

Chopped or long roughage: what do calves prefer?

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Animals have "ethological needs", i.e. behaviours that they are strongly motivated to perform, and that, if prevented, lead to frustration and suffering. Calves, being ruminants, "need" to chew and ruminate. Longer roughage fibres promote longer rumination times. We investigated whether calves would work more for long or chopped roughage.

Nine Holstein-Friesian bull calves were trained to press two panels with their nose to access roughage rewards (hay or straw). One panel delivered long whilst the other delivered chopped roughage. The price (i.e. number of presses required to obtain a reward) varied from panel with chopped and panel with long roughage between 7 and 35. Outside of testing, calves were fed only milk and concentrates.

Demand functions, i.e. relationship between price and number of rewards obtained, were calculated for each type of roughage according to the price of chopped roughage. The point where functions for chopped and long roughage crossed (cross-point) indicated at which price an equal number of both reward types was obtained. A cross-point close to the midpoint (midpoint = 21), indicated no preference, whereas a cross-point that deviated from the midpoint indicated a preference for one resource.

Calves showed a preference for long compared with chopped hay ($P = 0.002$) with a deviation from the midpoint of 5.4 ± 0.9 presses. No preference was found for chopped versus long straw ($P = 0.711$), with a deviation of 1.9 ± 3.0 presses. Calves worked consistently for access to roughage, and exhibited a preference for long hay over chopped hay. The lack of effect for straw may be because straw is coarse, providing enough structure regardless of particle length.