PLANT SAMPLING GUIDE FOR

SAP TESTING

NOVUM LIFESCIENCES™
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™
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Hortus Plant Sampling Guide

This guide is intended to help ensure that the correct plant part and number of leaves required for a sap analysis are being collected and sent to our laboratory for testing.

This will allow for faster, more accurate testing of your sample, which in turn leads to you receiving your recommendation in the shortest turnaround time.

If you require further information please do not hesitate to call us on 07 4132 5000 to speak to one of our friendly, knowledgeable staff.

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Plant Sampling

- Select the correct leaf – consult this sampling guide.
- For young or crops with small leaves a larger sample will be required.
- Select an average representative area in the field for monitoring.
- Select average representative plants – avoid diseased plants.
- Collect enough sample for a minimum 5 mL of sap. Consult manual for leaf numbers.
- Do not mix varieties in the sample as there may be some variation.
- Sample from 8 am – 3 pm, but monitor at the same time each week.
- Do not sample immediately after rain – note heat or cold stresses.
- Note fertiliser and irrigation times and application rates if possible.

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Handling and Transport

- Use plastic bags.
- Collect dry samples.
- Keep cool and “dry” (don’t freeze or sit on dash in direct sun).
- Send via the fastest form of delivery to minimise time in transit.
- Apply “Keep cool and dry” stickers if available.
- Do not over pack– compression will cause deterioration.
- If sending your sample by express post send to:

Locked Bag 3901, Bundaberg, QLD, 4670 Australia

- If sending your sample by courier send to our physical address:

5 Scotland St, Bundaberg, QLD, 4670 Australia

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Analysis Request Form

Please fill in all information on the Analysis Request Form (ARF). This can be done online by logging in to our website using your unique user ID (your email address and a password). Simply register online or contact our office to set up your online profile.

A detailed ARF gives us a better understanding of the growing conditions of your crop and lets us know if you are concerned about specific problems or symptoms and allows us to address these in our recommendations. It also ensures we generate the appropriate optimal level for your particular situation.

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The ARF can be completed by logging in to your online account at www.hortus.net.au, our preferred and easiest option when submitting your sample.

Alternatively, you can print off and complete a copy of our Chain of Custody form from out website and send this with your sample (data entry charges apply).

You need to select the appropriate test code

P1	**QUICK Sap**	NO_3-N, PO_4-P, K, Ca, Mg, Zn
P2	**COMPLETE Sap**	NO_3-N, PO_4-P, K, Ca, Mg, Zn, SO_4-S, Cu, Mn, Fe, B
P3	**SUPER Sap**	NO_3-N, PO_4-P, K, Ca, Mg, Zn, SO_4-S, Cu, Mn, Fe, B, Si, Na, Cl, pH, Brix, EC
P9	**COMPLETE Sap PLUS**	NO_3-N, PO_4-P, K, Ca, Mg, Zn, SO_4-S, Cu, Mn, Fe, B, Na, Cl

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Almond - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

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Apple - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

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Apricot - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

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Asparagus

Take stems from the top 20 cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Begin sampling at fern formation; and monitor monthly to mature fern stage.

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Aster

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 70 leaves, randomly across the sampling area. Send the whole leaves to the laboratory.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 10 leaf stage.
Monitor fortnightly until flowering peak.

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Avocado

First fully expanded leaf

Take the first fully expanded leaves on the latest flush. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade. Sample at least 60 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at fruit set, then monthly to harvest, or sample by crop stage. Usual sampling times are:

- early fruit set
- when fruit size is about 25 mm
- when fruit is 50 mm
- when fruit reaches mature size

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Baby beets

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area. The petiole and midrib of the leaf is required.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue weekly or fortnightly**.**

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Bamboo

Take leaves that are about ¾ to fully expanded on the latest flush.

Sample at least 40 leaves through the grove, no more than 3 per bamboo. Sample at about shoulder height, at up to three different points around the plant.

No P3 super sap analysis is available for this crop.

Monitoring program

Test as required

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Banana

30 cm section of midrib from 1st unrolled leaf

Take the first fully unrolled leaf out from the crown, and chop off about 25 cm of the midrib of the leaf, from where the leaf blade begins.

At least 6 midribs required - the larger the sample the more representative it is of the whole block.
If the sample is too bulky the midribs can be split longitudinally, and half discarded. (i.e. 12 half midribs is a better sample than 6 entire midribs, for the same volume.)

Monitoring program
Begin sampling when suckers are 2 m high, and continue fortnightly or monthly as required.

