

# EQUISTRO®



**Function:** About 99% of the calcium (Ca) in the body is found in the bones and teeth, with calcium constituting about 35% of equine bone. Ca also plays an important role in muscle contraction and neural function, the function of cell membranes, blood coagulation, and the regulation of many enzymes. The skeleton serves as a readily available storage location for Ca.

**Sources:** Calcium carbonate, sulphate and oxide are common inorganic forms of Ca. Ca supplements should be mixed with grain or other palatable materials to help ensure consumption. Vitamin D mediates intestinal absorption of Ca. Precaecal apparent digestibility of Ca is higher with alfalfa hay than with concentrate.

**Daily requirements (NRC, 1989):** Maintenance : 0.04 g Ca/kg body weight - Mare during the last 3 months of gestation : 0.072 g Ca/kg BW - Lactating mare : Ca requirements (g) = (0.04 g x kg BW) + (A x kg BW x 1.6 g) (A = 0.032 during 3 months post-foaling; A = 0.026 at 4-5 months ; A = 0.020 > 5months post-foaling) - Young horse at training : 0.08 g Ca/kg BW - Mature horse at training: 0.06 to 0.07 g Ca/kg BW.

Max : 2% of the diet. Access to exercise in sunlight is important to ensure optimal bone development and growth (Vitamin D synthesis).

**Deficiency:** Rickets and osteopenia in foals (enlarged joints and crooked long bones), osteoporosis, weakening of the bones and insidious shifting lameness in mature horses. Malfunction of muscles and nervous system.

**Excess:** Not many effects known. Brittle bones, rickets in growing animals, osteomalacia in adults.

**When problems may occur?** Calcinosis may occur in horses due to the consumption of calcinogenic plants: *Cestrum diurnum* (in Florida) and *Trisetum flavescens* (in Austria). But such situation is rare. Dietary phytates and oxalates bind Ca and so, reduce Ca availability. Implicated grasses rich in oxalates include: napier, guineagrass, buffel, pangola, green panic, paragrass, kikuyu, setaria, some species of millet grass, alfalfa. Unnecessarily high dietary calcium may be implicated in gastric ulcers and should be avoided. Excess of phosphorus has a negative influence on calcium metabolism. Hypocalcaemia may occur in adult horses as a post-exertional stress (titanic spasms, incoordination, inability to stand).

## Calcium

## CALCIUM



**Vétoquinol**  
Signe de Passion