

Testing cattle for phosphorus status

Target paddocks/land types

- The likelihood of P deficiency in cattle grazing some classes of country is well known from industry experience, for example as acutely deficient (e.g. northern sandy forest) or as adequate (e.g. softwood scrub).
- The P-Screen test is potentially most valuable where there is uncertainty about the P status or the country and / or the mix of soil and country in a paddock makes assessment difficult.

Target animal age and class groups

The most appropriate groups to sample are young growing steers, growing heifers or mated maiden heifers less than four months pregnant. The recommended cattle classes and ages for sampling in 2020 are shown below.

A. Young growing animals

The target age and class groups are:

- No 9 steers (weaned in 2019 i.e. 12-18 months in early 2020)
- No 9 heifers (weaned in 2019 i.e. 12-18 months in early 2020)
- No 8 steers (weaned in 2018 i.e. 24-30 months in early 2020).

B. Mated maiden heifers

The target age and class groups are:

<i>Herds with heifers mated at two years</i>	No 8 heifers mated for first time late 2019 to mid-2020 (i.e. 24-30 months in early 2020).
<i>Herds with heifers mated as yearlings</i>	No 9 heifers mated for the first time late 2019 to mid-2020 (i.e. 12-18 months in early 2020).

Pregnant or empty heifers can be sampled, but the animals should be all the same status i.e. all pregnant or all empty.

Lactating cows

Although lactating cows are most at risk of P deficiency, they are not necessarily the best class of animal to test. There are problems and less certainty in interpreting results from lactating cows. This is particularly so for older cows because their history will affect their P status (e.g. Did the cow have a calf last year? Has the cow had three calves in five years or five?). Also, the timing of calving and consequently stage of lactation is usually more spread out in older cows.

The most appropriate lactating cows to test are those in their first lactation;

<i>Herds with heifers mated at two years</i>	No 7 females should have their first calf at foot in 2020.
<i>Herds with heifers mated as yearlings</i>	No 8 females should have their first calf at foot in 2020.

Supplemented versus un-supplemented animals

Only animals not-supplemented with P over the 2019-20 wet season should be tested.

This is because:

- There is no way of knowing when individual animals last consumed supplement or their intake pattern during the few days leading up to sampling.
- There are large variations in supplement intake between animals and there is no way of knowing the intake of individual animals being tested.

P-Screen Test

The P-screen test was developed in the 1990s. The test uses blood phosphorus levels (plasma inorganic phosphorus (PIP)) and diet quality information to assess the phosphorus status of cattle.

The blood phosphorus level used to assess P status is the average blood PIP of 20 animals. The diet quality assessment is based on Faecal NIRS analysis of a pooled faecal sample from the animals bled.

P-Screen Test Kit

The kit contains the equipment to take blood samples from 25 animals (allows for some spares) and a pooled faecal sample.

P-Screen Test kits can be supplied by DAF at a cost of \$246.86 (GST inc). The cost covers the test kit, freight to laboratory, analysis of the samples and interpretation.

Collecting samples for blood phosphorus analysis

The P-Screen Kit contains instructions for taking the blood and faecal samples, handling and transport.

DAF staff are available to help with planning sampling and sample collection.