

MULTI FARMING SYSTEMS

BROADACRE CHEMICAL DISPENSING SPRAY RIG

PROJECT OBJECTIVES

To construct, test and evaluate a broad acre chemical dispensing spray rig for agricultural purposes. The sprayer will have the following features unique to the majority of competitors in the industry:

- Three wheels instead of four, negating the need for suspension. Large Terra tyres will be used for enable good floatation at speeds up to 20km/hr.
- The wheels will be placed 9m apart in the front for tramline farm operations, enabling it to straddle 8 rows of plants. The sprayer will be designed to be assembled and spend its entire useful life on one enormous property (or adjoining properties). The boom will not fold for road transport, and there will be no limitation on how wide the wheels can be placed.
- An auto steer device (preferably from GPS Ag) will be fitted to enable the sprayer to climb 9ft high contour banks on an angle, without allowing the boom to touch the bank or ground at any time. The auto steer will be configured to enable the boom to operate in four independent sections.
- The boom will have a tremendous 6ft underframe clearance, high enough to walk under, in the fully raised position. This is ideal for servicing and maintenance.
- Two self injection chemical dispensers will be fitted, which will enable consistent droplet size (of the farmer's choosing) without compromising the amount of chemical dispensed per area. When increasing speed, the chemical application will simply increase. The majority of spray rigs currently increase the chemical AND water application, resulting in huge pressures being put on the nozzles and fine droplets being sprayed.
- The compressed air for the sprayer will be kept in the rear beam of the rig, another unique feature.
- The sprayer will weigh around 13 tonne when completed.

SIGNIFICANCE FOR THE AGRICULTURAL INDUSTRY

Labour has become extremely scarce and expensive, driving farmers to use bigger machinery, and employ no-till farming techniques. This often involve tramline farming which has the machinery running on the same tracks to reduce compaction in the field, and enable a smooth ride in the tractor/sprayer.

Spray rigs are very expensive, and most of them are imported. This machine will be a very cost effective, Australian made alternative.

TEST SITE

Honey B Ranch, Banana Australia will be ideal for testing and evaluating the prototype. The property has an existing tramline system well established, large contour banks to test floatation and boom manoeuvrability and well as the ability to monitor crop response.

