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Report to the Rural Services and Wairarapa Committee
from Dave Cameron, Regional Soil Conservator

Poplar Planting Audit

1. Purpose

To inform the Committee of the results of a poplar planting audit for 2000.

2. Background

The eastern hill country of the Wairarapa has experienced a period of prolonged dryness, extending from 1997. Each subsequent year has produced a period of some months where soil moisture deficits have occurred. For the 2000 year this has been exacerbated by a very dry late autumn, particularly for April and May.

During recent inspections, abnormally high mortalities have been noted in a wide range of poplar clones. This has been more evident where poles have been planted on soils of shallow topsoil depth, and on sites that are more exposed. Some losses are to be expected through periods of significant soil moisture deficit.

It is clear from the existence of dead branches in the tops of the poles that a good strike resulted through the spring of 2000, and the early months of 2001. Clients report that poles only started to succumb from March onwards.

3. Results of Planting Audit

To date poles have been inspected on 9 properties, extending from Bideford to Ponatahi and Hinakura. A similar picture emerges at all sites. Overall the

survival rate of poplars has been 40%. The variations between various land forms is as follows:

Earthflows –	60%
Gullies –	40%
Hillslopes –	20%

Willows, in particular Tangoio willows, have shown much better survivals with an average of 75%. This willow clone comes into leaf some three to four weeks ahead of poplars and therefore becomes well established through the spring and early summer. The resulting root development seems well suited to surviving extended periods of soil moisture deficit. Additionally willows are predominantly planted in moist gully situations and these tend to be more sheltered.

On sites where a mixture of Tangoio willow and poplars have been inter-planted the willow is often the best performer, even on hillslopes.

4. Discussion

It is evident that the majority of poles survived well into the summer. Anecdotal evidence indicates that they succumbed to severe moisture stress in the April-May period. During the inspection it was noted that further mortalities could occur as disease, notably silver leaf, was taking hold on poles of ill-thrift.

The Akura Nursery produces poles for soil conservation planting, providing a mix of poplar to willow of 60/40. This reflects the present focus on earthflow and hillslope planting. It is unwise from a monoculture perspective to concentrate on one or two species. The risk of disease, e.g. poplar rust, is high and this has the potential to destroy a large proportion of the crop. A mix of species and parentage is desired to combat such risks.

The nine poplar clones currently grown at Akura are selected for specific characteristics, such as form, palatability, possum resistance, wood strength, and establishment rate. They are rigidly tested to secure the best clones for the hill country environment. An ongoing poplar breeding programme is run by HortResearch and it endeavours to source new parent material for trialling and, if suitable, for release to clients.

5. Future Action

At present Akura contains the best poplar clones available. Within the limitations of the genetic base, preferred poplar clones are being planted in the nursery in greater numbers. A change to the clonal mix is being considered over the next two or three years.

Periods of severe soil moisture deficit will always impact on pole survival rates. Within the operation of Akura Nursery and the technical knowledge of

staff, appropriate species are designated to works programmes. The losses experienced this year can in the main be attributed to the abnormally dry autumn.

Staff will review their current strategies for planting poplars. After some research it may be possible to identify landforms and areas where alternative techniques are preferred.

6. Communication

Information has already been included in the newsletter to all river and catchment scheme ratepayers. This will be forwarded to these ratepayers with the first rates demand for this financial year.

7. Recommendation

That the Committee receive the report and note its potential impacts on future Council activities.

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