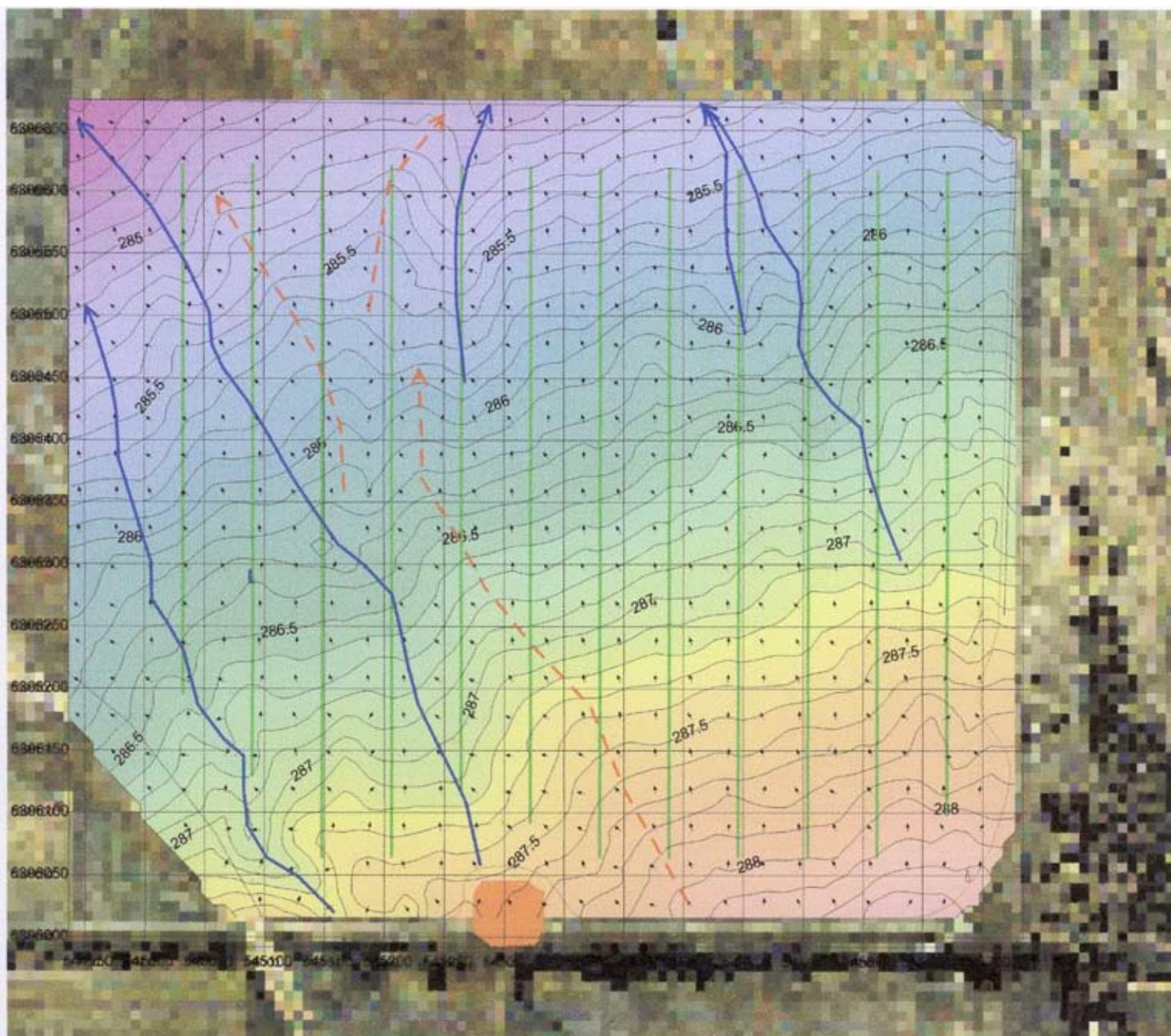




## Mallees go hi-tech in the Avon



The use of GPS is becoming a familiar data gathering 'tool' for farm operations-especially by service agents and contractors. As farm operators become more familiar with the technology and its practical applications then its adoption into farm systems will grow.

As an alternate pathway 'Structured' i.e. parallel groves of trees offer a 'visual' guidance opportunity for landholders to capture working efficiencies while providing multitudes of other NRM benefits such as controlling waterlogging and other erosion factors such as wind.

The Walton's mallee site will be an invaluable opportunity to demonstrate the ability to integrating revegetation and water works within a whole farm system using GPS technology as an advanced planning tool.

by David McFall: p: 9881 4054, e: templemc@treko.net.au

Avon Catchment Council (ACC) funding for integrating Oil Mallees on farms within the Wickepin cell has provided an ideal opportunity to explore and demonstrate the practical use of GPS technology for advanced site planning to achieve integrated and complimentary tree and drainage designs.

The Walton's East Pingelly property was chosen as a key demonstration site as it had challenging 'problem' attributes such as waterlogging and encroaching salinity which was effecting paddock production levels. The heavy clay soil and flat aspect site was also very typical of broad acre Wheatbelt landscapes.

The ACC Mallee Tree Cropping Project is managed by a Steering Committee comprising Upper Great Southern Oil Mallee Grower members with assistance from Project Manager - David McFall. Year 2006 planting target was 200 'new' hectares of mallee revegetation within 80km of Wickepin townsite to support new industry development and multiple NRM outcomes.

#### **Concept to creation:**

- Project promotion and initial site inspection completed by Autumn 2006.
  - Initial concept plans developed to integrate trees across the site in workable alleys. Final configuration was three row mallee belts and a 48 meter (2x24m boom) cropping zone completed by Autumn 2006.
  - Tree belts were orientated in north south to aid stock inspection and mustering (access track runs east west on the southern fence line).
  - Natural surface water flow to the north with existing deeper drainage structures removing major flows.
  - Target revegetation was higher than normal sites (approx 12 to 15%) in order to maximise water use. 3 row belts preferred over 4 row on this site to reduce 'edge effect' (higher on clay soils).
  - Plantings at 1500 stems hectare in the belts or 'distributed' planting density of 260 stems per hectare (number averaged over whole site - belts plus crop alleys).
  - Tree belt was designed for a minimum 10m canopy spread to meet potential 'carbon sequestration' specifications and/or farm greenhouse compliance opportunities.
  - 'Landlogic' mapped the paddock using DGPS technology. Tree lines were at parallel intervals suitable for precision and efficient agricultural workings.
  - Site data was prepared and presented by 'Landlogic' on a base map depicting tree lines and topographical contours at 10cm intervals complete with surface flow indicators.
  - Aim to construct (as required) broad shallow spoon drains to enable surface water relief while maintaining trafficable parallel alley workings.
- Tree orientation can potentially assist with water relief but as yet untested due to the 'dry' season experienced.
- Site ripped and weed controlled by the landowners in winter 2006. Inter-row cropped with barley.
  - Site planted in August 2006 using a mixture of machine and hand operations.
  - Ongoing site monitoring- weeds/survival to be conducted by summer 2006.
  - Infill program (if required) planned for 2007 to achieve 85% plus survival.
  - The dry winter has made for a challenging year.

