# Filling Feed Gaps

Wudinna Community Club
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# Silage

# Hay vs silage

# Is silage an option on upper EP?

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# What is silage?

Silage: the product resulting from the anaerobic fermentation of moist forage

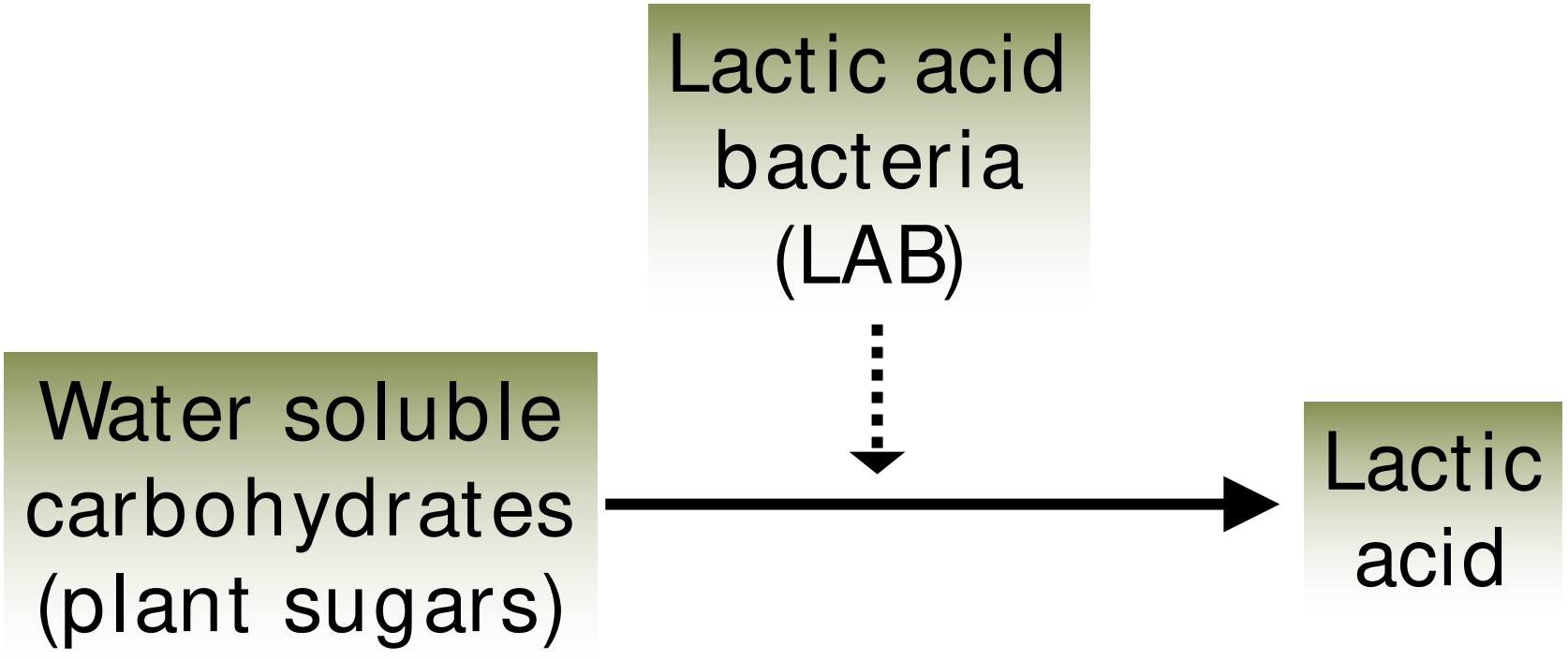
Anaerobic = air excluded → Silage

Air present → Compost

Anaerobic: the absence of air or oxygen

Air is the enemy of silage

# Preferred silage fermentation



More sugar = more lactic acid
More lactic acid = lower pH – ideal 4.0 to 4.5
Lower pH = longer lasting

Cereals/ryegrass = high sugar
Legumes = low sugar

Also need moisture, but not too much!
30-35% dry matter (65-70% water) for chopped silage. Roll to compact and squeeze air out

50% - 60% dry matter (40-50% water) for baled silage. Use baler pressure to squeeze air out.

