VINEYARD CROP INTELLIGENCE · CAPABILITY & SAMPLE

See every vine's health from the air.

Aerial multispectral mapping that turns each block into a clear, monthly picture of vine health: vigour, chlorophyll, stress, and exactly where to act, so you catch problems early, target your watering and inputs, and protect quality.

5 HEALTH MAPS + PHOTO	**2** DRONES, M3M + M4E	**~1.7 cm** MAP DETAIL	**Monthly** CROP INTELLIGENCE

A real worked example follows: a Summerland vineyard, three blocks, flown 19 June 2026.

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THE OPPORTUNITY

See your vineyard the way the vines actually experience it

From the road, every block looks green. But a vine under early water or nutrient stress looks normal to the eye for weeks before it shows, and by then yield and quality are already slipping. A multispectral flight reads light the eye cannot (near-infrared and red-edge) to map how every vine is actually performing: canopy vigour, chlorophyll, and stress, block by block, row by row.

What a single flight tells you

1. **Where the vines are strong, and where they struggle**
   A whole-block health map: the dense, vigorous canopy and the thin, stressed patches, ranked and located.

2. **Early stress, before you can see it**
   Red-edge (NDRE) tracks chlorophyll deep in the canopy. Flown month to month it is the earliest warning of decline, before it shows on foot or in a normal photo.

3. **Is the irrigation watering evenly?**
   Chronically weak or dead runs in an otherwise strong block reveal where the system is not delivering: a uniformity check you cannot do from the ground.

4. **Where to walk, dig, or put a probe**
   Every map directs scouting to the exact spots that need a look, instead of walking every row.

5. **How the crop trends month to month**
   A monthly baseline turns single maps into a season-long story, catching a developing problem within about 30 days.

6. **Where to harvest selectively, and which vines to replant**
   Vigour zones for split-picking higher-value fruit, and an objective missing-vine inventory.

> **Health first, then everything around it.** The pages that follow walk through a real flight: the orientation photo, the lead health map, the full five-index toolkit, then how both drones, a monthly cadence and ground-truth turn it into decisions and dollars.

A 60-SECOND GUIDE

How to read every map in this report

Every health map in this report uses the same colour scale, fitted to each block so you can see the real variation. Learn it once and it reads the same everywhere.

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

The colour grades the vines **on a curve within each block**. Green is the strongest, red the weakest. Red does not mean dead, it means look here first. The grey areas are roads, bare ground and gaps, not vine.

The five maps fall into two families

GROUP A

How much canopy is there

Vigour and structure, the size and density of the leaf canopy. **NDVI** and **OSAVI** live here.

GROUP B

How healthy the canopy is

Chlorophyll and nitrogen, how well fed and active the leaves are. **NDRE**, **GNDVI** and **LCI** live here.

Read the two families together and you can separate a **small-but-healthy** vine from a **big-but-pale** one, something neither group can tell you alone.

One honest note up front. We fly your monthly program calibrated, with our own reflectance panel. This quick sample was flown without it, on purpose, so you could see real output fast. So the maps here read as **relative** vigour: within a block the patterns and ranking are reliable, and because all three blocks were flown in one pass under the same light, you can rank the blocks against each other too. What relative data cannot yet do is put absolute numbers against real thresholds or compare to a flight on another date. Calibration, standard on your program, unlocks exactly that. We would rather show you what is real than dress it up.

How the colours are made: DJI Terra colours all its index previews on one fixed scale, which leaves the narrow-range maps (NDRE, LCI, OSAVI) looking flat. DJI's own guidance is to take the raw index values into GIS software and set the colour range there, which is exactly what we do: each of the five is coloured on its own range from Terra's raw values (a standard display step that does not change the numbers), using one shared red-to-green scale so they read as a set. Vines are coloured, roads and bare ground are neutral grey, and nothing is smoothed. Because each map has its own colour range, read the colours within a map, and read the tables when you want to compare the blocks by the numbers.

A REAL FLIGHT · A SUMMERLAND VINEYARD · BLOCK 1 · 19 JUNE 2026

Start with what the eye sees

A true-colour orthomosaic, the whole block stitched from hundreds of overlapping photos at about 1.7 cm per pixel. This is your orientation layer: every health map that follows lines up exactly to this.

True colour, no health scale applied. This is your orientation layer, exactly what the eye would see from a low pass.

WHAT THIS MAP SHOWS

An ordinary, very high-resolution aerial photograph, georeferenced.