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Barley – Cereals (early stage)

Sample the whole above ground part of the plant. The whole plant is sampled up until tillering begins.

Send 50 plants per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do no send dried plants.

If you require a P3 super sap analysis please collect twice as many plants.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Barley – Cereals (tillering)

Leaf with visible dewlap

Sample the first fully expanded leaf and sheath with a visible dewlap. This part is sampled up until the flag leaf emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Barley – Cereals (flag leaf stage)

Flag Leaf, final leaf before grain head

Sample the flag leaf and sheath down to the last node. The flag leaf will be the final leaf that emerges before the grain head emerges.

Send 75 - 100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Basil

First fully expanded leaf

Take first fully expanded leaf - usually the fourth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 100 - 120 leaves, or more if very small leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 5 true leaf stage.
Sample weekly or fortnightly until harvest.

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Beans

Petiole to send

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. The trifoliate leaf is formed of three smaller leaflets - BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 5 true leaf stage. Sample weekly or fortnightly to pod fill stage.

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Beetroot

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area. The petiole and midrib of the leaf is required.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue weekly or fortnightly until 2 weeks before harvest.

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Blueberry

Sample non-fruiting terminals only. Take leaves that are about fully expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per bush. Sample at the upper half of the bush, at up to three different points around the plant.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage.

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Dragonfruit

Sample non-fruiting limbs (segments) only. Take limbs (segments) or the first 20 cm of limbs (segments) that are about fully expanded.

Sample at least 8 - 12 limbs (segments) through the orchard, no more than 1 per plant. Sample at the upper half of the plant.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage.

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Bok Choy - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant.
BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

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Broccoli - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant.
BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

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Brussel sprouts - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant.
BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

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Cabbage & Lettuce

Take wrapper leaf, close to head maturity.

Take at least 15 leaves, randomly across the block. The part to be tested is the midrib of the leaf.

If sampling young or smaller varieties please take at least 30 leaves. For ease of dispatching, the blades can be stripped off the midrib and discarded.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 3-4 weeks and sample weekly or fortnightly until two weeks before harvest.

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Capsicum & Chilli

First fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 50 leaves, randomly across the sampling area. If the leaves are very small, more leaves, are required. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at early budding.
Monitor weekly or fortnightly until harvest.
Sampling of long harvest crops can continue through harvest.

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Carambola

It is best to sample non-fruiting terminals. Take compound leaves that are almost fully expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage as below. Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25mm

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Carnations

Sample this leaf

Take first fully expanded leaf down from the growing point of the plant. The leaf to sample is usually the third or fourth leaf. Sample the leaf back to the node of the stem. BE SURE TO TAKE WHOLE LEAF & STEM.

Take at least 80 leaves, randomly across the sampling area. The part sampled is the whole leaf.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly or monthly.

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Carrots

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the growing point. Take the whole leaf including the petiole which starts on the top of the root.

Take at least 30 leaves, randomly across the sampling area.
Petioles are required for carrots.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 5-6 leaf stage.
Sample fortnightly or every three weeks to “bulking up” stage.

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Cauliflower - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant.
BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

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Celery

Take the top three nodes from the stalk from the first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant.

Take at least 30 stalks, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 5-6 leaf stage. Sample fortnightly or every three weeks to “pre-harvest” stage.

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Cherry - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

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Chervil

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant.

Take at least 50 leaves, randomly across the sampling area.
The part to be tested is the petiole, or leaf stalk and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at 5 true leaf stage.
Sample weekly or fortnightly until harvest.

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Chia

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 40 leaves, randomly across the block. The part to be tested is the petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin when the plant begins to start significant vertical growth and continue every 2 - 4 weeks until end of flowering.

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Chilli & Capsicum

First fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 50 leaves, randomly across the sampling area. If the leaves are very small, more leaves, 100, are required. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at early budding.
Monitor weekly or fortnightly until harvest.
Sampling of long harvest crops can continue through harvest.

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Chives

Send minimum 40 whole plants after removing the roots.

The plant part required for testing are the leaf blades.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Most bulb crops can be sampled from the time of bulb formation to last fertigation.

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Christmas Bush

1st fully expanded leaf

Take first fully expanded leaf - usually the third or fourth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 40-50 leaves, randomly across the sampling area.

No P3 super sap analysis is available for this crop.

Monitoring program

Sampling should commence from the new flush in spring and continue monthly during the main growing season or while vegetative growth is being produced.

