

Direct drilling in southern New South Wales: a means of increasing productivity

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The acceptance of direct drilling as a feasible crop and pasture establishment technique in Southern New South Wales has affected farm management practice considerably. Most notably, it has increased the potential for production

of both the livestock and cropping enterprises, and increased the need for management skills to plan and programme the farm. It has also increased the number and diversity of options to be considered when allocating paddock usage on any planned basis.

A totally direct-drill farm plan, using ancillary techniques such as the phenoxy-based Spray/Graze technique, Spray-Top, using paraquat and other weed control techniques, allows the farmer a flexibility not previously enjoyed. Rotations and changes between rotations that were physically or managerially impossible using traditional cultivation for weed control are now possible and widely employed.

Broadly, rotations made feasible are:

A continuous cropping regime, with relevant break crops as necessary. There is an increasing trend not to burn stubbles, or to burn late in the autumn. In the absence of repeated cultivations, soil structure improves dramatically and crop nutrition becomes the major limitation.

A continuous pasture, either legume or grass-based, but often perennial grass- dominant. Maintenance by occasional paraquat application and/or oversowing, or legume re-sowing, means that a highly productive pasture can be kept for an unlimited period, without the usual weed invasion and consequent productivity decline.

A quick changeover annual pasture/crop rotation, the length of each phase varying between 2 and 4 years. A high degree of management of weeds in the pasture phase is necessary to enable a crop to be successfully direct-drilled into pasture; a grass-free, subclover dominant pasture is preferable.

A slower changeover pasture/crop rotation, the length of each phase varying between 7 and 12 years. The pasture would normally be based on lucerne, with weedcontrol by paraquat/diuron mixtures maintaining stand purity. A fodder crop direct-drilled into the lucerne should be used occasionally to utilize nitrogen and provide autumn feed.

The successful integration of these rotations into a practical system hinges on the farmer's ability to identify and cope with the following key areas:

Paddock usage: a suitable programme, determined by soil type, slope, position and the need for either cropping or pasture land, needs to be drawn up for each paddock; alteration of fence lines may be necessary to achieve optimum land use.

Fodder budgeting: changes in fodder demand should be anticipated, and allowance made by strategic and tactical fodder sowings, perennial pasture usage and long-term fodder reserves.

Stock numbers and types: the balance between achieving high production and desired stocking pressures at critical management phases needs to be continually monitored in the light of seasonal conditions, so that weed control techniques using stock do not reduce the production of the stocking enterprise.

The planned use of herbicides, stock and direct drilling offers many farmers a chance to increase productivity and net returns, provided they are able to meet, and adapt to, the challenge of changing technology.