Part 3 – Final Report Format

1. Outline the background to the project.

Dynamic simulation models for cotton growth are powerful tools for the industry. Such models have a number of important features. (i) Models are essentials tools for investigating long term issues. This includes questions such as the long term impact of management decisions and the sustainability of cropping systems. (ii) When used as components of decision support systems they effectively extend the experience of managers, allowing the assessment of the impact of decisions in the context of the full climatic record. (iii) They allow integration of the influences of a range of factors acting on the crop simultaneously including pests, nutrition, moisture and weather and the interaction of these forces.

The work proposed in this project will:

(a) Use the capacity of the model to integrate responses of cotton to insect damage and to varying environmental conditions to yield improved tools for pest management that can account for compensation. This will also result in a capacity to assess the likely extent and value of compensation under different conditions.

(b) Make the model applicable to a wider section of the cotton industry by incorporating the capacity to deal with skip row cotton and with short and long season cotton cultivars. These are two key limitations noted by grower groups currently using the Ozcot model in decision support.

(c) Put the model into a simulation environment in which it can be readily applied to production decisions and which will enhance both model development and the ability of other researchers to work with the model; thus increasing its availability to industry.