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Chrysanthemum

Take the whole compound leaf

Take first fully expanded leaf down from the growing point of the plant. The leaf to sample is usually the fourth or fifth leaf down.

Take at least 70 leaves, randomly across the sampling area. The part sampled is the petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly or monthly.

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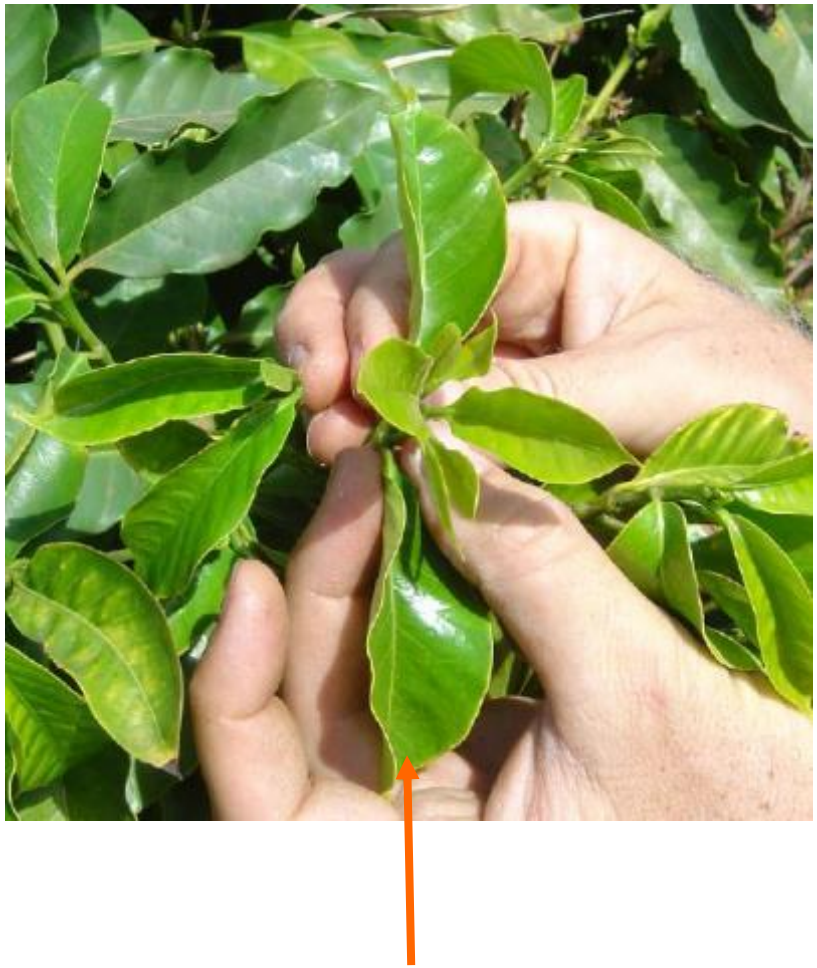
Coffee



First fully expanded leaf

Take the first fully expanded leaves on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree.
Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at fruit set, then monthly to harvest, or sample by crop stage.

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Coriander

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant.

Take at least 50 leaves, randomly across the sampling area.
The part to be tested is the petiole, or leaf stalk and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at 5 true leaf stage.
Sample weekly or fortnightly until harvest.

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Corn

Select the thickest stalk in each stool. Select the first leaf with a visible dewlap.

Take at least 20-30 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants.

Send whole leaves from young plants; but remove the leaf tips to leave 30 cm of leaf when sampling more mature plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sampling can begin from about 30 cm high (V5). Sample fortnightly or as required, depending on fertigation frequency.
If necessary, **seedlings** (V1-V4) can be sampled by sending 30 whole plants.

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Cotton

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the blade.

Take at least 50 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sampling times for cotton are:

- squaring
- 2-3 weeks later, late flowering
- 2-3 weeks later, late boll set / early boll fill
- 2-3 weeks later, mid-late boll fill
- late boll fill

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Cucumber

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner, or out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. Plant part required for testing is the petiole. Up to 50 leaves may be required if petioles are very small.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at pre-flowering stage, fortnightly or monthly to harvest, or sample by crop stage.

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Custard Apple

It is best to sample non-fruiting terminals. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm
- when fruit size is about 75 mm

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Eggplant

First fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant, or out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 20 leaves, randomly across the block. The part to be tested is the petiole, or leaf stalk and the midrib of the leaf.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding, continue weekly or fortnightly until harvest.
May continue sampling during harvest.