HOW TO READ IT

- Green: Full, even, leafy canopy (this is a plain photo, not a health scale).
- Red: Bare soil, gaps, missing vines, tracks, and wet patches you can recognise.

WHAT YOU DO WITH IT

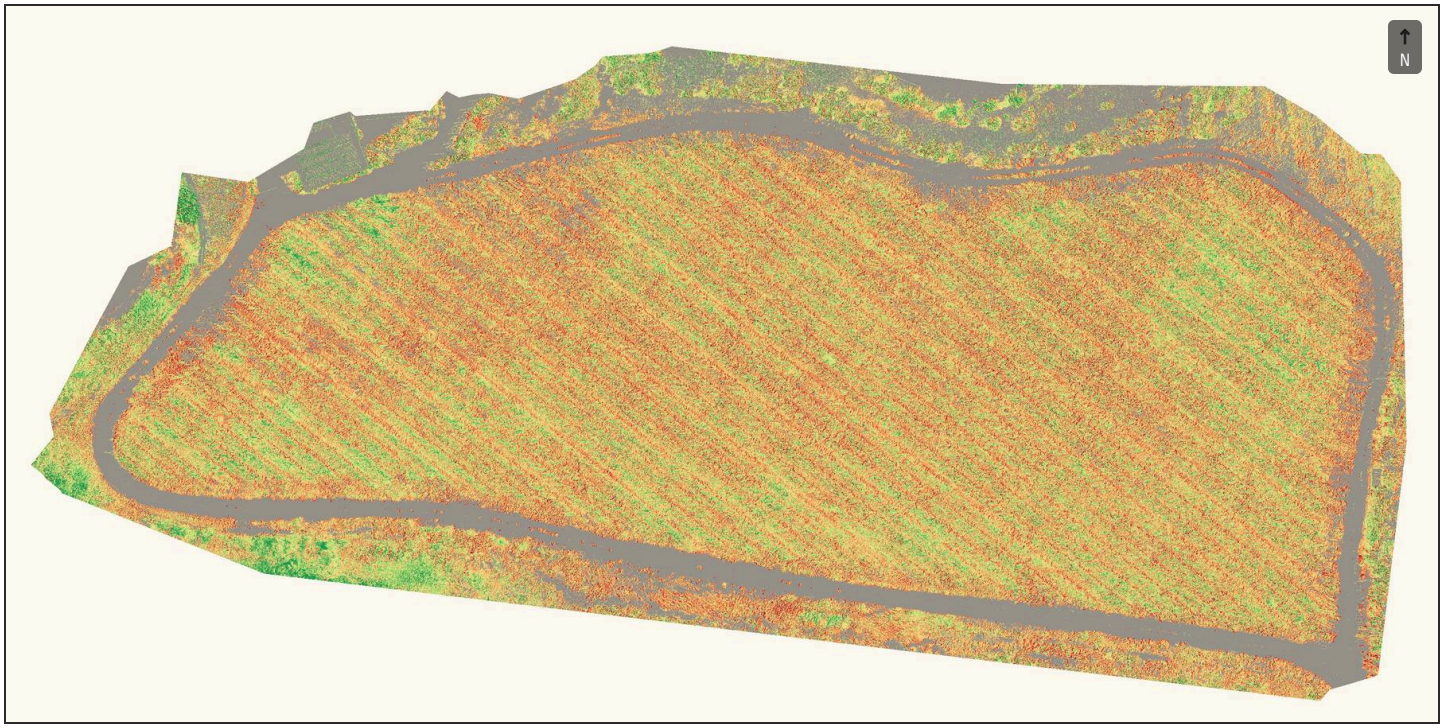
Orientation and ground-truth: tie a health anomaly to something physical, a gap, a wet patch, a piece of equipment.

NDRE · RED-EDGE HEALTH

NDRE, the health headline

LEAD HEALTH MAP

The single best read on vine health for a developed canopy. Red-edge light reaches deeper into the canopy than red, so NDRE keeps resolving differences after the simpler indices have flattened out.



Lower — Higher

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

WHAT THIS MAP SHOWS

Chlorophyll content, and by proxy nitrogen status, deep in the canopy.

HOW TO READ IT

- Green: Rich, chlorophyll-dense, healthy vines.
- Red: Quietly weaker or earlier-fading vines, even where they look fine in the photo.