Drier silage = higher pH = round/squares pH 5.5 – 6.5
Keep for 1 year (maybe 2) or as long as plastic will last

Wetter silage = lower pH 4.0 to 4.5.
Keep for 5-20 years if well sealed (no air)

# Types of silage





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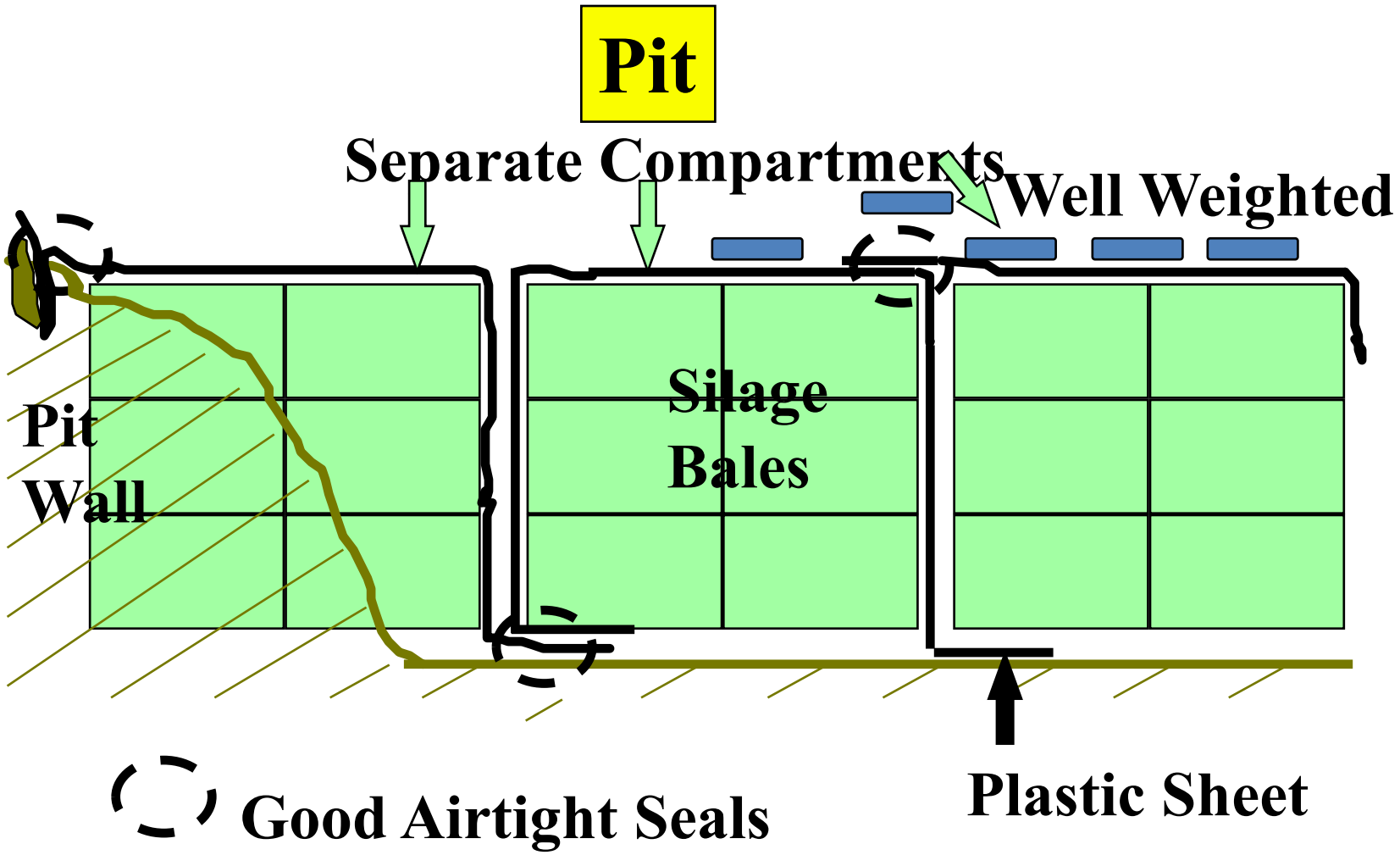
# Large squares in a pit




Fine chopped silage eg
Claas Jaguar

Medium chop silage eg
forage wagon Strautmann,
Taarup, Krone

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pH 4.3 ME 10.5 NDF 48% CP 13%


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Lots of these available second hand - you don’t have to spend $


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# This round bale silage is a disaster – far too wet

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# 15,000 ewes in confinement fully fed on silage + straw in pens

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# Silage can be expensive – due to water

Wet weight * dm = dry weight (500 kg wet * 0.30 = 150 kg dry matter)