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Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Fennel

Take the top 20 cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Garlic, Onions & Leek

For **spring onions** and **young onions, garlic or leek**, send 80-100 whole plants after removing the leaf tips and roots. Be sure to include the collar at the base of the leaf, as this is the part to be tested.

For **larger plants** cut the collar at the top end of the bulb, remove green leaves, and send the collars. 15 - 20 collars is enough.

No P3 super sap analysis is available for this crop.

Monitoring program

Most bulb crops can be sampled from the time of bulb formation to last fertigation.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Gerberas

Sample this leaf

Take first fully expanded leaf out from the crown of the plant. This will be the leaf that is almost fully expanded and starting to change colour to a darker green Make sure to take the whole leaf, including stem (petiole) and not only the leaf blade..

Take at least 30 leaves, randomly across the sampling area. The part sampled is the petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly or monthly.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Ginger

Take the first fully expanded leaf. The part to be tested is the midrib of the leaves.

Send 30 – 40 leaves from across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Sample monthly during growing season.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Grapes

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 60 leaves, randomly across the block and increase number if petioles are small. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when canes are 30 cm long. Continue weekly or fortnightly to harvest. Strategic sampling times are 30 cm canes, early flowering, early fruit set, fruit fill, pre-harvest, and post-harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Grapefruit - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Hemp (industrial)

1st fully expanded leaf

Select the youngest fully expanded leaf back from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 50 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk. Leaf blades can be removed before dispatching sample

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 30cm in height.

Sample fortnightly to flowering stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Honeydew melon – Vine cucurbits

1st fully expanded leaf

First fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. If petioles are very small, up to 50 leaves may be required. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding.
Monitor fortnightly or monthly until harvest.
Sampling of long harvest crops can continue through harvest.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Choko – Vine cucurbits

1st fully expanded leaf

First fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. If petioles are very small, up to 50 leaves may be required. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding.
Monitor fortnightly or monthly until harvest.
Sampling of long harvest crops can continue through harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Kale - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant.
BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Kangaroo Paw

1st fully expanded leaf

Take first fully expanded leaf - usually the second or third leaf out from the growing point of the plant,.

Take at least 50 leaves, randomly across the sampling area. Send entire leaves to the laboratory.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first able to sample appropriate part. Monitor monthly until flowering.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Kiwi Fruit

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 50 leaves, randomly across the block. The part to be tested is the whole leaf.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when vines reach 1 meter and sample monthly until mid-harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Leek, Garlic & Onions

For **spring onions** and **young onions, garlic or leek**, send 80-100 whole plants after removing the leaf tips and roots. Be sure to include the collar at the base of the leaf, as this is the part to be tested.

For **larger plants** cut the collar at the top end of the bulb, remove green leaves, and send the collars. 15 - 20 collars is enough.

No P3 super sap analysis is available for this crop.

Monitoring program

Most bulb crops can be sampled from the time of bulb formation to last fertigation.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Lemon - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Lemon Grass

Take the first fully expanded leaf. The part to be tested is the midrib of the leaves.

Send 30 – 40 leaves from across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Sample monthly during growing season.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Lettuce & Cabbage

Take wrapper leaf, close to head maturity.

Take at least 15 leaves, randomly across the block. The part to be tested is the midrib of the leaf.

If sampling young or smaller varieties please take at least 30 leaves. For ease of dispatching, the blades can be stripped off the midrib and discarded.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 3-4 weeks and sample weekly or fortnightly until two weeks before harvest.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Lime - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Loquats

Sample non-fruiting terminals only. Take leaves that are almost fully expanded on the latest flush. Make sure to sample leaf and stem (petiole).

Sample at least 50 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. Plant part to be tested is petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at early fruit set, then monthly to harvest, or sample by crop stage. Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- at fruit fill stage

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Lucerne

Take the top 20 cm of the plant. Take at least 30 tops, randomly across the sampling area.

If plant height is below 30 cm, please send 50 whole plants, without the roots.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding monitor fortnightly to monthly to mid-harvest.

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Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™
Analytical

Lychee

Sample non-fruiting terminals only. Take leaves that are almost fully expanded on the latest flush. Make sure to sample the leaf with its stem (petiole).

Sample at least 200 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. Plant part tested is petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage as below. Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Macadamia

First fully expanded leaf

Take the first fully expanded leaves on the latest flush. Make sure to sample the leaf with its stem (petiole).

