

Yuquina Cotyl differences to whole seed fenugreek seeds and improved feed intake

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Aim of the study

Comparative effect of Yuquina Cotyl and whole seed of fenugreek as palatability enhancers on feed intake in dairy cows.

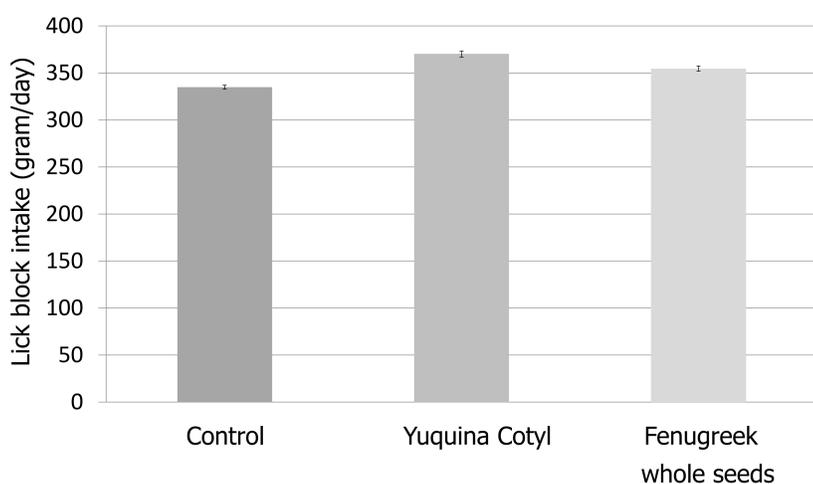
Palatability trial in dairy cows

Material and methods: 50 lactating Holstein dairy cows fed maize silage/pastured grass/ grass silage /cereal silage / soybean (37/28/14/14/7 DM). Three lick blocks with different composition were prepared according to the table below, and proposed at the same place and simultaneously to the whole group during 18 days. Lick blocks consumption was evaluated by weighing once a day, after a 3-day adaptation.

	Control lick block	Yuquina Cotyl lick block	Fenugreek whole seed lick block
Sepiolite (mg/g DM)	280	140	-
Fenugreek whole seeds (mg/g DM)	-	-	280
Yuquina Cotyl (mg/g DM)	-	140	-
NaCl (mg/g DM)	550	550	550
CaCO ₃ (mg/g DM)	90	90	90
MgO (mg/g DM)	90	90	90

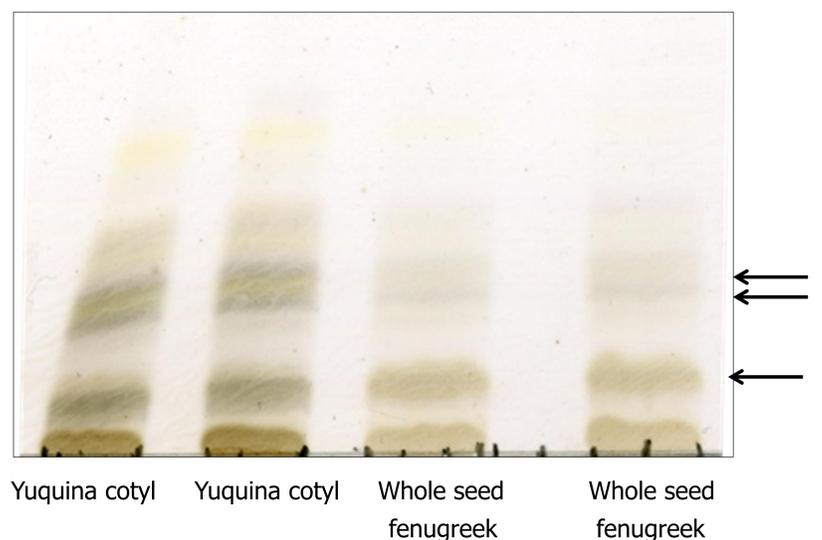
Results

The control lick block average intake was 21.2g/cow/day. Feed intake for lick blocks containing fenugreek was higher than feed intake for the control lick block, +10.5% for Yuquina Cotyl, and +5.9% for whole seeds of fenugreek:



Characterization of fenugreek saponins by thin layer chromatography

Extracts from whole seeds of fenugreek and from Yuquina cotyl were resolved by TLC. As shown in the figure below, saponins were allocated to 3 spots (indicated by arrows). The intensity of the spots was higher in Yuquina Cotyl than in whole seeds of fenugreek, suggesting a higher concentration in saponins.



Discussion and conclusion

Despite a concentration in fenugreek two fold lower, lick block intake was higher with Yuquina Cotyl than with whole seeds of fenugreek. As shown by TLC analysis, this result can be explained by a concentration in active compounds (saponins and other compounds) higher in Yuquina Cotyl than in fenugreek whole seeds. Fenugreek improves the palatability by improving the taste and the smell (due to aromatic lactones), and the post-ingestive experiences of animals associated with feed (due to saponins) (Petit et al., 1995). Yuquina Cotyl may be a good compromise between highly concentrated aroma of fenugreek and whole seeds of fenugreek which have a low concentration of active compounds. Consequently, this product may be interesting to ensure proper consumption of mineral feed or to increase the frequency of the visits to the milking robot. Further studies need to be undertaken to assess these applications.

References

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