **but also** to ensure trueness to type.

Pests found to attack the raspberry include wingless grasshoppers, Carpophilus beetles, Rutherglen Bug, Two-Spotted Mite, thrips and Light-brown Apple Moth. Birds may also attack fruit but this is usually less than experienced in other berry crops.

Diseases include Anthracnose (or Cane Spot), Rust Crown Gall and Botrytis but the most damaging of, all is the fungus *Phytophthora fragariae* var. *rubi* that has only appeared to have entered Australia within the past few years. Growers may also encounter Blind bud which is a physiological disorder due to inadequate winter chilling.

Production

Current Victorian production is dominated by 5-6 large producers who both hand harvest for the fresh market and machine pick for processing both on and off farm.

Successful varieties are Willamette, Chilcotin and Heritage. Up and coming new varieties are Bogong and Dinkum. Niche varieties include Glen Yarra, Nootka and Chilcotin.

Real returns suggested by growers are approximately 3 to 4 tonnes per hectare. Fresh fruit is packaged in 150g punnet, covered with clear plastic film wrap and must be handled carefully during transportation to avoid bruising.

Marketing

Most of the fresh crop industry harvests manually for the fresh market. Pick Your Own is not the main sales mechanism.

Present demand for processed fruit is minimal as most is imported and available at lower than current costs of production. A successful market may also be established through the production of jams and preserves particularly when combined with a "pick your own" scheme within view of regular traffic or promoted as a family garden outing.

Financial Aspects

Capital investment into the establishment of raspberry is highly dependent on the site i.e. its size and capacity to successfully market fruit whether as fresh or preserve. Current trends see quite good returns for the fruit when successfully marketed through diversification and the production of high quality fruit.

References

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Organisations and Contacts

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Acknowledgments

Ian Knox - Alternative Directions

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