Sample at least 200 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. Plant part tested is petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at fruit set, then monthly to harvest, or sample by crop stage. Usual sampling times are:

- flowering (using the flowers)
- when fruit size is about 25mm
- when fruit is 50mm
- when fruit reaches mature size

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Macadamia Flower

Take racemes with flowers fully opened.

Sample at least 100 racemes with flowers through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. The plant part to be used for testing is the raceme.

If you require a P3 super sap analysis please collect twice as many racemes.

Monitoring program
Collected at flowering stage only.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Maize, Sugarcane & Sorghum

Select the thickest stalk in each stool. Select the first (youngest) leaf with a visible dewlap. Take at least 20-30 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants.

Send whole leaves from young plants, but remove the leaf tips to leave 30 cm of leaf when sampling more mature plants.
If necessary, **seedlings** can be sampled by sending 30 whole plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sampling can begin from about 30 cm high, in conjunction with “Quick Soil” tests.
Sample fortnightly or as required, depending on fertigation frequency.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Mandarin - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Mango

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush. Make sure to sample the leaf with its stem (petiole).

Sample at least 70 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree. Plant part tested is petiole and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at early fruit set, then monthly to harvest, or sample by crop stage.
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm
- at fruit fill stage

NOVUM LIFESCIENCES™ Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Millet – Cereals (early stage)

Sample the whole above ground part of the plant. The whole plant is sampled up until tillering begins.

Send 50 plants per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do no send dried plants.

If you require a P3 super sap analysis please collect twice as many plants.

Monitoring program

Usually a single sample is sufficient from this growth stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Millet – Cereals (tillering)

Leaf with visible dewlap

Sample the first fully expanded leaf and sheath with a visible dewlap. This part is sampled up until the flag leaf emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Millet – Cereals (flag leaf stage)

Flag Leaf, final leaf before grain head

Sample the flag leaf and sheath down to the last node. The flag leaf will be the final leaf that emerges before the grain head emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Mint

Take the top 20cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

NOVUM LIFESCIENCES™ Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Nectarine - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Oats – Cereals (early stage)

Sample the whole above ground part of the plant. The whole plant is sampled up until tillering begins.

Send 50 plants per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do no send dried plants.

If you require a P3 super sap analysis please collect twice as many plants.

Monitoring program

Usually a single sample is sufficient from this growth stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Oats – Cereals (tillering)

Leaf with visible dewlap

Sample the first fully expanded leaf and sheath with a visible dewlap. This part is sampled up until the flag leaf emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Oats – Cereals (flag leaf stage)

Flag Leaf, final leaf before grain head

Sample the flag leaf and sheath down to the last node. The flag leaf will be the final leaf that emerges before the grain head emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Olives

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.
Sample at least 70 leaves through the orchard, no more than 3 per tree.
Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Onions, Garlic & Leek

For **spring onions** and **young onions, garlic or leek**, send 80-100 whole plants after removing the leaf tips and roots. Be sure to include the collar at the base of the leaf, as this is the part to be tested.

For **larger plants** cut the collar at the top end of the bulb, remove green leaves, and send the collars. 15 - 20 collars is enough.

No P3 super sap analysis is available for this crop.

Monitoring program

Most bulb crops can be sampled from the time of bulb formation to last fertigation.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Orange - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Pak Choy - Brassicas

1st fully expanded leaf

Take first fully expanded leaf out from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take 20 to 30 leaves, randomly across the sampling area. The part to be tested is the petiole (leaf stalk) and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue to heading stage, weekly or fortnightly**.**

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Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Parsley

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. Make sure to sample the leaf with its stem (petiole).

Take at least 50 leaves, randomly across the sampling area.
The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at 5 true leaf stage.
Sample weekly or fortnightly until harvest.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Parsnip – Beets/Root crops

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area.
The midrib is required for the beet.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at five leaf stage, continue weekly or fortnightly until 2 weeks before harvest.

LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Passionfruit

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 70 leaves, randomly across the block. The part to be tested is the petiole, or leaf stalk and midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when vines reach 1 meter and sample monthly until mid-harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Paw Paw

Petiole of first fully expanded leaf

Take the youngest fully expanded leaf out from the crown, and remove the petiole (leaf stalk). It is the plant part to be tested.

At least 10 petioles are required. Petioles should be approximately 25 cm long. Leaf blades can be removed before dispatching sample.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sample from budding, monthly to harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Peach - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Peanut

Take the first fully expanded leaf from the growing tip of the plant. The trifoliate leaf is formed of three smaller leaflets – BE SURE TO TAKE THE WHOLE LEAF AND STEM (petiole), not just the leaflets.

