

Fodder conservation and weed control.

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'Mundarlo', Adelong, NSW 2729.

Our operation

'Mundarlo' is 1550 ha, on the Murrumbidgee River, approximately halfway between Gundagai and Wagga Wagga. The soil ranges from rich alluvial river flats to rocky granite hills, with pastures consisting of natives on the rougher country to pure lucerne stands on the river flats. Most of our improved pastures have high lucerne contents. On this we run approximately 650 beef cows, producing feeder steers and finished animals for the domestic market. We sow approximately 350 ha of crop annually; where possible concentrating on grazing and grain production from wheat or triticale. We also quite often fatten Riverina lambs on an agistment basis.

The role of silage

I started making silage after the 1967 drought, when I thought there had to be a better way of handling drought conditions and was determined to drought proof our farm. In those days there were no big square or round balers, and most of the silage was direct cut with flail forage harvesters. Everything I read at that time suggested that fine chop wilted silage was the best product, particularly when cutting lucerne.

As there were no contractors making fine chop silage at that time, we bought our own machinery and we have been making fine chop silage ever since.

Silage making can be quite labour intensive, we use five people during the harvest period, producing 20-28 tonnes of silage (fresh weight) per hour. With our machinery we can chop both pasture and maize silages and we now do some contract silage making to help offset the cost of our machinery.

I believe that fine chop silage has two major advantages over big bale silage.

- i) Generally it is the cheapest form of forage conservation and certainly longer-lasting than individually wrapped bales. I find the cost of individually wrapped bales unacceptably high. The cost of big bales in covered stacks or pits is mid-range.
- ii) The ability to add and mix supplements and grain with fine chop silage is a very real advantage.

One of the disadvantages expressed about chop silage is the need for expensive feedout equipment. While this is a valid point, I believe that it is more than offset by the use of second-hand silage wagons or a hydraulically operated tailgate on tipping trailers and trucks, and the fact is that for us, fine chop silage is substantially cheaper than the other forms of forage conservation. The last forage wagon we bought only cost \$7,000, but we now have a unit in which we can

mix grain and supplements as well (this assumes that most people have access to a front-end loader).

Animal production

How has the use of silage impacted on our animal production? It has:

- i) drought proofed our farm;
- ii) allowed us to keep our breeding herd intact;
- iii) allowed reasonably cheap and easy production feeding of our sale stock; and
- iv) virtually eliminated drought-induced financial pressure.

and I sleep at night.

It is unfortunate that many people consider silage a second-grade feed source that can be made out of any old rubbish. Silage is a bit like computers, "rubbish in, rubbish out". Most of our silage is made from lucerne-based pastures, but we will also make silage from second cut lucerne provided we have enough hay on hand.

Drought Feeding

As indicated previously the principal focus for our silage production was for drought reserves, so nearly all our silage has been stored in pits. One of the main arguments against long-term fodder storage is the cost involved, with some people believing you are just burying money.

Our view is that we are spending the money in those years when we are not under drought-induced financial pressures. Generally, we are making silage from pastures during times of over supply when a high percentage of feed would usually be going to waste. Can most people in this area utilise this spring flush by juggling their stocking rate? Unless you are a trader, I think not!

A number of people say that you should sell your stock in the face of a drought rather than rely on

conserved fodder. With the exception of the 2002 drought, people generally sell cattle on a low market and restock on a high market; unless, of course, you are a brilliant strategist and probably very few of us are. My understanding is that most people only just recover to their pre-drought levels of stock or finances when the next drought strikes, so in actual fact they are always playing catch-up.

Admittedly in 2002 we bought two loads of corn grain when we thought there was a fair chance of running out of silage. Half this was used to help reduce our silage ration to the cows and the other half was used in production feeding of steers. Because of this we were able to weather the drought and retain the majority of our stock.

