



Making silage after a very wet winter

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The dairying areas of West and South Gippsland and many areas of South West Victoria often experience very wet winters and early springs resulting in severely pugged paddocks at silage harvest time. The severity of the damage will vary according to how wet the soils were at grazing, pasture mass at grazing, soil type, stocking density, follow up rain events and in particular, the actual grazing management on these very wet soils.

Although the following suggestions may be almost useless for some farmers (and contractors), I will try to paint various scenarios, provide some principles and offer some tips for you to consider in making silage after a very wet winter/early spring. Obviously, your own past experiences of harvesting on wet soils will be good start and these comments are offered to provide another perspective.

Following are some principles to keep in mind.

Silage Fermentation: Mud, dust and silage do not mix as many undesirable bacteria will be incorporated into the forage in the silage stack or bale and are highly likely to cause a poor fermentation. This will result in relatively high losses of dry matter and nutritive value of the silage which will vary in palatability from “Not nice” to “Bloody horrible.”

Silage Additives: Although NOT a guarantee of success, the use of fermentation enhancing-type silage additives is highly recommended when harvesting forage in wet years. Of the fermentation enhancing silage additives, bacterial inoculants comprise the majority of these of which most inoculants contain the desirable lactic acid-producing bacteria. However, there are other products that may achieve the same outcome.

In the two following scenarios, silage additives will increase the likelihood of a more favourable fermentation.

The material being ensiled may not reach the recommended dry matter targets with dry matter contents being slightly under 30 per cent dry matter for forage harvested silage, or under 40 per cent for baled silage.

Bacterial inoculants can substantially assist similar bacteria already on the pasture to compete against the spoilage bacteria in the mud/dirt/dust that will inevitably be picked up during raking or forager/baler tynes.

Be aware that most additive application rates are based on a fresh weight basis. That is, higher rates of additive will have to be applied than if the material was harvested at the recommended DM contents. Farmers and contractors will need to accurately determine the throughput of their harvesting machinery to apply the correct rates. Do not short change on additive amount per tonne of crop!

Wilting Rate: To speed the rate of wilting, use a tedder as soon as possible after mowing, and possibly again the next morning after the dew has lifted. Try to avoid incorporating dirt

into the forage by setting tynes to clear pug marks. A flail-type mower conditioner with swath boards left as wide as possible will also increase the wilting rate, although at reduced rate compared to a tedder.

Try to stick to the cleaner areas of the paddock avoiding the odd low lying, wet or muddy areas as these would act as “bad” inoculants affecting much of the stack or bale.

Pasture Quality: Pasture quality will start deteriorating once pastures approach canopy closure. Growth stage could be anywhere from the two to three leaf stage of the ryegrasses where the first leaf will begin dying very quickly in spring once the fourth leaf starts to appear. If the plants are still in the vegetative stage, as later maturing varieties may be, then the drop in nutritive value will be reasonably slow until they start to head.

However, if sunlight does not reach the pasture base, the generation of new tillers will be reduced, and death of young tillers will occur. This will result in pastures of lower density and ultimately in lower annual pasture production. This may not be a factor if the pugging is so severe that the paddock will be renovated or used for a summer crop after harvest.

If pastures are starting to send up reproductive tillers, that is, the stems contain seed heads, as the earlier maturing varieties may be, then canopy closure will be reached more quickly causing the above problems. More importantly, pastures at this stage decrease in nutritive value much more rapidly than those in the vegetative stage.

Paddock Choice: Are there “less wet” paddocks that can be ensiled whilst trying to graze the wetter paddocks? This is a long stretch, but there may be a window where the low lying and on some soil types, even paddocks on slopes, could be grazed on a fast rotation and then, maybe grazed quickly again. This will reduce pasture mass but provide some feed allowing them to be harvested later, or for drier paddocks to be harvested first.

Due to a quicker grazing in these paddocks, they may have higher residuals and may need to be or post-graze topped when conditions suit, if they are not ensiled. These paddocks will be of lower quality. Pre-graze topping may be another option but remember that milk production may drop somewhat as the animals won't be able to select the higher quality pasture and will consume the good, the bad and the fouled!

Severe damage (Figure 1): Paddocks will have deep (>5 cm) pug marks, some pasture may have been buried and now rotting, and some of the grass will still have mud and poop on the leaves. Try to judge the density of the remaining pasture.

Options: Probably best to not ensile these areas, assuming soils have dried enough to allow vehicle access without leaving deep ruts. Earmark for summer cropping or spring sowing with Italian or perennial ryegrass as soon as practical.



Figure 1. Severely pugged pastures

Medium damage (Figure 2): Paddocks will have medium (2 – 5 cm) depth pug marks, little pasture buried and most of the grass which was fouled by mud and poop may be washed off by follow up rains. The issue here is when you can get machinery onto the paddocks without causing too much damage.

Options: If the paddock is tractable, not too rough for equipment and backbones, and if mowing, tedding and/or raking and harvesting can be done with minimal soil (dust or mud) contamination, then silage should be a possibility. Definitely consider using an additive.



Figure 2. Medium damage to pastures

Minimal damage (Figure 3): These paddocks will have shallow (< 2 cm) pug marks and should be viewed as “business as usual”. The main concern here will be the nutritive value of the pasture/silage. The earlier it is cut, the much better its value.

Options: Assuming the paddocks can be harvested without soil damage, follow the normal silage making practices. Given that wilting and/or soil moisture conditions may affect wilting rate, consider using an additive.



Figure 3. Minimal pugging damage, soil on leaves only