WHAT YOU DO WITH IT

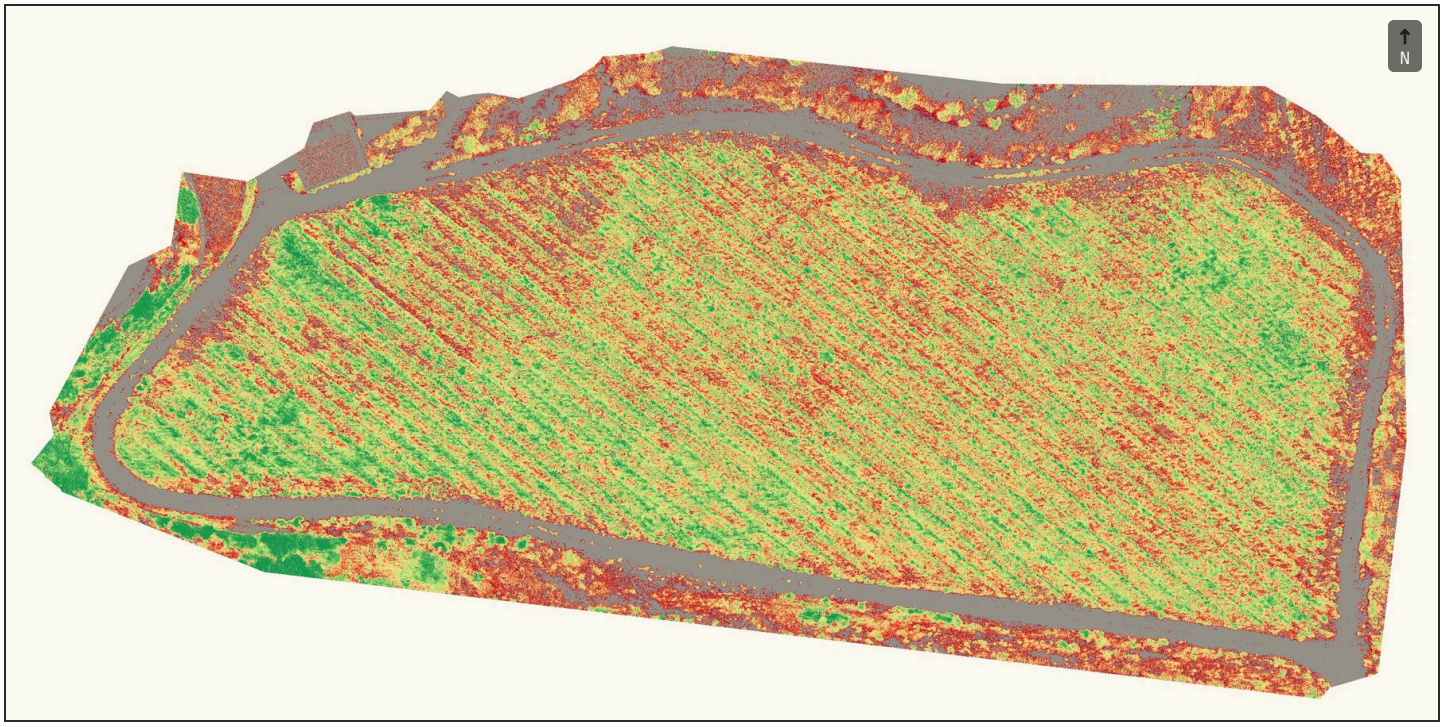
Find the quietly weaker vines within a block and scout the red patches first. For how the blocks stack up, use the numbers on the comparison page.

Why this leads. On a vigorous canopy the plain greenness map (NDVI) saturates and stress hides. NDRE sees through that. Calibrated and flown monthly, it becomes your earliest warning of a developing irrigation or nutrient problem.

NDVI · CANOPY VIGOUR

NDVI, overall vigour and canopy size

The workhorse vegetation index, the standard read on how much healthy, green canopy a vine is carrying.



Lower — Higher

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

WHAT THIS MAP SHOWS

Overall canopy density and vigour, from the contrast between near-infrared and red light.

HOW TO READ IT

- Green: Strong, dense, vigorous canopy (usually higher-yielding).
- Red: Weak, thin or struggling canopy, or bare ground.

