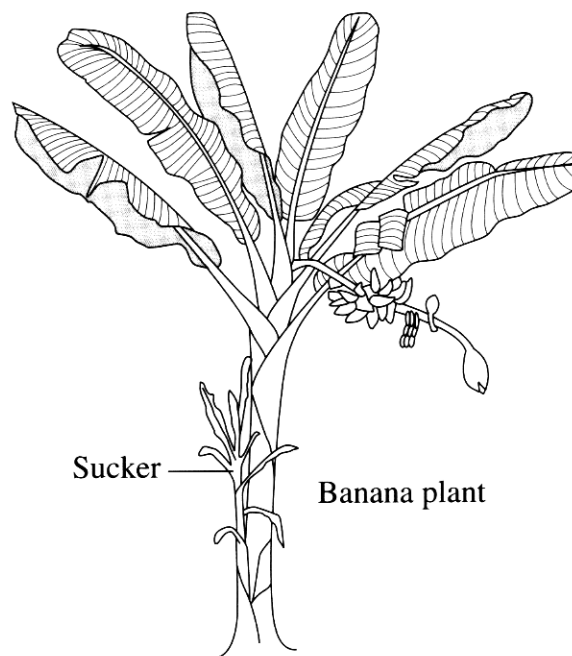


**Marks**

**Question 24** (4 marks)

Traditionally, banana plants in Australia have been propagated asexually by cutting out and planting suckers from the adult plant.

**4**



There is a growing trend to produce disease-free plants in laboratories through a process of cloning from disease-free tissues from existing plants.

Assess the potential impact of this cloning process on the genetic diversity of banana plants in Australia.

The cloning process would reduce the number of genes in a gene pool resulting in a decrease in genetic diversity and the possibility of species dying out. Disease-free plants may survive whilst other banana plants die out if a selecting agent (ie. disease) is present. However, as plants have been traditionally reproduced asexually from cuttings, the genetic diversity may not be affected by cloning as profoundly as in a sexually reproductive organism.