

## **A whole farming system on controlled wheel tracks.**

Hugh Ball

“Gorian”

Burren Junction, NSW, 2386.

“A whole farming system” aimed at more efficient use and absorption of rainfall, hence increased planting opportunities and cropping frequency in an environmentally sustainable manner.

### **“Gorian”**

Location: Burren Junction (North-west New South Wales)

Soil Type: Black, self-mulching

Area: 5000 ha, member of “Walgett Sustainable Agricultural Group”

Crops: Predominantly cereal with rotations of pulse and summer crops

- \* Module width 12 m, wheel centre 2 m.
- \* 1997 commenced CT removing centre tyne (guide for in-crop spraying) using marker arms during planting.
- \* 1997-98 summer fallow marked with Bee Line Navigation GPS system on a contract basis using auto-steer. Marked off mathematical line without compounding errors.
- \* Fallow sprayed with Spra-Coup and Hayes and Baguley booms on FWA 250 Hp tractors using width of 24 m.
- \* Well equipped water truck and batching tank.
- \* Planting - 12 m Janke on-track parallelogram unit on 40 cm spacing.
- \* Water Use Efficiency used as benchmark tool, kg/mm/ha.

### ***Agronomy and management***

Has to be sharper in relation to:

- Weed control
- Disease control
- Fertiliser application
- Crop rotations/frequency
- Sourcing of markets

### ***Why controlled wheel beds?***

Reduce paddock compaction from 80% to 12%, thus:

- increase moisture infiltration
  - improve soil structure
  - increase plant opportunities/crop frequency
  - increase yields
  - increase bottom line \$\$\$
- \* Less rolling resistance, less fuel consumption, up to 50% (50-75% of tractor power utilised in creating and destroying wheel tracks)

- \* Less seed, fertiliser and spray overlap - ease of application, able to spray at night and reduce chemical rate = reduce chemical cost and no need for foam markers

***What we don't know.***

- How to adapt headers in the system
- Wheel track widths ie warranties on axle width modifications
- Method of marking country (GPS vs toolbar = \$\$\$)
- Suitable sowing equipment (stubble clearance)
- Tracks vs rubber tyres
- Will tractors need auto steer

***Controlled wheel beds deliver!***

1. Soil compaction management
  - improved soil structure
2. On-time operations
  - plant to dates vs plant to seasonal influence, ie spraying, planting
3. Precision and innovations
  - management
  - machinery
  - labour ie operators vs drivers
4. Efficiency = \$\$\$

***Remember!***

- \* Be positive - problems are created to be solved
- \* Challenging, precise, exciting way to crop - rewarding
- \* Turns what was once regarded as marginal farming country into more reliable
- \* Controlled traffic will increase production but one mistake can alleviate some benefits
- \* HAVE A GO!