

NOTES ON THE PRESENCE OF SULPHITES IN DRIED BEET PULPS

Sulphites in pulps can be present as residual contaminants of the direct flame drying process or as additives with an anti-fermentation action in pulps before drying, sometimes replaced by (or together with) formaldehyde.

The toxicity levels of SO₂ in livestock feeds are not established by law and, moreover, there is no in-depth literature on maximum acceptable levels.

Our experience is mainly linked to cattle, for which we consider 50-100 ppm safe values for the administration of about 2 kg/day of pulps; however, any anti-fermentation action is in relation to the ruminal efficiency of the herd and therefore it becomes marked in cases of reduced rumen activity. As far as pigs are concerned, Mordenti, in his "Feeding the pig" however mentions SO₂ and HCOH as anti-nutritional factors to be found in beet pulps without indicating limit values, highlighting a toxic activity of SO₂.

Statistically, in the last 10 years up to last year, in our laboratory we have detected the maximum frequency of results between absent (less than 10) and 20 ppm; about 20% between 20 and 100 ppm, rarely higher values.

However, with the progressive shift towards foreign countries (especially to the East) of the supply of dry exhausted pulp, we have increasingly found significantly higher levels, between 100 and 300, in some cases even higher. These concentrations are potentially able to create problems even with the traditional 1 or 2 kg of inclusion, at least according to feedback from our customers' technicians.

The product uniformity guaranteed by Italian productions has now disappeared, we often find ourselves faced with extremely variable pulps in terms of appearance, composition and degree of contamination, in particular SO₂.

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