



SAP Analysis

A full nutritional guide



Sustainable Farming Future

SNIP SAMPLE SPRAY

As farming enters a new sustainable dawn, it's vital farmers have a thorough understanding of what their crops need to thrive. Using the **SAP analysis** system, growers can rest assured they're not over or under applying. Sustainably producing food requires accurate monitoring of the crops nutrient levels and SAP Analysis offers a highly accurate and topical assessment of the true nutritional status of the plant. Whereas conventional tissue testing reports the level of nutrients in a sample, including those locked up and unavailable for growth in cell walls and storage cells, SAP analysis measures only the actual level of crop nutrients available for plant growth.

17 Parameters

NO_3

NH_4

P

K

Mg

S

Ca

Na

Five Simple Steps

Step 1 Take the sample  **Step 2** Preparation  **Step 3** Analysis  **Step 4** Result

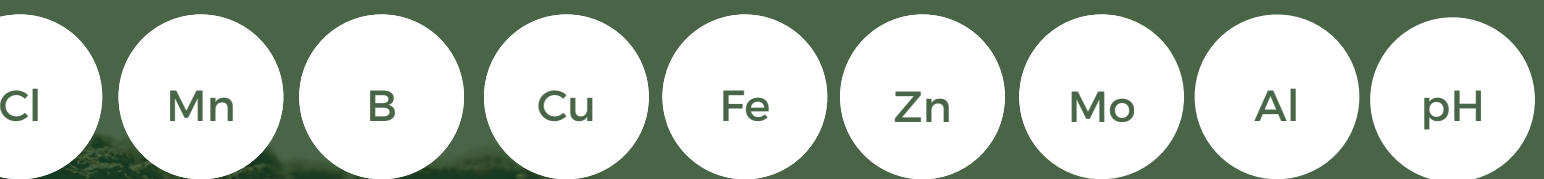
SAP Facts

- ◆ **SAP** is a unique service using purpose built laboratories and sap extraction process
- ◆ **17 parameters** are analysed to give a complete picture of the plant's nutritional status
- ◆ **The crucial database** used to interpret the sap analysis results has been built up over 50 years
- ◆ **On farm trials** have shown improvements in marketable yield and quality when the SAP system is used



SAP ANALYSIS
active crop nutrition

Parameters Analysed



OMEX

Snip, Sample, Spray

5 steps to SAP Analysis



Step 1: Take the sample

SAP sampling procedures are crop specific. Full details and sampling instructions are supplied in your dedicated 'SAP Pack'. You can sample when problems are seen, when the crop is under stress, or prior to a growth surge.

You should take your sample in a representative manner, either in a pre-marked "W" or in a straight line and select the oldest actively growing leaf from at least 20 plants.



Step 2: Preparation

Once we've received your sample our expert lab and research team prepare the samples for testing using the facilities of the Scientific Agricultural Partnership (SAP®) laboratories in King's Lynn.

The laboratories specialise in the extraction, analysis and interpretation of sap samples taken from growing plants.





Step 3: Analysis

The sample is then analysed to show 17 different nutrient levels including:
No₃, NH₄, P, K, Mg, S, Ca, Na, Cl, Mn, B, Cu, Fe, Zn, Mo, Al, and pH



Step 4: Results

The results from the sample are then assessed by our team of FACTS qualified agronomists who provide the farmer with an easy to interpret bar chart, alongside agronomist comments. These recommendations are emailed within 2-3 days of receipt of the samples.



Step 5: Application

With rapid turnaround sample results, alongside dedicated Crop Nutrition Agronomists comments, you can apply exactly what your crop needs this Spring.



“Accurately measuring your crops, will not only ensure your farm is working towards a more sustainable future, but gives the plant the best chance of achieving it’s optimum yield potential.”

Scott Baker, Crop Nutrition Agronomist

SAP Sampling

Crop Guides

Initial Instructions

Once you've requested a SAP test, OMEX will send you a SAP pack full of information on how to perform your sample, based on what results you're wanting to see.

The below guide gives you a basic understanding of how to complete your SAP test, per crop. All SAP samples should follow the below advice:

- Sample early in the morning or late evening. Do not sample during bright sunshine or in windy conditions.
- Take the oldest actively growing leaf from plants at regular intervals along a straight sampling line through the field, taking sufficient leaves to fill the sample bag. Refer to sampling instructions for specific details.
- Exclude all air from the bag and seal.
- Complete the SAP registration form, giving as much detail as possible. Full details ensure that our recommendations are as comprehensive as possible. If further samples are required, sample bags will be posted to you, prior to the sample date.
- Enclose the sample and registration form in the postage bag and place in post box. **IN WARM WEATHER DO NOT POST IF COLLECTION IS NOT DUE FOR A NUMBER OF HOURS.** In this situation keep the sample cool in a fridge and post close to the collection time. Samples should NOT be frozen.



