The pros & cons of retaining stubble

Department of Agriculture and Food, Western Australia
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In the past, 'stubble management with a matchbox' has been an easy solution. Elsewhere in the world, however, conservation-conscious practices are being forced on the farming community.

In Britain, for example, stubble burning is banned, and in some north American states stubble retention and reduced tillage practices are being enforced by local laws.

But why do we wish to retain stubble? Some reasons are obvious, such as the need to prevent erosion by wind or water. Others are perceptions; for example, that the retention of stubble will increase soil organic matter.

To clarify our thinking, let's list the benefits and costs of retaining stubble.

One of the reasons many farmers are reluctant to adopt stubble retention practices is that some aspects of stubble retention are difficult and poor results are highly visible. Examples include stubble blockages of seeding equipment, poor seeding depth control, poor establishment, and difficulty in controlling weeds in header rows.

In contrast, many of the benefits of retaining stubble cannot be seen and are often realized over a long period, while others are devalued by our forgetfulness.

Examples include prevention of erosion, conservation of moisture and reduction of the disease brown spot in lupins. Even the devastation of wind or water erosion tends to be all too quickly forgotten when better seasons return.

Perhaps the most obvious benefit of retaining stubble, apart from its value as livestock feed, is the protection offered against wind and water erosion. This and the beneficial effects on soil properties are discussed in other articles in this issue of the Journal of Agriculture.

The visible and most commonly discussed difficulty of sowing a following crop into stubble is a disincentive for many farmers to practise stubble retention.

There is available seeding machinery to handle the heaviest of stubble, but it is expensive and may not suit some of our farming systems. However, ways of managing stubble at harvest are being developed and may provide low cost, easily implemented solutions for many farmers. The articles, 'Stubble handling begins at harvest' on page 22 and 'Stubble handling machinery', on page 28 discuss some of the options.