Assessment and Use of Rye for Fattening bulls and Feeding of Dairy Cows

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Due to the higher proportion of anti-nutritive substances in rye compared to other cereal types, according to older studies rye has only limited use in the feeding of milk cows and beef cattle. However, rye can be transformed into an attractive component in cattle feed through the cultivation of new hybrid varieties of rye which have reduced anti-nutritive substance content. In 2010 and 2011 trials were conducted at the State Research Institute for Animal Production (Research Facility at Pawłowice) to evaluate the utility of rye hybrids in milk cow feed and in young bull fattening.

The trials were performed with Polish Holstein Friesian cows (first lactation). To this end, the milk yield of the trial group (feeding using concentrated feed with 25% and 40% rye content) in each case was compared with the result of the control group (without rye in the diet). It showed that the addition of 25 % and 40 % of hybrid rye had no effect on the milk yield or on the fat and protein content of the milk. In the trial with 30 Polish Holstein Friesian young bulls, the livestock was randomly split into three groups of 10. The average weight at the start of the fattening was 200 kg and approximately 600 kg at the end of the fattening period after 275 days of feeding. Apart from corn silage, alfalfa silage and beet pulp, the livestock was only fed concentrated feed mixes with 0% or 20% or 40% proportions of rye. The average daily gain of the trial groups were 1354 g, 1345 g and 1282 g. These figures were not significantly different from a statistical perspective. Furthermore, it could be determined that the young bull meat of the group given feed containing rye exhibited a much more beneficial fatty acid composition and a significantly higher level of Vitamin E content.

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Based on these research results it is possible to state that hybrid ryes are wholly suitable for feeding cattle. However the maximum rye content in the concreted feed for feeding milk cattle should not exceed 40%, which corresponds to about 4 kilograms of hybrid rye per day. The optimum proportion of rye in concentrated feed for young bulls is approximately 20%.

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