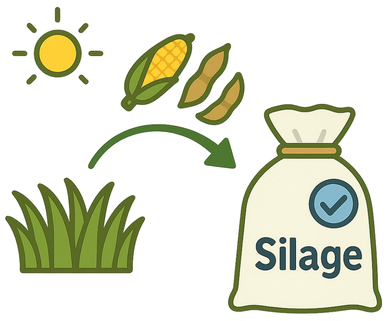
Reduce the wilt, ensile with concentrate — no compromise on *in vitro* degradability!

✓ Total gas production, true dry matter digestibility and total volatile fatty acids concentrations were similar.

1 In a companion study...



- **High quality** silage was achieved by **reduced wilting** and adding **dry concentrates** (ground corn and soybean hulls).
- Reduced alfalfa silage pH.
- Reduced proteolysis in silage.

2 However...

The effects of these treatments on *in vitro* ruminal degradability remained unclear.

3 Objective

To assess the **effects of reducing wilting time** in alfalfa by adding corn grains with or without soybean hulls on silage ***in vitro* degradability** parameters.

4 In vitro degradability test

3 wiltings of alfalfa

- **NW** : not wilted *20% DM*
- **PW** : partially wilted *6 h to 28% DM*
- **FW** : fully wilted *24 h to 35% DM*

2 dry concentrates

- **GC** *(ground corn)*
- **or**
- **GC + SH** (soybean hulls)

6 silage treatments

1. NW-GC
2. NW-GCSH
3. PW-GC
4. PW-GCSH

→ **GC, SH before ensiling**

5. FW-GC
6. FW-GCSH

→ **GC, SH after ensiling**

✓ Gas production
✓ *In vitro* degradability
✓ Rumen parameters

24 h in vitro incubation

Statistics:

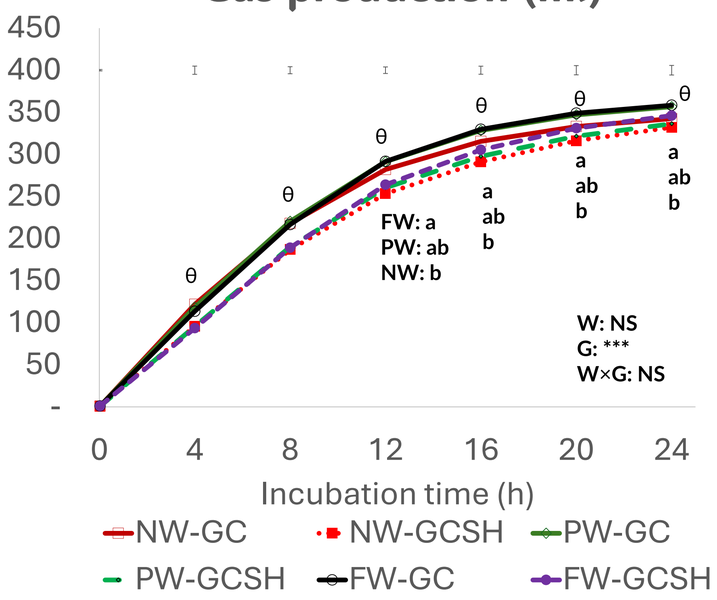
5 blocks x 6 treatments
Factorial analysis : 2 x 2

Mixed effects (SAS Studio)
✓ Random: block (incubation)
✓ Fixed: wilting and concentrates

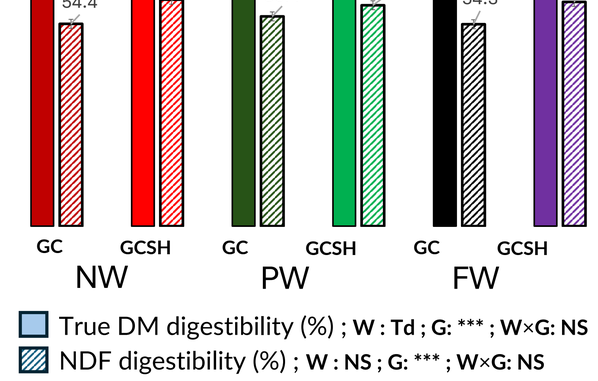
5 Results

Effects : W = wilting ; G = grain ; interaction W×G
P values : NS = P > 0.05 ; 0.10 ≥ Td > 0.05 ; *= 0.05 > P ≥ 0.01 ; *** = P < 0.01
At a time point : θ = GC vs GSCH (P≤ 0.05) ; a, b, c = wilting (P≤ 0.05)

Gas production (ml)



In vitro degradability (%)



Ruminal parameters

	NW		PW		FW		SEM	*Effects*[1]		
	GC	GCSH	GC	GCSH	GC	GCSH		*W*	*G*	*W×G*
pH	6.25	6.27	6.25	6.25	6.22	6.25	0.02	*Td*	***	*NS*
NH3 (mmol/l)	21.0	21.5	19.2	18.0	19.8	18.2	1.0	*	*NS*	*NS*
Total VFA (mmol/l)	90.1	88.9	85.9	81.5	88.3	75.6	5.4	*NS*	*NS*	*NS*
Acetate (% VFA)	56.8	58.9	56.2	59.1	55.0	58.8	0.8	*	***	*Td*
Propionate (% VFA)	25.3	24.2	25.1	24.4	25.5	24.3	0.7	*NS*	***	*NS*

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Financial support
CRSNG NSERC
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