IBERS Research

IBERS Research is looking to answer questions posed by farmers on the use of high-protein forages. The aim is to research topics needed to help farmers overcome barriers to growing forage protein on their farms. At IBERS, we investigated how using different mower conditioners affected field protein losses.

Getting Started – What you need to know about mowing forage legumes

- Rapid wilting of forage crops for ensiling is key to ensuring that nutrient loss is kept to a minimum.
- Using conditioners on mowers at harvest promotes moisture loss, reducing wilting time.
- Forage legumes have fragile leaves that can shatter when ‘standard’ conditioners are used.
- Forage leaves contain more protein than stems so reducing leaf shatter should increase forage protein yield.

Here, we find out what these protein losses are depending on the type of conditioner used.

Effects of different harvesting methods on silage – what we compared

Forages:  Red clover (AberClaret)
         Lucerne (Timbale)
         White clover (Aran)
         P. Ryegrass (AberMagic)

Each plot harvested by 3 methods:
- NO conditioner
- Steel tine conditioner
- Rubber roller conditioner

Forage Yield Cut

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<th>Mower No Conditioner</th>
<th>Mower Standard</th>
<th>Mower Roller Conditioner</th>
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<td>Forage Yield Cut</td>
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Sustainable Forage Protein | Efficient forage-based systems for ruminant livestock production in the UK.

At IBERS, each forage harvested and left to wilt in a swath

- Second cut forages were mown on the 1 July.
- Losses during baling were measured by raking and vacuuming an area on each plot post-harvest.

**Fig. 1** Second cut DM (g/kg) of wilted forages at harvest using different mowers

![Graph showing DM (g/kg) of wilted forages at harvest using different mowers.]

- White Clover
- P. Ryegrass
- Red Clover
- Lucerne

Both steel tine and rubber roller conditioners promoted a more rapid wilt.

**Fig. 2** Total Nitrogen losses as forage (kg N/ha) in the field at harvest when using different mowers

![Graph showing total nitrogen losses as forage (kg N/ha) in the field at harvest when using different mowers.]

- White Clover
- P. Ryegrass
- Red Clover
- Lucerne

Losses of nitrogen as forage was low in all ryegrass treatments.

Using a rubber roller conditioner kept losses to a minimum when harvesting legumes.

**Mowing Tips from IBERS Science**

- Using a conditioner will help achieve a target forage DM in a shorter wilting time.
- Using a rubber roller conditioner compared to a standard conditioner will reduce protein lost at harvest when ensiling forage legumes.