

BEDS BENEFICIAL FOR DIFFICULT SOILS

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Bed-farming is one method of lifting the production of difficult soils where conventional irrigation technology does not fit. The advantages of using beds are: 1). They provide good drainage, especially important where layout is flat and/or there are long run-lengths, or watering is slow; 2). They increase the internal drainage of the soil which reduces water-logging problems and allows plenty of air around plant roots. This encourages growth during irrigation; 3). Water movement is upwards and so any applied gypsum, which is dissolved in water, is recycled and lasts longer in the topsoil; 4). Landforming for steeper slopes can be reduced, especially where unsuitable sodic subsoils would be exposed.

Success at Jerilderie

John Watt of "Wononga" at Jerilderie landformed a 162ha paddock in 1982 in preparation for growing wheat. The soil was grey sodic-clay, found along prior creek lines, typically responsive to gypsum. This site was flat. Five t/ha of gypsum was applied to the paddock in 1984 and fertiliser, sufficient for a four t/ha crop was applied annually. With an average wheat yield of only 1.4 t/ha (seven bags/acre) over 1982-84, Mr Watt decided to try bed-farming as an alternative method of production. Unfortunately, an unsuitable choice of wheat variety and low seeding rate resulted in a poor crop the following year. Also initial soil subbing when watering-up was a problem because soil structure had been damaged through excessive ploughing.

Pasture on beds

The emphasis at "Wononga" is on wool production, so it was decided to sow the problem paddock to winter pasture using the existing beds from the final year of cropping. Pasture species chosen were Trikkala sub-clover, native medic, Clare subclover, Sirosa phalaris, ryegrass and Palestine strawberry clover.

The pasture seed was inoculated, pelleted and broadcast into the undisturbed stubble and beds with 200 kg/ha of single superphosphate. The paddock was watered-up the following day, April 2, 1986.

Mr Watt has run 3250 sheep on the 162ha, an estimated carrying capacity of 17 DSE/ha/year. He has found that winter pasture utilises winter rainfall and fills a feed gap in early autumn when residual feed is poor. He can also water-up very early in February, because there is no scalding problem with beds.

He has found no problems with running sheep on pasture grown on beds apart from the difficulties of chasing sheep on a motor bike. Other graziers have found that sheep in full wool or heavily pregnant ewes may get cast in the furrows. It is expected that furrow maintenance will be required on 10 percent of furrows every two years.

Other growers have had similar experiences with growing subclover, white clover and lucerne on beds. (See Martin Maynard, these Proceedings). If you have soil waterlogging and drainage problems, use of beds is one method of increasing production.