

Technical Note

Apple Fruit (at Harvest) Sampling Protocol

1. Overview

This technical note outlines the sampling procedures for the collection and dispatch of mature fruit prior to nutritional analysis at our laboratories.






Through many years of extensive International and Australian research, **Phosyn Analytical** have found that direct fruit analysis provides a more accurate assessment of nutritional status than traditional leaf and soil analysis. It is worth mentioning that while soil and leaf tests are valuable management tools for maintaining the health and vigour of the trees themselves, these tests are of limited values for assessing the risk of post harvest disorders in mature fruit. After all you are measuring what you harvest, store and market with a direct linkage to market acceptance (eg fruit firmness).

Phosyn Analytical has also found that the mineral composition of fruit at harvest has a major influence on fruit quality affecting factors such as bitter pit, fruit firmness, internal breakdown (eg temperature/ senescent breakdown), fruit density, skin finish, scald and fruit storage potential. These quality issues affect the storage potential of fruit and limit profitability of production.



2. Collecting Apple samples - Mature fruit

Mature Samples should be collected at around a fortnight before harvest. Parts of the crop that are known to produce fruit of different storage quality should be sampled separately. Wherever possible, each sample should be taken from a uniform section of the paddock of the same soil type.

IMPORTANT NOTE – The following sampling instructions are intended as a general guide only. It is very important that the fruit samples submitted for analysis are representative of your crop. For larger orchards, you should consider submitting multiple batches of samples to enable a more accurate assessment of your crop.

-  Wash hands before collecting samples and preferably use the perforated plastic **Phosyn Analytical** bags provided. (These bags will reduce moisture condensation while the samples are in transit).
-  Select 20 trees along the sampling path and take one undamaged average-sized piece of fruit from each tree.
-  If the first fruit is taken from the north side, take one from the next tree on the east, then from the south and so on.
-  From the 20 mature fruit samples collected, randomly select 5 of these and place in the Phosyn bag as provided. This represents one sample.
-  Send to the laboratory for chemical analysis

Also wherever possible:

-  Please collect and dispatch samples by the first half of the week to ensure that the samples arrive at the laboratory before the weekend.
-  Try to mail samples on the same day as they are taken from the paddock.



3. Completing the sample information paperwork

Complete the details on the analysis request form and please remember to include:

- The Grower details in the 'Client details' field.
- The Distributor/ Dealer details in the 'Submitted by' field.
- The contact details (preferably email address) to where we need to send the results.

IMPORTANT: Please note that the service code for this test is P7 (Fruit/ Fruitlet). This should be written in the 'Tests Required' column. An example of a completed **Phosyn Analytical** test form is shown below.

LAB SAMPLE REF <small>Office use only</small>	CLIENT SAMPLE REF	PADDOCK REF (& GPS Ref if available)	SAMPLE TYPE (soil, leaf, fruit, fruitlet, tuber, petiole etc)	CROP DETAILS	GROWTH STAGE	AREA (Ha)	TESTS REQUIRED <i>(See inside of front cover)</i>
EXAMPLE	BLOCK 6	PADDOCK 6	FRUIT	(APPLE) PINK LADY	MATURE	50	P7

-  After you have carefully completed the **Phosyn Analytical Analysis request form** and sample details on the **Phosyn sample bag**, please mail to the laboratory for analysis and remember to include the top (white) request form with the samples.
-  Please retain the carbon copy for your own information. After analysis is complete, **Phosyn Analytical** will forward the analysis results to you in a report complete with analysis interpretations and recommendations.

For further information contact Phosyn Analytical or your local agronomist/consultant.

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