

Use of vitamins and trace elements (support weaning)



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- **Type of challenge:** Animal welfare.
- **Challenge:** Support weaning.
- **Action:** Support the nutritional needs of calves specific for the weaning period, i.e. the critical growth phase.
- **Animal category:** Calves.
- **Technique:** Adding vitamins (A, D, E ...) and trace elements (Se, Zn, I, Cu, Mg...) via complementary/dietetic feed at doses specified in Regulation (EU) 2020/354.
- **Mode of action:** Trace elements and vitamins support metabolic processes and functions (immunity, tissue growth, enhancing bone resistance, absorption of nutrients etc.); they significantly improve the targeted functions or reduce risk factors while supporting the performance and maintaining the health of the animal.
- **Potential efficacy:** Increased feed intake, improved performance (normal growth) and health (healthy teeth and bone development).
- **Nature of evidence of efficacy:** Peer-reviewed scientific publications; Commission Regulation (EU) 2020/354 on particular nutritional purposes.
- **Factors impacting on efficacy:** Specific requirements of the calf (type, weight and age), other substances that may interfere with the absorption of the mineral by the animal, adaptation of the digestive enzyme system (requirement to switch from milk to solid feed).
- **Mode of use:** Formulation of a complementary feed.
- **Requirements/limitations:** To be placed on the market in accordance with Regulation (EU) 2020/354; the additive must be added to a mixture by a registered feed business operator applying HACCP (R183/2005); limited in time (up to 4 weeks).
- **Economic consequences:** Higher feeding costs likely compensated by reduced treatment costs of sick animals and maintenance of zootechnical performances.
- **Other considerations:** Toxicity/over-supply of minerals if mineral supplements are incorrectly formulated or not correctly matched to animal needs; however, side effects only occur when the vitamins and trace elements were incorrectly dosed, ie. in a too high amount.
- **References:**
 - [Commission Regulation \(EU\) 2020/354](#) establishing a list of intended uses of feed intended for particular nutritional purposes and repealing Directive 2008/38/EC.
 - Haghshenas *et al.* (2022). *Trace minerals source in calf starters interacts with birth weights to affect growth performance*. Scientific Reports. Nature. <https://doi.org/10.1038/s41598-022-23459-4>