

## Technical Note

### Cotton Petiole Sampling Protocol

#### 1. Collection of samples – Timing and growth stages

Timing is extremely important as interpretation guidelines are established at specific growth stages. Correct timing is especially important prior to flowering as some nutrients levels change fairly rapidly at this time of the season with leaf expansion etc. Any slight difference in time of sampling (e.g. +/- 3 days) can lead to variation in interpretations. If possible avoid sampling after fungicide or nutrient spray applications, as this will contaminate samples.

**Phosyn Analytical** has specific analytical programs to assist in the nutritional management of the crop through the analysis of nutrients in the petiole. We can also provide information from leaf analysis if this is your preference.

To both manage and monitor the nutritional status of the crop, we recommend that you develop a sampling plan, which features at least 8 individual samplings per block per season. This is necessary to enable the monitoring of the crops nutritional status throughout the season.

The following table details a full list of the key growth stages, which **Phosyn Analytical** can interpret through our nutritional guideline database. Also listed is our recommended program of target analysis sample timings.

List of key growth stages	Recommended program (ie collect samples at the following growth stages)
4-6 leaf stage	4-6 leaf stage
Squaring	Squaring
Week before 1st flower	
Week of 1st flower	Week of 1st flower
Flower + 1 week	
Flower + 2 weeks	Flower + 2 weeks
Flower + 3 weeks	
Flower + 4 weeks	Flower + 4 weeks
Flower + 5 weeks	
Flower + 6 weeks	Flower + 6 weeks
Flower + 7 weeks	
Flower + 8 weeks	Flower + 8 weeks
Pre-senescence	Pre-senescence

## 2. Collecting the sample

2.1 At each of the growth stages specified above, collect the youngest mature leaf with petiole from the plant.

2.2 You should then immediately detach the petiole from the leaf and collect the petiole for analysis. It is important to detach the leaf from the petiole to ensure against nutrient movement between these plant parts.

Each sample should be taken from a uniform section of the paddock of the same soil type.

**IMPORTANT - When sampling plant tissue, please collect at least 150grams fresh weight (about two handfuls) for analysis.**

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

- (a) The Grower details in the Client details field;
- (b) The Distributor details in the Submitted field;
- (c) Current Growth Stage (in the Growth stage column); and
- (d) The contact details (preferably email address) to where we need to send the results.

Please note that the service code for this petiole test is P18. 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, fruitlet, fruit, tuber, petiole etc)	CROP DETAILS	GROWTH STAGE	AREA (Ha)	TESTS REQUIRED <i>(See inside of front cover)</i>
EXAMPLE	Petiole 1	North Paddock	Petiole	Cotton	6 leaf stage	50	P18

For repeat samplings of your paddock throughout the program, please consistently name the 'Paddock Ref' with the same name for each sample from the same paddock. This will enable us to produce an updated Nitrate – Nitrogen graph of the paddock being monitored.

### 3. Care of Samples – Collection and despatch

Samples can be contaminated by some fungicides and nutrient sprays, which may give erroneous laboratory results. Wash hands and preferably use the white **Phosyn Analytical** paper bags provided. Avoid the use of plastic bags for plant tissue samples because of moisture condensation and possible breakdown of the samples. Wherever possible, please collect and despatch samples by the first half of the week to ensure that the samples arrive at the laboratory before the weekend. Always mail samples on the same day as they are taken from the paddock.

### 4. Sample Information

Carefully complete the **Phosyn Analytical Analysis request form** and sample details on the Phosyn paper sample bag. Please remember to indicate the growth stage on the form (see section 2 above) and include the top (white) request form with the samples when mailing to the laboratory for analysis. 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.***

#### **Contact details:**

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