

# **VMAN**

## **(Vegetation Manager)**

### **A Weed Management Decision Support System**

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**FUTURE  
FORESTS  
RESEARCH**

*Leadership in forest and environmental management, innovation and research*

**SCION**   
Next generation biomaterials

# Introduction

- Initial purpose was to work out the height to which weeds could grow before retarding tree growth
- Use has largely been limited to research purposes
- It is seen as a useful tool to industry, hence the current efforts to make it available to all members of FFR's Radiata Theme

# Why model weeds?

- Optimising the application of herbicides ensures best value for money from undertaking these costly operations
- There are currently attempts to prohibit the use of Valzine, one of the most common forestry herbicides
  - A ban would force a less effective herbicide to be used – VMAN can quantify the effect this change would have on tree growth and Net Present Value

# Why model weeds?

- Forest managers are encouraged to reduce the use of chemicals under FSC requirements
  - VMAN can model the impact of this reduction on tree growth

# Forecaster can import VMAN data

- Once simulation of weed competition and treatment has been completed within VMAN, a stem list can be exported in Forecaster format
- This can be imported into Forecaster, so that the effects can be modelled through to stand volume and log product allocation at the end of a rotation

# Recent Development

- Major series of dose response trials currently underway
- Once complete, new models/updated coefficients will be added to VMAN for:
  - Weeds:
    - Yorkshire fog, Gorse, Broom, Buddleia, Pampas
  - Herbicides:  
Versatil, Tordon, Gallant, Terbutylazine

# Further Research

- Succession delay is a key variable to success of herbicide application – more research needed
- Phytotoxicity effects of herbicides to crop species will be added to models
- Models could be extended from aerial broadcast spray to spot-spraying and oversowing

# Questions?