0.30 = 30% dry matter or 70% moisture

**Chopped silage costs - $80-$100/t dry matter** (most contractors charge/t dm)

**Round bales** – $25/roll to roll and $20/t to wrap = $45/roll.
Roll = 600 kg wet*0.50 = 300 kg dm = $45/300*1000 = **$150/tonne**

**Hay** - $25/roll.
Roll = 330 kg wet*0.85 = 280 kg dm = $25/280*1000 = **$89/tonne**

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# Hay vs silage

- Hay is cheaper ($/t dry matter) than baled silage – no wrapping and less moisture and no plastic
- To be competitive (c/MJ ME) silage must be high quality (10 + MJ ME/kg dry matter)
- Silage is a great way of reducing grass seeds eg barley/silver grass but will be expensive if ME less than 9.5. However, no grass seeds when feeding out.
- Silage can fill a feed gap in late spring and late autumn if high ME feed required
- Silage can (= must) be baled within 2 days cutting
- Fast wilting = quicker baling/sooner into stack = higher ME - but if silage too wet = poor fermentation + spoilage
- Earlier cut = higher ME, but not if on the ground for 45 days!
- No mice problems with silage – if stored correctly ie wrapped silage not stored in long grass or under trees (birds)

**Good hay is as good as silage** especially medic, vetch, lucerne – if well made

But there is upto ⅓ less wastage at feeding out with silage compared to hay + other advantages (cut earlier, less time on the ground, less mice issues, grass control)

## Poor hay is a waste of money and time. Likewise with silage

Feeding silage to lambs for growth – fine chop important + may require grain = tub mixer + nutritionist to balance ration

Feeding silage for maintenance (ewes in confinement) works well

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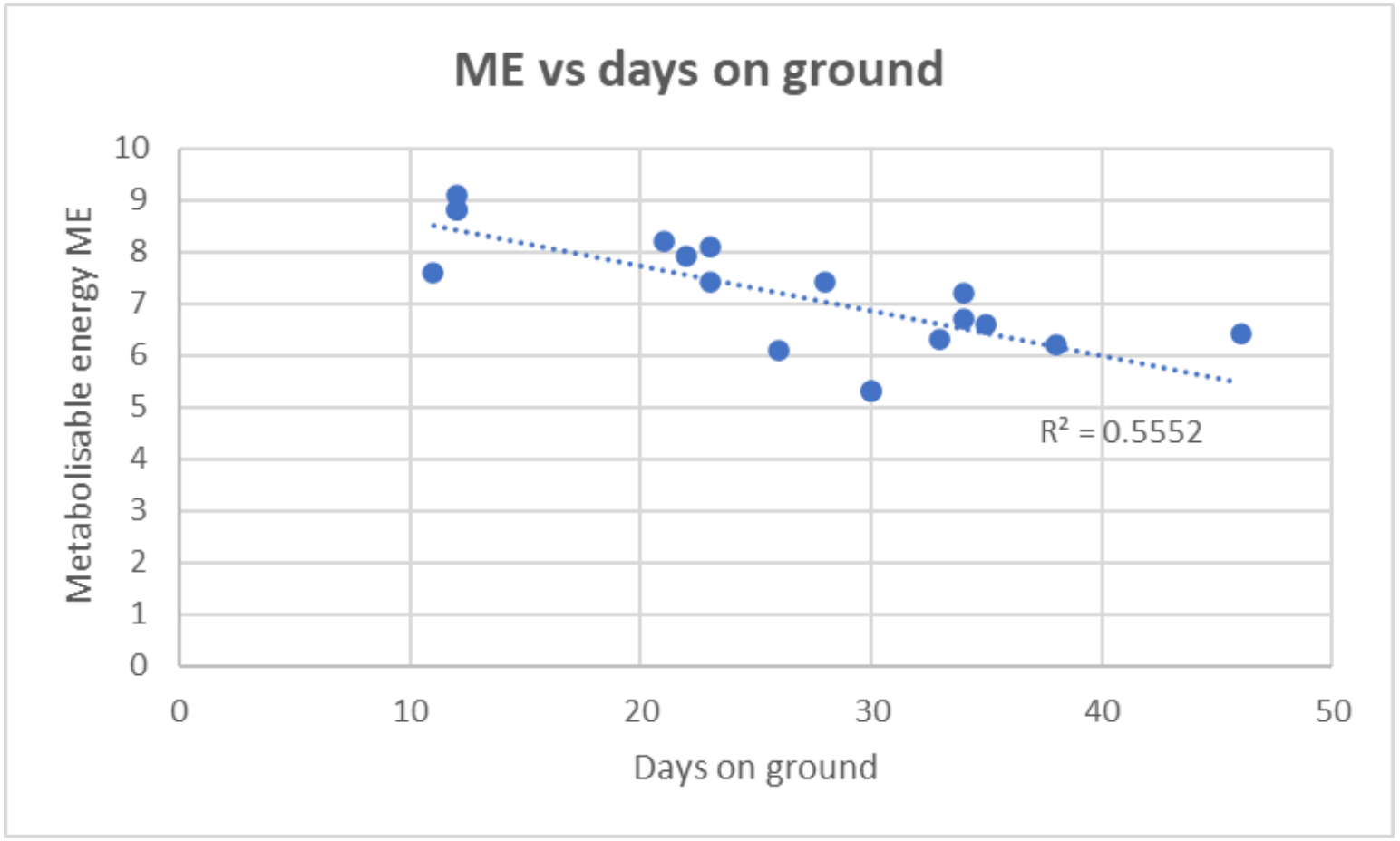
Results from 9 KI ryegrass hay. All cut mid October 2022 at early head emergence plus 9 Fleurieu Peninsula samples cut early November to early December.

