Garlic Supplementation in Lactating Cows

Garlic and Ectoparasites

Dietary supplementation with sources of garlic oil have been shown to have several beneficial effects. Supplementation with garlic oil has been shown to reduce pressure from ectoparasites such as flies[3] and ticks[2,4] in beef cattle, and lice in poultry[1].

What about the milk?

Garlic oil works against ectoparasites by virtue of its high concentration of alliin-derived sulfur compounds. They are highly volatile, and excreted through the breath, skin, and urine of the animals. Ectoparasites are discouraged from approaching the animals due to this aroma. However, there is some concern that these garlic flavors could be transferred to the milk of lactating dairy cows, thus rendering the milk less palatable or – at the extreme – unsaleable.

To the Research!

Recently, Rossi et al. (2018) explored the impact of feeding high levels of garlic (100 to 400 grams per cow per day - g/c/d) for methane control on sensory and cheese making characteristics of milk.

Cheese making

- Milk coagulation — No effect
- Curd firming parameters — No effect
- Cheese yields — No effect
- Nutrient recovery — No effect

Sensory attributes (scale of 1-10)

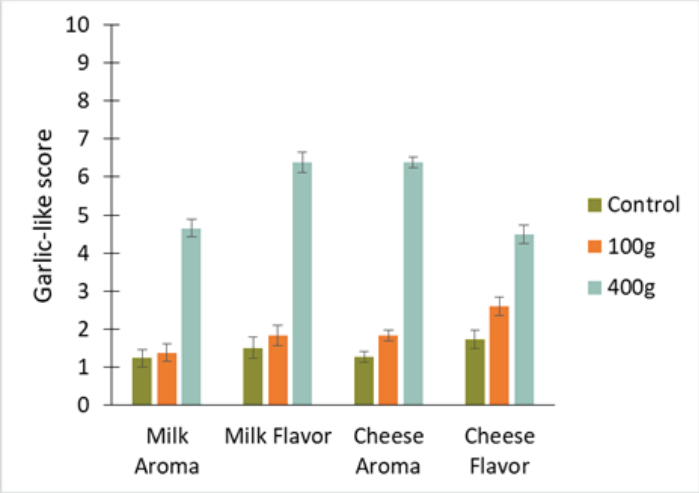
Milk

- Aroma (intensity) — No effect
- Taste (sweet, salty, bitter) — No effect
- Flavor (intensity) — No effect

Cheese

- Aroma (intensity) — No effect
- Taste (sweet, sour, bitter) — No effect

The cheese making properties were essentially unaffected by garlic supplementation, as were most measures of the milk and cheese sensory attributes. The main impact of garlic supplementation was on the "garlic-like" flavor and aroma scores for the milk and cheese. The highest level of garlic (400 g/c/d) more than doubled the "garlic-like" attributes for the milk and cheese. However, the lower dose (100 g/c/d) did not significantly affect the "garlic-like" characteristics of the milk, and – while significant – the effects on the cheese were quite small.



Adapted from Rossi et al. (2018)

What does it all mean?

The results of Rossi et al., (2018) demonstrate safe supplementation of fresh garlic to lactating dairy cows as high as 100 g/d without impacting the sensory or cheese making properties of the milk.

Fresh garlic generally contains around 1% oil, with dry garlic powders containing significantly less than that. Feedbuds® Garlic is designed to have similar intensity of garlic aroma to that of freshly processed garlic, but with greater stability and mixability. As a result, normal feeding rates of Feedbuds® Garlic rarely need to exceed 2.5 g/d to achieve the desired effect. Please contact your QualiTech representative for more information on Feedbuds® Garlic products

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Literature Cited:
1. Ahmed et al. 2019. Bas J Vet Res 18:195-207.
2. Castro Alvarenga et al. 2004. Ciênc. agrotec., Lavras 28(4):906-912.
3. Durunna and Lardner. 2020. doi: 10.5539/sar.v10n1p54
4. Massariolet al. 2009. Rev. Bras. Pl. Med. 11(1):37-42.
5. Rossi et al. 2018. doi: 10.3168/jds.2017-13884