Take at least 50 leaves randomly across the sampling area.
The part to be tested is the petiole or leaf stalk. Strip off the leaf blades only leaving the petiole and the three smaller offshoots for testing.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when the first new leaves reach the mature stage. Sample every 2-4 weeks until the plants start to shut down. Important times are pre-flowering, pegging and nut sizing.

NOVUM™ LIFESCIENCES
Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Pear - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Peas & Snow Peas

Take the top 20cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Pistachio Nuts

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 50 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Plum - Pome & Stone Fruit

1st fully expanded leaf

Sample non-fruiting terminals only. Take leaves that are fully expanded on the latest flush.

Sample at least 30 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first leaves of new flush reach maturity.
Sample fortnightly or monthly to peak harvest.

NOVUM™ LIFESCIENCES Naturally Innovative

Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Pomelo - Citrus

1st mature leaf
of current flush

Sample non-fruiting terminals only. Take leaves that are about ¾ expanded on the latest flush.

Sample at least 40 leaves through the orchard, no more than 3 per tree. Sample at about shoulder height, at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling at pre-flowering stage, monthly to harvest, or sample by crop stage
Usual sampling times are:

- one month pre-flowering
- beginning of flowering
- early fruit set
- when fruit size is about 25 mm

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Post samples to: Locked Bag 3901
Bundaberg QLD 4670

HORTUS™ Analytical

Potato

First fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. The compound leaf is formed of several/many smaller leaflets - BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk. In potatoes, this should be from 15 to 30 cm long, depending on the stage of the crop. Leaf blades can be removed before dispatching sample.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 4-5 leaf stage.
Sample fortnightly to 'bulking up" stage.

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Pumpkin – Vine cucurbits

1st fully expanded leaf

First fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. If petioles are very small, up to 50 leaves may be required. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding.
Monitor fortnightly or monthly until harvest.
Sampling of long harvest crops can continue through harvest.

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Radish – Beets/Root crops

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area.
Petiole and midrib is required for radish.

If you require a P3 super sap analysis please collect twice as many leaves.

<u>Monitoring program</u>
Begin sampling at five leaf stage, continue weekly or fortnightly until 2 weeks before harvest.

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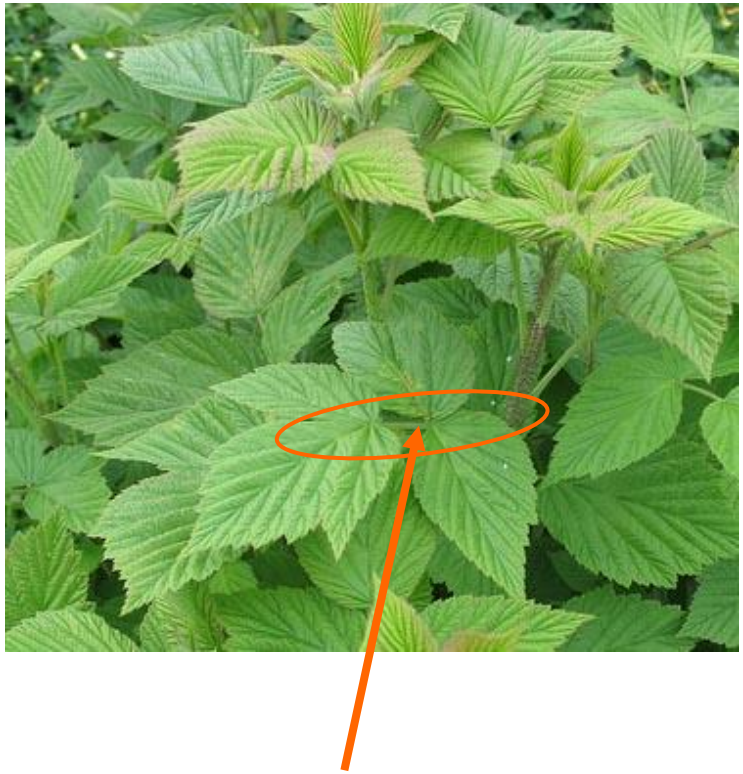
HORTUS™ Analytical

Raspberry



Send petiole

Take first fully expanded leaf out from the crown of the plant. The trifoliate leaf is formed of three smaller leaflets - BE SURE TO TAKE WHOLE LEAF AND STEM (petiole), not just the leaflets.

