# Pīkao (or Pīngao)

**This task is about interpreting information from a text.**

**Pīkao (Pīngao)**

Pīkao is a native plant that grows on sand dunes. Once it was common on sandy beaches all over New Zealand but now it is becoming rare. It is special because it is only found in New Zealand and it plays an important role in stabilising the sandy coast and creating an environment where other species can live. Its brightly coloured leaves are highly valued for weaving.

**The Sustainable Harvest of Pīkao**
Traditionally pīkao was harvested in autumn. The head was removed from the leaves and at the same time a side shoot was removed from the plant and transplanted deep in the sand, next to the parent plant. This was a way of making sure that the pīkao survived and of thanking Tāne Mahuta. In the 1980s there was an increased demand for pīkao for weaving. This occurred at a time when pīkao was already becoming scarce due to fire, grazing by stock and rabbits, vehicles on beaches, coastal developments and competition from introduced plants. This prompted the Forest Research Institute to conduct an investigation examining what method of harvest was the most sustainable.

The effect of three harvesting methods was investigated. The methods were:

- Clipping of leaves (high quality leaves are selected and cut individually from plants);
- Cutting (whole leaf clusters are cut from the plant);
- Wrenching (the centre bit of a leaf cluster is removed by bending and pulling).

Scientists measured such things as the number of plants that died, the number of shoots and flower heads produced by surviving plants and how much fibre was collected for each method of harvesting. They also looked at whether or not the time of year when harvesting happened made a difference. They found that clipping was the least harmful method of harvesting for the plants and that also there was less wastage as only high quality leaves were taken. Both the other methods resulted in damage to the growth shoot causing many plants to die and would inevitably result in some wastage. The time of harvesting made no significant difference to plant survival.

a) Why did the Forest Research Institute carry out an investigation about pīkao?

b) What specific question about sustainability did they decide to investigate?

c) What did they measure and how might have they measured each thing?

| What the scientists measured | A possible method for measuring |
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What "control" do you think the scientists used?

d)

Based on these findings, if you were a Department of Conservation scientist what course of action would you recommend? Why?

e)

Investigations like this take a lot of time and resources and so they are expensive. Was this a good investigation for the Forest Research Institute to carry out? Why or why not?

f)

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