

SALT & SUPPLEMENTARY FEEDS

Sodium (Na) and chloride (Cl) are essential for all livestock and required on a continuous basis. Na is needed most during growth and lactation. Salt (NaCl) is critical for maximizing appetite and feed intake as well as for digestion of fibrous feeds and rumen pH buffering and function.

Recent estimates suggest up to 20% of NZ dairy farms could be deficient in sodium. Diets with palm kernel, grains and maize silage exacerbate this problem even further.

United States NRC give minimum requirements of Na 0.2 - 0.34% DM for lactating dairy cows using sample diet models.

Dry matter and milk yield responses to Na over the range of 0.11% to 1.2% were maximized at 0.7-0.8% Na in 15 trials referenced by NRC .

GUIDE FOR ADDING SALT WHEN USING SUPPLEMENTARY FEEDS.

The minimum sodium of 0.25% is within the NRC range and the optimum is based on the trials NRC has referenced.

Supplementary Feed Source	Na in Feed % in DM	Recommended Minimum Na 0.25% DM (based on NRC)		Optimum for maximising production Na 0.8% DM (based on NRC trials)	
		Salt to add per tonne of feed	Salt g/cow/day/kg of supplementary feed	Salt to add per tonne of feed	Salt g/cow/day/kg of supplementary feed
Grains	0.01	7.5kg	7.5g	25kg	25g
Maize Silage	0.01	7.5kg	7.5g	25kg	25g
Palm Kernal, PKM	0.01	7.5kg	7.5g	25kg	25g
Triticale	0.02-0.04	7.0kg	7.0g	20kg	20g
Whole Crop Cereal	0.02-0.14	4-7kg	7.0g	20kg	20g
Lucerne	0.04	7.0kg	7.0g	20kg	20g

Note: Calcium and magnesium are also low in many of the above feeds that require balancing.

Salt (coarse and fine) can be added to the feed or top-dressed on feed pads. Higher levels of salt should be at least partially mixed with the feed. For standing crops salt licks or salt blocks can be used. Ensure continual access to salt and water. Do not feed salt to transition springer cows unless advised by a professional expert.

SOME BASIC RULES OF THUMB

(from Grant Richards, Nutritionist):

When feeding high potassium pasture, low Na feeds (palm kernel, maize silage, grains) and highly fibrous feeds (NDF +40%), Na should be increased to ensure 0.4-0.5% Na on a DM basis along with ample fresh and clean water. Increase salt to 5-10 grams per cow per day for every 1kg of PKM, PKE or maize silage being fed.

For every 5% NDF rise in the diet, increase salt by 5-10 grams per cow per day. Having a coastal farm should not preclude proper investigation into what cows really need given the Na deficiencies present in so many strategic, non pastoral feeds.