WHAT YOU DO WITH IT

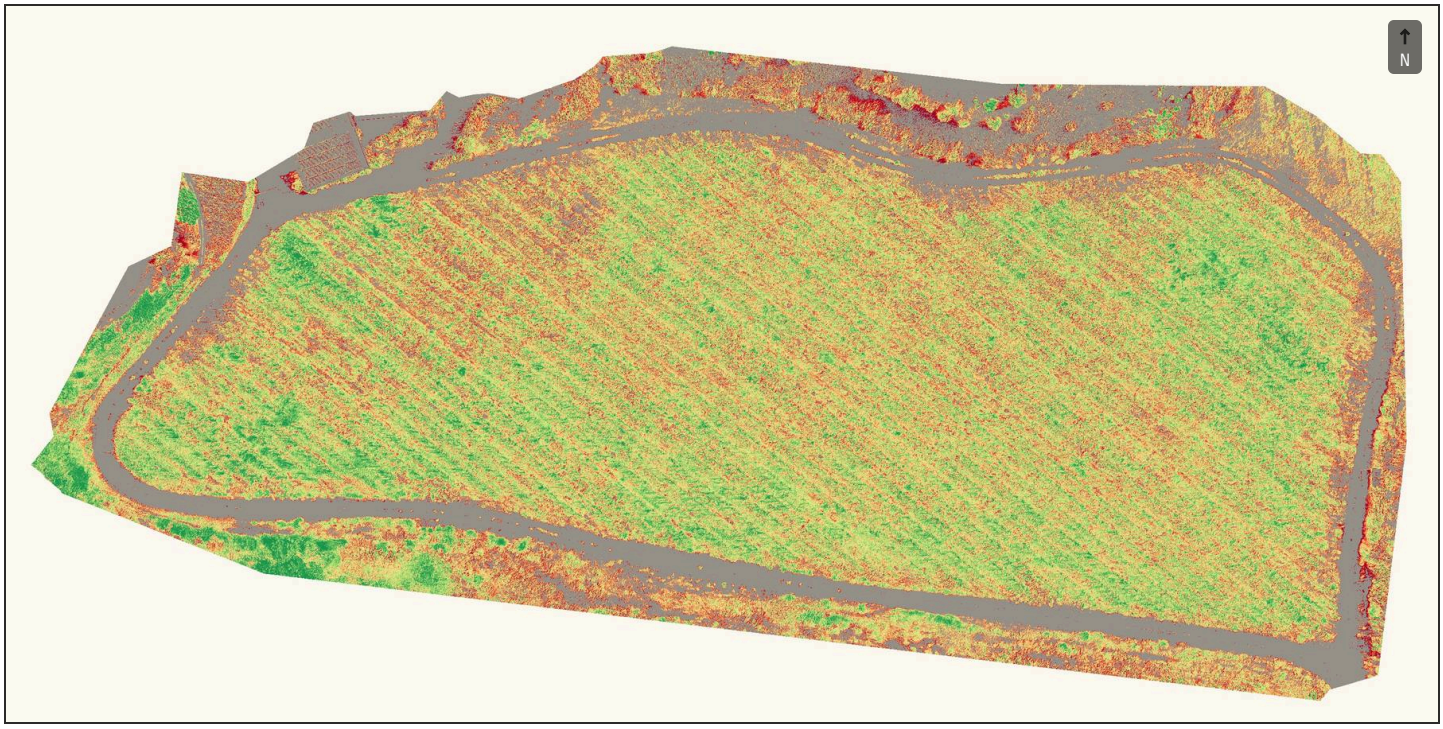
Your main overview. Walk the red and orange patches first to find out why and even out vigour.

Its one limit. NDVI saturates in a dense summer canopy: once vines are vigorous it flattens to uniform green and can hide stress underneath, which is exactly why we lead the health story with red-edge NDRE.

GNDVI · GREEN CHLOROPHYLL

GNDVI, greenness and nitrogen

A chlorophyll-and-nitrogen read that uses the green band, more sensitive to chlorophyll than NDVI, and it holds up later in the season.



Lower — Higher

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

WHAT THIS MAP SHOWS

Canopy chlorophyll concentration and photosynthetic activity, tied to leaf nitrogen.

HOW TO READ IT

- Green: Lush, well fed, well watered-looking canopy.
- Red: Paler, possibly hungrier (nitrogen) or thirstier zones.