Cereals

Before tillering: Cut all new growth

During tillering: Cut the whole plant above the oldest actively growing leaf

Ear stage: Cut the two top leaves including the internode

Sampling should be done at least twice during a growing season:

- a) during tillering
- b) start of ear emergence

If protein is of importance a 3rd sample should be taken 14 days after sample two.

ALWAYS ENSURE THAT THE SAMPLE IS NOT CONTAMINATED WITH SOIL.



SAP Sampling

Crop Guides



Sugar Beet

The first sample will be taken when the crop is in the EIGHT LEAF STAGE

The second sample will be taken 14 days after any treatments have been applied following the first test.

The third sample will be taken 14 days after any treatments have been applied following the second test.

When the sugar beet leaves are getting large (samples 2-3) the number of plants used to take a sample from can be reduced from the normal TWENTY down to TEN. When doing this always ensure that the sample is taken from the FULL length of the sampling line to be representative of the field.

ALWAYS ENSURE THAT THE SAMPLE IS NOT CONTAMINATED WITH SOIL.



Carrots

The first sample will be taken when the crop has 10 cm (4 inches) of top growth.

The second sample will be taken 14 days after any treatments following the first test.

The third sample will be taken 14 days after any treatments following the second test.

A fourth sample may be necessary where the crop is in the ground over a long period.

PLEASE NOTE: Always cut the sample from the LEAFY area and send the oldest, actively growing part from the outer edge of the growth. Do not send the bare stalk.

ALWAYS ENSURE THAT THE SAMPLE IS NOT CONTAMINATED WITH SOIL.



Onions: Drilled and Sets

Before 25cm plant height: Cut all growth above ground.

After 25cm plant height: Cut the 2 main growing leaves.

Over wintered and large onions: Take the biggest active growing leaf.

The first sample in a programme should be taken when the plant is 9" tall. Subsequent samples should be taken 14 days after any foliar nutritional treatment.



Salad Onions

Before 150 cm plant height: Cut all growth above ground

After 150 cm plant height: Cut the 2 main growing leaves

The first sample in a program should be taken as soon as there is sufficient growth. Because of the small size of the crop take more samples than the 20 suggested. The bag should be a minimum of a quarter full.



Vines (with and without trickle irrigation)

SAP Samples should be taken every 3 weeks on the new shoots.

Use 1-2 leaves from the base of the new growth.

START SAMPLING WHEN THE LEAVES ARE FULLY DEVELOPED.

"Crops accurately measured for nutrition, help farmers meet sustainability targets, boost crop health and overall achieve better quality yields"

Chris Pacey, District Sales Manager



SAP Sampling

Crop Guides



"In substrate production it is important to utilise SAP analysis as part of a holistic strategy, evaluating drip in, drip out and substrate analysis to complete the picture of nutrient movement within a plant."

Dr Neil Holmes, OMEX Soft Fruit Agronomist

As a rule, always collect fully expanded new leaf growth to indicate the movement of nutrients in the vascular tissue



Strawberries and Raspberries

The first sample should be collected once a fully expanded mature leaf has grown out of the crown (strawberry) or on a lateral (raspberry).

Repeat sample the crop every 3-4 weeks during the season or when early signs of a deficiency are present.

In substrate crops, sample leaf tissue approximately 7 days after a change in the feed recipe has been made or when you know that the fresh feed recipe has been applied to the crop for a minimum of 5 days.

SOIL/GROWING MEDIA CONTAMINATION COULD SKEW THE RESULTS OF THE ANALYSIS.



Blueberries

Blueberries are precocious, so wait for the leaves to fully develop before taking the first sample, i.e, post bloom.

Sample the crop at approximately shoot tip set.

Repeat sample the crop every 3-4 weeks, or if a nutrient imbalance is anticipated. If growing in substrate ideally, SAP sample at the same time as drip-in and growing media are sampled.

Sample in August prior to senescence to assess trace elements. Sampling once senescence has begun is too late as it will skew the results. In any case, remedial treatments may need to be applied before senescence begins.

SOIL/GROWING MEDIA CONTAMINATION COULD SKEW THE RESULTS OF THE ANALYSIS.



Stone Fruit (Plums & Cherries) & Top Fruit (Apples & Pears)

Wait for bloom to be complete and then collect middle leaves from the current year's growth.

Sample at post- bloom, during ripening, harvest and post-harvest. Early season samples can check for balanced nutrition to support the developing vegetative and generative tissues. Later season samples can check for the appropriate macro nutrients and trace elements prior to harvest and winter dormancy.

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