

## **Integrate or separate – the debate: separation case study 2**

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### **Outline of property and objectives**

The Brownhill family own and operate 5 properties on the Liverpool Plains in northern NSW with the main focus on dryland and irrigated grain production. The total area is 4735 ha with 3100 ha dryland cropped, 750 ha irrigated cropping and 850 ha grazed.

The topography is in 2 distinct parts, with the first class friable black self-mulching creek floodplain giving way to sloping red basalt predominately low grazing hill and slope. Altitude varies from 350 to 420 m.

Our irrigation area has allocations of 1750 megalitres which is spread across 320 ha of center pivots and the balance is flood irrigated.

The cattle enterprise consists of a small breeding herd (50 cows and followers) with the aim to grow out 200 steers for feedlot markets each year.

The main crops we grow are sorghum, wheat, barley, corn, faba beans and black-eye cowpeas.

The cropping rotation now is when a "profile is full" you sow. Zero till practices were implemented in the early 1990s.

Our aim in operating the enterprise is to generate as much profit as possible without denigrating the farm as one and the environment as a whole.

### **How long and why have we been separating cropping and pastures?**

All of the holdings have had livestock enterprises on the black soil plains until the mid 1970s and since then there has been a slow decline in numbers to be zero for the last decade.

### **What are the advantages?**

The main reason for separating our cropping and livestock enterprises has been profitability. Other issues include:

- The denigration of the black soil plains by compaction, sheet and soil erosion. This was created by livestock and farming practices at the time.
- Flood waters hitting fence lines and creating gullies. All fence lines were removed and strip cropping was introduced. This was done to slow the flood waters and to stop water from moving away from its natural flow.
- Introduction of no-till with use of fertiliser and the growing of sorghum has increased the profitability to be greater than that of a cattle operation.

Soil compaction has huge ramifications to future crops. There has been a lot of research done in this area over a long time, much of it to do with machinery. The pounds per square inch of a cattle hoof is 4-times greater than that of a motorbike.

### **What are the disadvantages?**

The sloping soils have still got livestock running in a dual approach with cash crops. Summer crops grown in these slopes may not have the higher profitability of the plains crops.

### **What is your advice to other producers?**

With all the factors that have been outlined, livestock in our enterprise has not been as profitable as growing grain. Although this could also suggest that with better management, profitability could be greater with livestock, the underlying factor is that environmental issues outweigh any positives.

Although I have given all the reasons for not incorporating livestock on black soil plains, if an individual is able to be sustainable both economically and environmentally then there no reason for them not to do so.