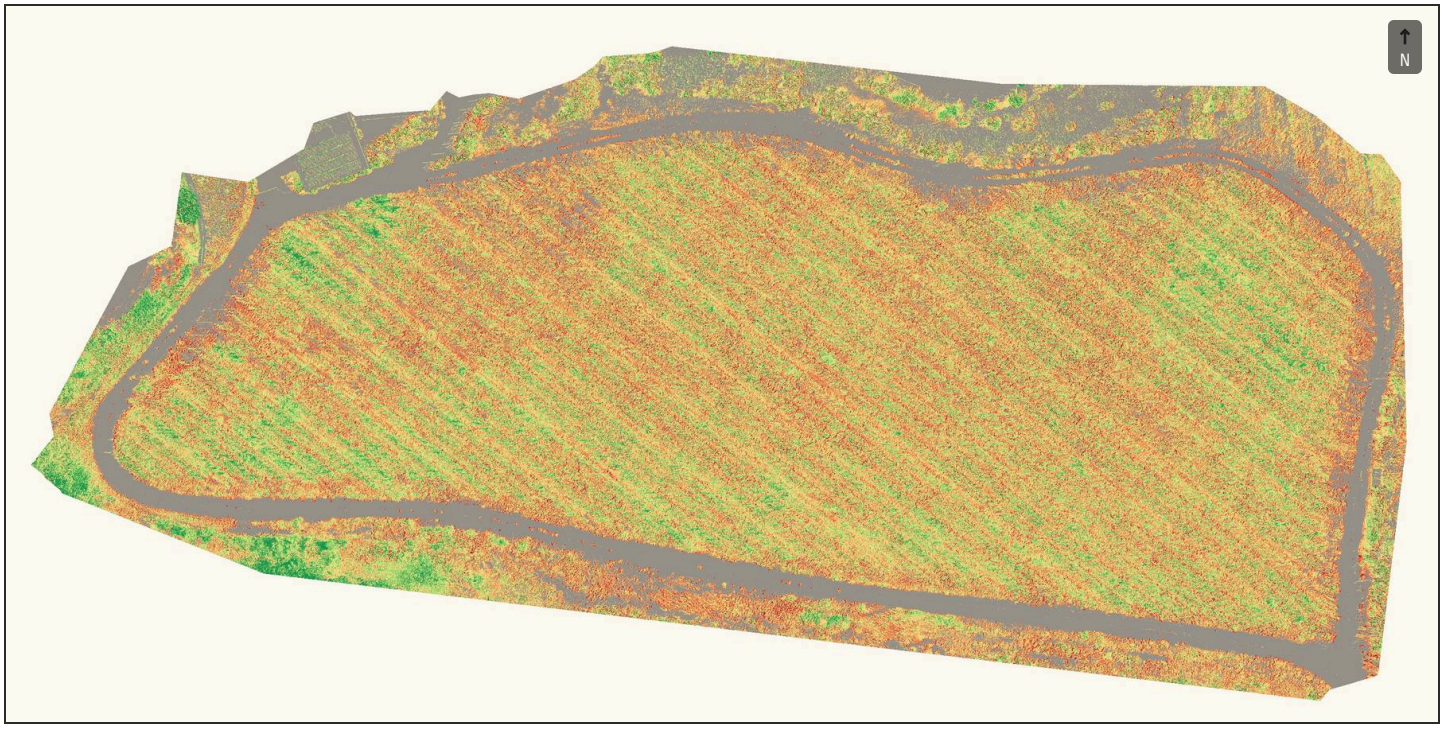
WHAT YOU DO WITH IT

A second, independent angle on canopy health and nitrogen, corroborating or questioning the NDRE story.

LCI · LEAF CHLOROPHYLL

LCI, leaf-level chlorophyll

A leaf-chlorophyll index built to track chlorophyll while ignoring the structure of the canopy, a clean cross-check on the nutrient story.



Lower — Higher

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

WHAT THIS MAP SHOWS

Leaf chlorophyll content, combining red-edge with near-infrared and red light.

HOW TO READ IT

- Green: Deep-green, healthy, well-nourished leaves.
- Red: Paler, yellowing, or stressed leaves.