Take at least 70 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly until the end of the main harvest period.

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Rhubarb

Take the stalk from the first fully expanded leaf - usually the fourth or fifth leaf out from the growing point of the plant.

Take at least 30 stalks, randomly across the sampling area. For the ease of dispatch, remove green leaf.

If you require a P3 super sap analysis please collect twice as many stalks.

Monitoring program

Begin sampling at 5-6 leaf stage. Sample fortnightly or every three weeks to "pre-harvest" stage.

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HORTUS™ Analytical

Rice

https://world-crops.com/rice/

Take the first fully expanded leaf. The part to be tested is the midrib of the leaves.

Send 30 – 40 leaves from across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sample monthly during growing season.

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Rocket

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant.

Take at least 50 leaves, randomly across the sampling area.
The part to be tested is the petiole, or leaf stalk and the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at 5 true leaf stage.
Sample weekly or fortnightly until harvest.

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Rockmelon – Vine cucurbits

1st fully expanded leaf

First fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. If petioles are very small, up to 50 leaves may be required. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding.
Monitor fortnightly or monthly until harvest.
Sampling of long harvest crops can continue through harvest.

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Rose

Take the whole compound leaf

Take first fully expanded leaf from the growing point of the plant. The compound leaf is formed of five smaller leaflets - BE SURE TO TAKE WHOLE LEAF.

Take at least 50 leaves, randomly across the sampling area.

No P3 super sap analysis is available for this crop.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly or monthly.

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HORTUS™ Analytical

Rosemary

Take the top 10-20cm of the new growth. Take at least 20 to 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program
Sample monthly during growing season.

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Rye – Cereals (early stage)

Sample the whole above ground part of the plant. The whole plant is sampled up until tillering begins.

Send 50 plants per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do no send dried plants.

If you require a P3 super sap analysis please collect twice as many plants.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Rye – Cereals (tillering)

Leaf with visible dewlap

Sample the first fully expanded leaf and sheath with a visible dewlap. This part is sampled up until the flag leaf emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Rye – Cereals (flag leaf stage)

Flag Leaf, final leaf before grain head

Sample the flag leaf and sheath down to the last node. The flag leaf will be the final leaf that emerges before the grain head emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Sage

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 40 leaves, randomly across the block. The part to be tested is the petiole and midrib, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin when the plant begins to start significant vertical growth and continue every 2 - 4 weeks until harvest.

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HORTUS™ Analytical

Silver beet – Beets/Root crops

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area.
The petiole and midrib is required for the beet.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at five leaf stage, continue weekly or fortnightly until 2 weeks before harvest.

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HORTUS™ Analytical

Snow Peas & Peas

Take the top 20 cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

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HORTUS™ Analytical

Sorghum, Sugarcane & Maize

Select the thickest stalk in each stool. Select the first (youngest) leaf with a visible dewlap. Take at least 20-30 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants.

Send whole leaves from young plants, but remove the leaf tips to leave 30 cm of leaf when sampling more mature plants.
If necessary, **seedlings** can be sampled by sending 30 whole plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sampling can begin from about 30 cm high, in conjunction with “Quick Soil” tests.
Sample fortnightly or as required, depending on fertigation frequency.

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HORTUS™ Analytical

Soyabean

https://www.motherearthnews.com/organic-gardening/edamame-soybean-plants-are-tough

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. The trifoliate leaf is formed of three smaller leaflets - BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at 5 true leaf stage. Sample weekly or fortnightly to pod fill stage.

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HORTUS™ Analytical

Squash

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. Up to **50** leaves may be required if petioles are very small.
The part to be tested is the petiole, or leaf stalk. Leaf blades can be removed before dispatching sample.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at pre-flowering stage, fortnightly or monthly to harvest, or sample by crop stage.

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Strawberry

Send petiole

Take first fully expanded leaf out from the crown of the plant. The trifoliate leaf is formed of three smaller leaflets - BE SURE TO TAKE WHOLE LEAF AND STEM (stem), not just the leaflets.

Take at least 70 leaves, randomly across the sampling area. The part to be tested is the petiole, or leaf stalk. Leaf blades can be removed before dispatching sample.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling when first new leaves reach mature stage. Sample fortnightly until the end of the main harvest period.

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Sugarcane, Sorghum & Maize

Select the thickest stalk in each stool. Select the first (youngest) leaf with a visible dewlap. Take at least 20-30 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants.

