

X-Ray Fluorescence spectroscopy: (XRF):

The laboratory has identified in this method an unrivalled tool for the provision of top-quality data with significantly reduced time and costs compared to traditional methods: our laboratory headquarters has an energy-dispersive (ED-XRF) instrument. S2-Ranger (Bruker)

This method is gaining a wider following in zootechnology for the time- and cost-efficiency of monitoring the mineral balance of the ration: alongside the data pertaining to the sample, the laboratory also provides the related DCAD (dietary cation-anion difference), calculated as $[(Na+K)-(Cl+S)]$ in meq/kg; (Ender et al. 1971).

Currently, in our laboratory, it is widely used in the research of minerals in fodder (silage-hay-unifeed) in feed and raw materials.

The XRF analytical profile includes:

Atomic element	Corn Silage & Small Grain S.	Haylage	TMR	Hay	Feed (*)	Row Materials (**)	Feces
Ca	■	■	■	■	■	■	■
P	■	■	■	■	■	■	■
Mg	■	■	■	■	■	■	■
K	■	■	■	■	■	■	■
Cl	■	■	■	■	■	■	■
Na	■	■	■	■	■	■	■
S	■	■	■	■	■	■	■
Fe	■	■	■	■	■	■	■
Mn	■	■	■	■	■	■	■
Cu	■	■	■	■	■	■	■
Zn	■	■	■	■	■	■	■
Si	■	■	■	■	■	■	■
Al	■	■	■	■			■
Se	on request***	on request***	on request***	on request***	on request***	on request***	
DCAD	■	■	■	■			

DCAD: dietary cation anion difference = $(Na+K)-(Cl+S)$; Ender et al. 1971

(*)=feed with ashes less than 15%

(**)= All

(***)=on request together with XRF analysis

The sample is compressed to 40 Tons before the analysis to guarantee the linearity of the analyzed surface.