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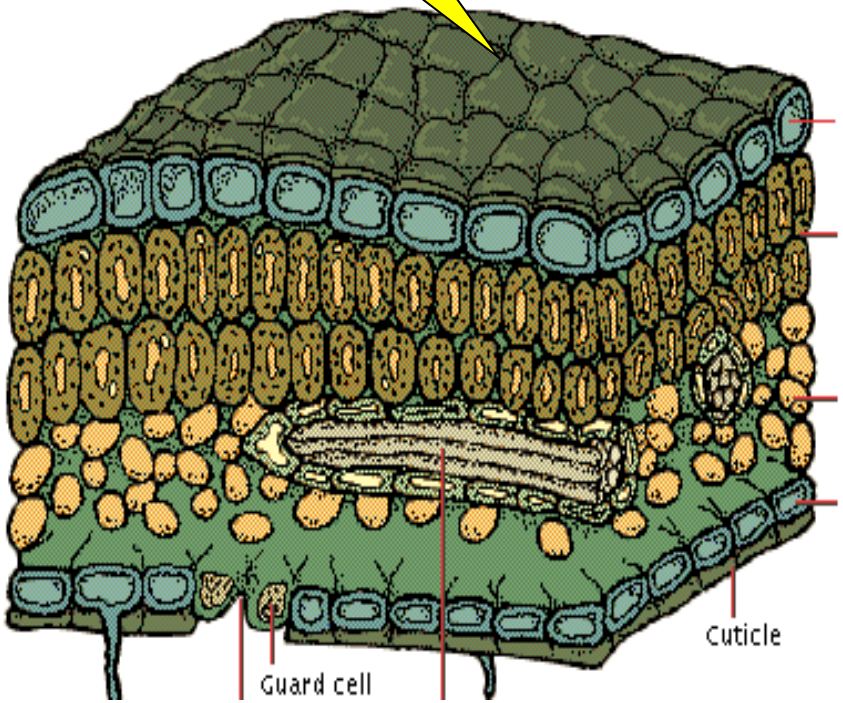
# Quick wilting is crucial for best fodder quality – be this hay or silage

Cross section of leaf




## Water evaporation from cut forage

**Stomates open**
**100 litres water/t/hr loss**

**Stomates closed**
**20 litres water/t/hr loss**

**Stomates close within 0.5 - 2 hrs of mowing**
**Therefore, ted immediately behind mower**

Bosma 1991

# Tedding significantly reduces wilting time but must happen immediately behind the mower

This allows the sun's radiation to get to a much greater proportion of the mown swath and, being thinner, allows the evaporating moisture to escape more quickly.

# What can we learnt from 2022 hay season in the south east and on Kangaroo Island

- Longer hay on ground = lower ME. Early cut is better quality, but must be wilted quickly. Wheat and barley OK if cut at milky dough.
- Cut later by sowing late maturing ryegrasses
- Wilt faster = tedding immediately behind mower and ted twice if needed before raking
- Impact of tedding is even better if mower conditioner used, and swathe left as wide as possible.
- Bale a little wetter and use a hay inoculant eg Biostart Hay King
- If rain expected and hay is nearly dry, but baler is not ready, putting hay into windrows may help
- Consider silage
- Definitely feed test your hay and silage – need to know pH, mineral content and speed of passage through rumen.

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