Send whole leaves from young plants, but remove the leaf tips to leave 30 cm of leaf when sampling more mature plants.
If necessary, **seedlings** can be sampled by sending 30 whole plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Sampling can begin from about 30 cm high, in conjunction with “Quick Soil” tests.
Sample fortnightly or as required, depending on fertigation frequency.

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Sweet Potato

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant, or out from the crown of the plant. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 50 leaves, randomly across the block. The part to be tested is the petiole,or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin when runners are 50 cm long, continue fortnightly to bulking up.

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HORTUS™ Analytical

Tarragon

Take the top 20cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

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Timber Trees

1st fully expanded leaf

Take leaves that are about ¾ expanded on the latest flush.

Sample at least 80 leaves through the plantation, no more than 3 per tree. Sample at about shoulder height if possible, (or from limbs that have been recently removed) at up to three different points around the tree.

No P3 super sap analysis is available for this crop.

Monitoring program

Usual sampling times are:

- as required during main growing period of the year
- main sampling period is during the first 2-4 years of tree establishment

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Tomato

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the plant. The compound leaf is formed of several/many smaller leaflets - BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaflets.

Take at least 30 leaves, randomly across the block. The part to be tested is the petiole, or leaf stalk. In tomatoes, this should be from 15 to 30cm long, depending on the stage of the crop. For ease of dispatching, the leaflets can be stripped off the leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Tomatoes begin sampling at first flowering, continue weekly or fortnightly until harvest. May continue sampling trellised crops after harvest has begun.

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Thyme

Take the top 5-10 cm of the new growth. Take at least 40 to 50 tops, randomly across the sampling area**.**

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Sample monthly during growing season.

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Turf

For established turf, a sample of about 300g of the mixed grass clippings after mowing of the area of interest is a sufficient sample. Please do not send clippings of dried turf or grass.

For young turf, or if not mowing, sample the top of the grass, 5 – 10cm. About 200 – 300g are required. Do not sample dried grass.

If you require a P3 super sap analysis please collect twice as much sample.

Monitoring program

Test as required. Or monthly during growing season.

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Post samples to: Locked Bag 3901
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HORTUS™ Analytical

Turnips

1st fully expanded leaf from growing point

Take first fully expanded leaf - usually the fourth or fifth leaf out from the crown of the plant.

Take at least 30 leaves, randomly across the sampling area.
The part to be tested is the midrib.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program
Begin sampling at five leaf stage, continue weekly or fortnightly until 2 weeks before harvest.

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HORTUS™ Analytical

Watercress

Take the top 20cm of the plant. Take at least 30 tops, randomly across the sampling area.

If you require a P3 super sap analysis please collect twice as many tops.

Monitoring program

Begin sampling at budding; and monitor fortnightly to mid-harvest.

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Watermelon – Vine cucurbits

1st fully expanded leaf

First fully expanded leaf - usually the fourth or fifth leaf back from the growing point of the runner. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

Take at least 30 leaves, randomly across the block. If petioles are very small, up to 50 leaves may be required. The part to be tested is the petiole, or leaf stalk.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at budding.
Monitor fortnightly or monthly until harvest.
Sampling of long harvest crops can continue through harvest.

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Wheat – Cereals (early stage)

Sample the whole above ground part of the plant. The whole plant is sampled up until tillering begins.

Send 50 plants per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do no send dried plants.

If you require a P3 super sap analysis please collect twice as many plants.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Wheat – Cereals (tillering)

Leaf with visible dewlap

Sample the first fully expanded leaf and sheath with a visible dewlap. This part is sampled up until the flag leaf emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Wheat – Cereals (flag leaf stage)

Flag Leaf, final leaf before grain head

Sample the flag leaf and sheath down to the last node. The flag leaf will be the final leaf that emerges before the grain head emerges.

Send 75-100 leaves per sample, selected randomly through the sampling area. Avoid distorted or stunted plants in the sampling area. Do not send dried plants.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Usually a single sample is sufficient from this growth stage.

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Zucchini

1st fully expanded leaf

Take first fully expanded leaf - usually the fourth or fifth leaf back from the growing point. BE SURE TO TAKE WHOLE LEAF & STEM (petiole), not just the leaf blade.

No more than 20 leaves are required for Z**ucchinis**. The part to be tested is the petiole, or leaf stalk. Leaf blades can be removed before dispatching sample.

If you require a P3 super sap analysis please collect twice as many leaves.

Monitoring program

Begin sampling at pre-flowering stage, fortnightly or monthly to harvest, or sample by crop stage.

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