WHAT YOU DO WITH IT

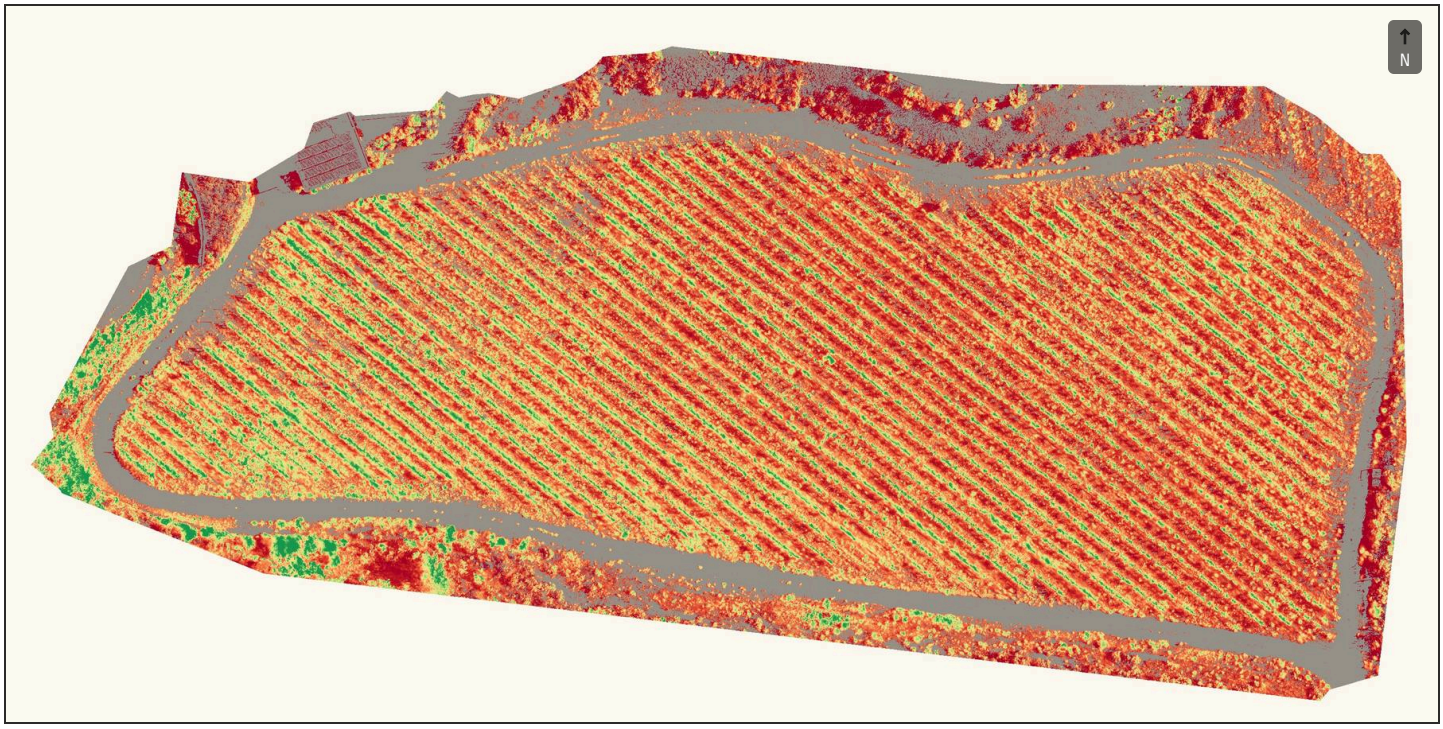
Confirm the chlorophyll picture from NDRE and GNDVI from a third, leaf-focused angle.

> Three chlorophyll indices (NDRE, GNDVI, LCI) pointing the same way is a strong, defensible signal, far more convincing than any single map.

OSAVI · SOIL-ADJUSTED VIGOUR

OSAVI, vigour with the soil glare removed

A vigour index with a built-in adjustment to suppress the bright bare soil and cover crop that shows between vine rows, useful on young or open canopies.



Lower Higher

Red = weakest vines · **Green** = strongest · **Grey** = roads / bare ground | colours are relative within this map (uncalibrated)

WHAT THIS MAP SHOWS

Canopy vigour like NDVI, but with a soil-adjustment meant to dampen inter-row soil brightness.

HOW TO READ IT

- Green: Vigorous canopy with soil influence reduced.
- Red: Sparse or soil-dominated ground.

WHAT YOU DO WITH IT

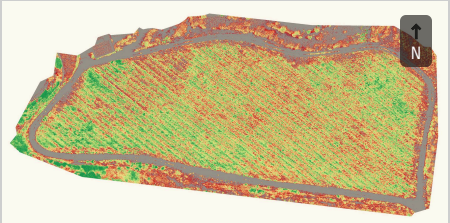
Read it as a relative pattern here.

Straight talk on this one. OSAVI's soil-adjustment is mathematically exact only on calibrated reflectance. On this uncalibrated sample it behaves much like NDVI, so we present it as a relative soil-dampened pattern, not a precise OSAVI. Flown calibrated, as we do on your monthly program, it becomes rigorous.

