

Crude Protein

The crude protein (CP) concentration in feeds is determined using the Kjeldahl procedure. A dried sample is first digested in concentrated sulphuric acid, which converts most of the nitrogen (N) to ammonium sulphate (N present as nitrate is only partially converted). This mixture is cooled, diluted with water and neutralized using sodium hydroxide, resulting in the dissociation of ammonium sulfate. Distillation drives off ammonia and the distillate is titrated with acid to determine its ammonium concentration, from which the N level in the original sample is calculated.

Since most feed proteins contain about 16% N, CP % is estimated by multiplying the N concentration in the feed by 6.25 - the inverse of 16% ($1 \div 0.16 = 6.25$). However, some portion of the N in most feeds is found as non-protein nitrogen (NPN) and, therefore, the value calculated by multiplying N x 6.25 is referred to as *crude* rather than *true protein*.

for more information:

[Understand Your Feed Analysis Report](#), *Alberta Dairy Management*