Mosaic diseases of beans

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TWO important diseases of beans in W.A. are common mosaic and yellow mosaic. Both may cause malformation, stunting of growth and yield reductions and are most serious in the spring and early summer crops.

The cause in each case is a virus which is transmitted in nature by aphids. Common mosaic is also seed-borne but yellow mosaic is not.

**Symptoms**

In typical form the leaves affected with common mosaic (Fig. 1) develop a downward "cupping" with contrasting dark and light green areas. The dark green areas assume various patterns but commonly occur as bands along the main veins or as blisters, roughly circular in outline. Pod symptoms are rare but dark green blisters have occasionally been noted.

Yellow mosaic (Fig 2) in the advanced stages is distinguished by the irregular leaf shape, the roughened leaf surface and the mosaic pattern of dark and light green to yellow areas which are generally angular in outline. Necrotic or dead patches often accompany the mosaic mottling of the leaves.

Where both diseases occur in a crop some confusion can result due to similarities in symptoms at certain stages of development.

**Control**

**RESISTANT VARIETIES:** The only variety resistant to common mosaic is Westralia pole bean. There is no locally grown variety resistant to yellow mosaic.

**MOSAIC-FREE SEED:** As common mosaic is carried in the seed it is desirable to sow seed as free as possible from the virus. This can be done by saving seed...
from a disease-free crop or by purchasing certified seed. Certified seed is available in W.A. for the pole bean variety Golden Harvest.

PROTECTION FROM APHIDS: Although bean crop spraying with insecticides might suggest itself, this method serves no useful purpose. However, isolation of new plantings from old bean crops and other yellow mosaic host plants such as lupins, gladioli, clovers and medics, minimises the risk of infestation with infective aphids. Control of nearby weeds which may serve as aphid breeding areas, is also recommended.

DELAYED PLANTING: As aphid infestation is usually most serious in spring, mosaic diseases are usually most prevalent at this time. Postponement of planting to the summer months, where possible, is therefore a means of escaping these diseases.
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