Production Feeding

Several years ago we put down a temporary 500 tonne bunker of pure lucerne silage and used it to fatten a couple of hundred steers. We put electric tape across the ends of the stack and allowed the steers unrestricted access. The system did have a very low labour input and utilized the previous spring flush which would otherwise have been wasted. However, the weight gains were disappointing. Steers only averaged 0.8 kg/day and not the gains in the order of at least 1 kg/day we'd expected. I was later informed that the reduced weight gain was probably due to the fact that we were weighing them every week and disrupting their feeding routine.

Another use for silage of all types provided the protein is over 15% is as a supplement for cattle feeding on cereal stubbles. Several years ago we used a 20% protein lucerne silage instead of buying proprietary molasses-based supplements, which resulted in a very substantial cost saving.

The Department of Primary Industries has some very good information on this as well as figures comparing the cost of high-quality and low quality silages.

Pasture production

How has the use of silage impacted on our pasture production?

- i) Allowed faster pasture response to drought breaking rains; and
- ii) Helped safeguard our country from erosion.

Not only has this silage given us a high quality feed reserve, it has also aided our pastures by allowing faster pasture response after drought breaking rains and also safeguarding our country from erosion. An example of this is, that during several droughts we have full fed our cows in sacrifice paddocks, yet the minimal impact on our pastures and their ability to regenerate quickly after the rain eventually came was

amazing. The ability to keep this groundcover on our hill country has also been a great safeguard against erosion.

Weed management

How has the use of silage impacted on our weed management?

- i) Reduced the level of some of our most troublesome weeds.
- ii) Has at times increased the level of some generally less serious weeds.

Early cutting of pasture for silage, rather than delaying cutting for hay can have quite a beneficial effect on the weed populations. In particular I have noticed a dramatic fall in the amount of Paterson's curse and annual ryegrass in our pastures. In some paddocks though, we have had to reduce the frequency of silage cutting to allow the ryegrass to re-establish for a more balanced pasture mix.

On the down side, you can get a change in the weed balance, namely an increase of shepherd's purse and particularly barley grass if you are later cutting. To avoid this, particularly if you are depending on silage contractors and/or cutting paddocks which have a lot of barley grass, I would strongly recommend paddocks be sprayed prior to cutting. By doing this you are going to get a better product and will have greater flexibility (without as much loss of quality) if your contractor is running late.

Silage Contracting

As we do a little bit of contracting, here are a few comments on this subject.

From the contractor's point of view:

- i) If you have a lot of barley grass spray clean your paddocks. Not only does it reduce the quality of your silage but can also cause livestock health problems such as mouth ulcers.
- ii) Make sure your paddocks are clean and free of rocks and obstructions like stumps. If you're doing your own mowing and there maybe stones in some areas, cut high and tell your contractor. Stones can cause substantial damage to forage harvester cutter drums.
You will find that some contractors now provide a written quote for their clients, stating that the property owner is responsible for damage caused to machinery by rubbish or inadequately marked obstructions.
- iii) When constructing a row of silage pits don't put them too close together. This is very important as it is extremely awkward for machinery to work,

particularly when covering and uncovering the pits with soil. We have made that mistake.

- iv) Allow plenty of maneuvering area at the end of the pit where you will be dumping truckloads of material and preferably pick an area as flat as possible. Some people, quite understandably get nervous about tipping trucks on a slope

From the farmer's point of view:

- i) Only employ contractors that have forage harvesters fitted with metal detectors and check that they have them operating at all times (I have come across operators who have admitted turning their metal detectors off because they were sick of getting out of the tractor looking for bits of wire). While they are expensive, they are a worthwhile addition to any forage chopper. Even

the cleanest farms have bits of wire lying about which, if chopped into fine pieces, can be ingested by livestock causing peritonitis (hardware disease). They also protect forage harvesters from serious damage, meaning less chance of machinery downtime and spoiling of your silage.

- ii) Use contractors who have access to scales and either weigh all truckloads, or regularly sample truck loads during the day.
- iii) Learn how to do a simple moisture test on chopped forage and keep a check on the moisture content yourself. Most contractors are trying to do as much work, in as little time as possible, and often push the limits of acceptable moisture contents. 🐄