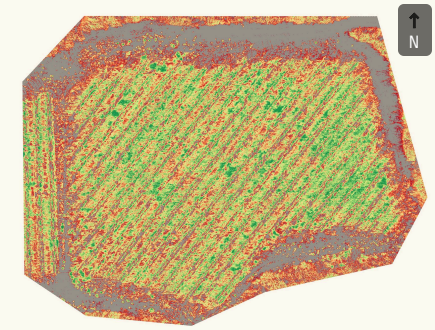
ALL THREE BLOCKS COMPARED

The same read, across the whole vineyard

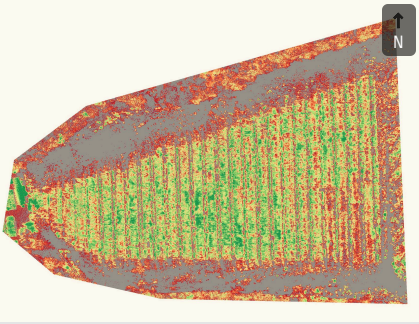
One flight covered all three blocks, in a single pass under the same light, so a relative block-to-block ranking is fair. Here they are side by side in NDVI, with the verified numbers, so you can see at a glance where to focus.



Block 1, 1.46 ha



Block 2, 0.39 ha



Block 3, 0.30 ha

Lower — Higher

Each block's NDVI is coloured on its own range, so compare the blocks by the numbers in the table, not by matching colours across maps: Block 1 reads strongest, Block 3 weakest and most variable.

BLOCK	MAPPED AREA	VINE CANOPY	CANOPY NDVI	UNIFORMITY (CV)
Block 1	1.46 ha	1.17 ha (80%)	0.64	21%
Block 2	0.39 ha	0.30 ha (76%)	0.61	22%
Block 3	0.30 ha	0.20 ha (67%)	0.60	24%
All blocks	**2.15 ha**	**1.67 ha**	**n/a**	**n/a**

Canopy values use vine pixels only (the real measure of vine health). **CV** is how even the vigour is, lower is more uniform.

A consistent, same-flight ranking: Block 1 reads strongest and most uniform, Block 3 the most variable and lowest-canopy, the one to scout first. The same order shows up in vigour, canopy share and uniformity, which is what makes it a real signal rather than noise. These are relative, single-flight numbers; calibration, standard on your program, turns them into absolute values you can track against thresholds and from one flight to the next.

The pages that follow are the part you actually act on: the read. First the irrigation-uniformity check, then where to look first in each block, what it could be, and how to confirm it on the ground.

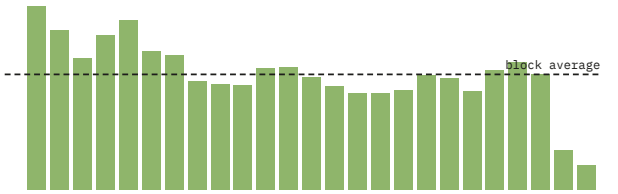
THE WATER READ

Is the water going in evenly?

Your irrigation only pays off if every run delivers evenly. Each chart below is a relative canopy-vigour profile taken in narrow strips across a block: a flat line means the vines are growing evenly, so no zone is being systematically over or under-served. A sustained dip across a band would be the signature of a blocked run or a weak zone-valve, and it shows here before it shows on foot.

Block 1: an even block

WHAT A WELL-SERVED BASELINE LOOKS LIKE

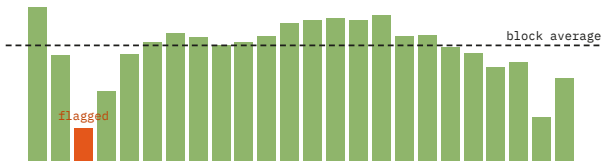


±3.3% VIGOUR HOLDS ACROSS THE BLOCK INTERIOR

Vigour is even to within a few percent across the interior, with only the headland margins lower. No systematically weak run this flight, exactly the clean baseline you want from a well-run system.

Block 3: a dip we would flag

THE SIGNATURE TO WALK



1 band READS BELOW ITS NEIGHBOURS

One interior band sits well below the rest (highlighted). On the ground that is where we would check a run or zone-valve, a soil change, or thinner canopy, before assuming anything.

The honest line, and the money. Multispectral shows the vines' response, not the water itself, so a flagged band is where to point a soil probe or a dig, not a diagnosis. But flown monthly, the first month a run drifts below its own baseline flags it 30 or more days before the vines show it on foot, which is the difference between a quick valve fix and a lost panel of vines. Calibrated repeat flights turn this profile into a tracked trend, evidence you can hold your irrigation contractor to.

