

## Effects of different types of solid feeds on the health status and performance of Swiss veal calves

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### Key words

Ad libitum feeding, Health, Performance, Solid feeds, Veal calves

### Aim of the study

Straw as a solid supplement to liquid feeding of veal calves will be banned in Switzerland by 2013 because of its negative impact on the calves' health status. The aim of this study was to provide a rational basis for the selection of a suitable solid feed which complies with the calves' physiology and the demands of the market concerning performance.

### Material and methods

This study investigated the effects of different types of solid feeds (Exp. 1: wheat straw as control, mix, corn silage, corn pellets, and hay; Exp. 2: wheat straw as control, mix ALP, and corn pellets) on the health and performance of 670 Swiss veal calves. 400 calves were housed on a farm in Diessbach and received a milk by-product as basic feeding (Exp. 1) and 270 calves were housed at the Federal Research Station ALP in Posieux and their basic feeding consisted of whole milk (Exp. 2). The following parameters were investigated: Health status of calves including clinical parameters and evaluation of abomasal lesions as well as rumen development, blood status, use of antibiotics, calf losses, ruminating behavior, slaughter weight, meat quality, meat color, average daily weight gain (ADG), duration of fattening period, and feed intake.

### Results and significance

Exp. 1: Calves of the wheat straw group showed highest prevalence of abnormal ruminal content and papillae ( $p < 0.01$ ), the lowest number of chewing movements per bolus ( $p < 0.01$ ), and a tendency towards a higher prevalence of abomasal fundic lesions ( $p = 0.08$ ). Average daily weight gain and slaughter weight was best in calves of the straw group ( $p < 0.01$ ). Exp. 2: Calves of the straw group showed most abomasal lesions in the fundic part ( $p < 0.001$ ), the prevalence of insufficient papillae was highest ( $p < 0.05$ ), and ruminating behavior was unsatisfactory. The results of both experiments reveal that straw alone is an inappropriate solid feed for veal calves. Whole-plant corn pellets complied best with both the calves' health and the demands of the market concerning performance and therefore can be recommended as a solid supplement for veal calves under Swiss conditions.

### Publications, posters and presentations

Moser, R.; Kaufmann, T.; Regula, G.; von Rotz, A.; Stoffel, M.H.; Posthaus, H.; Rérat, M.; Morel, I.; Steiner, A.; Kirchhofer, M.; Bähler, C. (2011 or 2012) 2 planned articles in "Schweizer Archiv für Tierheilkunde"

Moser, R. (2011) Effects of five different types of solid feeds on the health status and performance of Swiss veal calves basically fed milk by-products. Dissertation, Veterinärmedizinische Fakultät, Universität Bern

Moser, R.; Kaufmann, T.; Regula, G.; von Rotz, A.; Stoffel, M.H.; Posthaus, H.; Rérat, M.; Morel, I.; Steiner, A.; Kirchhofer, M.; Bähler, C. (2011) Poster „Raufutter und Mastkälber“ for the exposition „Nutri11 – Forum für Ernährung“ in Posieux FR

Moser, R. (2009-2012): 23 oral presentations of the project and/or its results at different events (agricultural and veterinarian audience)

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