



Your Levy at Work

RUMEN DEGRADABILITY CHARACTERISTICS OF FIVE STARCH-BASED CONCENTRATE

SUPPLEMENTS USED ON AUSTRALIAN DAIRY FARMS

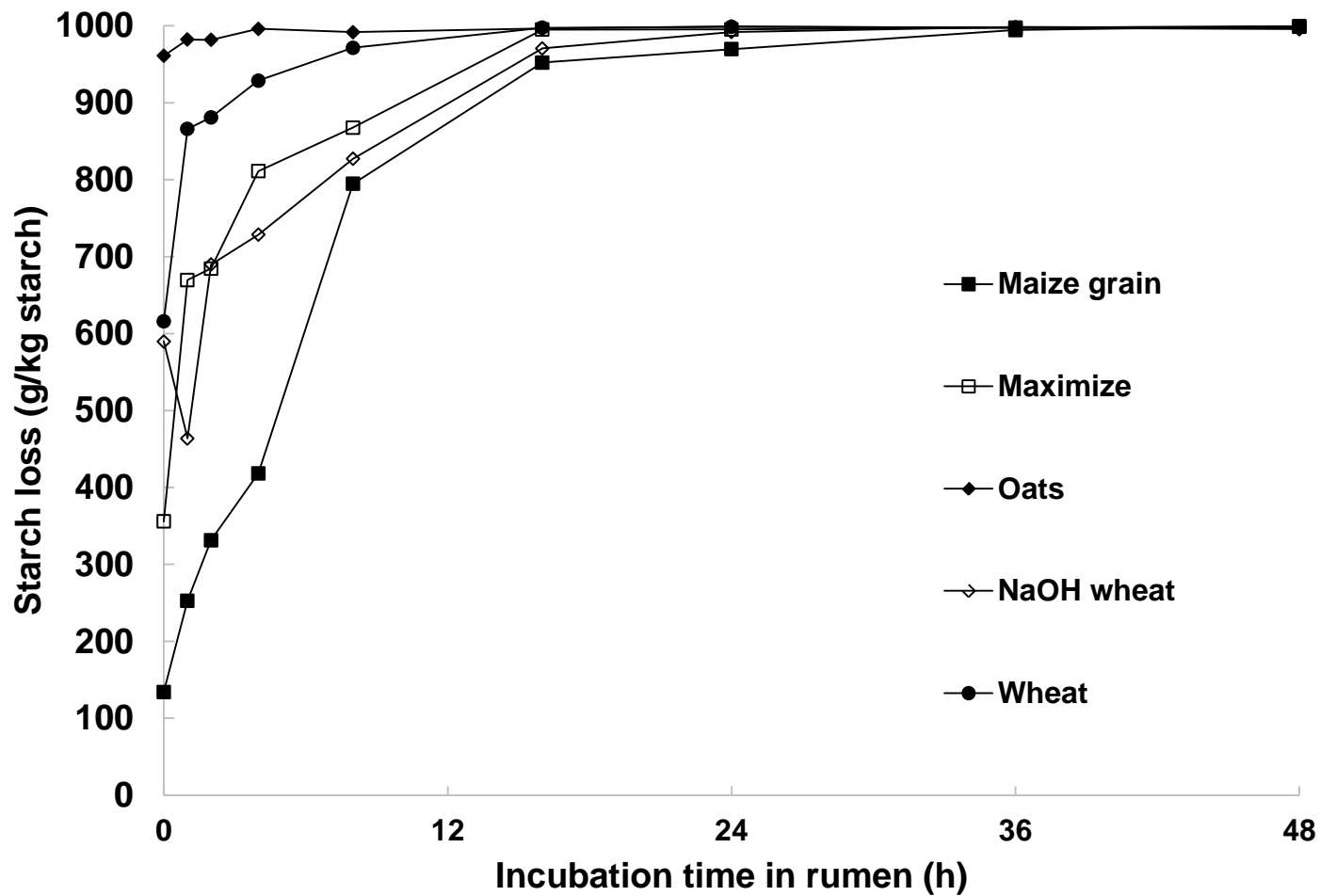
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AIM & OUTLINE

- **Starch based concentrates widely used in WA**
- **Maize grain been shown to sustain yields of milk and milk fat relative to other SBC at high concentrate intake levels**

- **Aimed to assess alternatives relevant to WA**
- **Nylon bag to measure rumen degradation**
- **5 feeds: wheat, maize grain, oats, sodium hydroxide (NaOH) treated wheat and Maximize® (commercial pellet)**



STARCH DEGRADATION IN RUMEN

	Maize Grain	Maximize	Oats	NaOH Wheat	Wheat		s.e.d.	P value
<i>a</i> fraction	0.11 ^a	0.40 ^b	0.96 ^e	0.52 ^c	0.63 ^d		0.019	<.001
<i>b</i> fraction	0.89 ^e	0.60 ^d	0.03 ^a	0.48 ^c	0.36 ^b		0.019	<.001
<i>c</i> fraction	0.14 ^a	0.40 ^{ab}	0.70 ^b	0.15 ^a	0.72 ^b		0.176	0.021
P (r = 0.08/h)	0.70^a	0.87^b	0.98^c	0.83^b	0.96^c		0.020	<.001

P = rumen solid outflow rate/h, a, b and c fractions as per AFRC (1992)

CONCLUSIONS

- **Maize grain the most slowly degradable (as expected)**
- **NaOH wheat and Maximize very similar**
- **Straight wheat and oats the most rapidly degradable**
- **Important to consider absolute amount of starch in each feed also – has an impact on rumen capacity to process it**
- **Maximize and NaOH wheat may be viable substitutes for maize grain in cows receiving high SBC levels**
- **At lower supplementation levels, wheat or barley adequate**