~30 days	A valve fix	To need
TO FLAG A DRIFTING RUN, VS FINDING IT AT YEAR END	INSTEAD OF A LOST PANEL OF VINES	TARGET WATER BY ZONE, NOT UNIFORMLY

A note on the profile: each bar is the average vine vigour in a narrow strip of the block, shown relative to the block average (the dashed line). It reads the vines' response across the block, so it flags where to look, and a calibration panel plus repeat flights turn it into absolute, trackable numbers over the season.

THE READ WE HAND YOU

Where to look first, and what to check

Scouting Priority is a where-to-look-first layer, not a diagnosis. On this single-day, relative map, the drone took roughly 2.1 hectares of mapped vineyard and narrowed it to a handful of panels worth eyeballing, plus one early red-edge flag the naked eye and a plain green map both miss. Every block below reads healthy and tightly uniform, and the gap between the softest and strongest zones is small, so read this as a walk order that saves you steps, then let your boots decide. It is a shortlist to confirm on foot, not a finding, and nothing here says a vine is sick, stressed, or short of anything.

How to read the marks on the next three maps

1

Walk order

Numbered from the relatively softest panel, so start at 1. These are the few spots worth eyeballing first in an otherwise uniform block.

◇

Big but pale

Full canopy but a little low on the red-edge band, the early signal the eye and a plain green map miss. Pull a tissue sample here to confirm.

Strongest

Strongest area

The healthiest zone in that same block, shown for honest contrast so you can judge how small the difference really is.

These marks come from combining the four canopy indices (NDVI, NDRE, GNDVI and LCI) into a single per-vine rank, then locating the relatively softest panels and the big-but-pale patches. It is a priority map for scouting, not a diagnosis: it tells you where to look, never what is wrong.

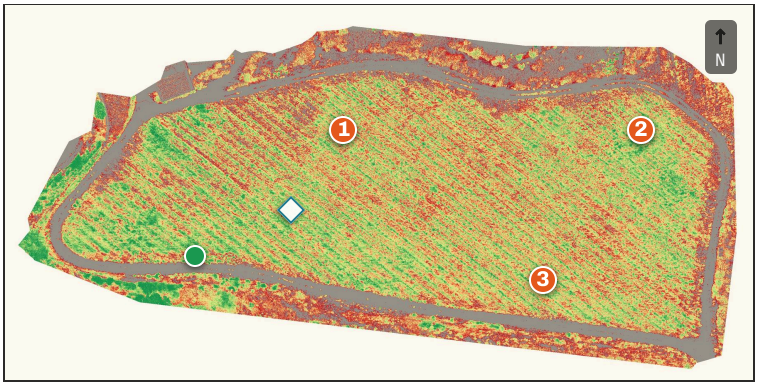
Why a clean baseline matters. A uniform, healthy read is not a dull result, it is the line every future flight measures against. The value lands the first month a run or a block drifts below it, 30 or more days before it shows on foot.

A plain-language word on limits. These scouting scores rank each vine against its neighbours within its own block on this one flight, so they are a within-block walk order, not an absolute health grade, and not something you compare to a flight on another date. For how the blocks stack up against each other, use the numbers on the comparison page. The red-edge flag in particular is the noisiest band, which is why we ask you to confirm it with a tissue sample rather than act on it. Confirm anything on the ground before you spend on inputs, since the map shows a difference and never its reason. Calibration, standard on your monthly program, plus repeat flights, turns these single-day relative reads into trends you can compare over time and trust for decisions.

WHERE TO LOOK FIRST · BLOCK 1 · 1.46 HA

Block 1: your walk order

Block 1 reads healthy and notably uniform on this single-day, relative map, so treat this as a walk order, not a problem list. If you only scout a few panels, start in the north and northeast, then the southeast edge, where the canopy reads slightly softer than the strong southwest corner.



1 **Walk-order dots** start at 1, softest first ◇ **Big but pale** pull a tissue sample

● **Green dot** strongest area, for contrast Relative and uncalibrated: confirm on foot.

WALK-ORDER GPS Withheld in this public sample; client pins drop straight into your phone or Google Earth.

WHERE TO LOOK FIRST

- Start in the north and northeast, where the canopy ranks a touch lower than the rest of an otherwise uniform block on this one-day relative map.
- Next walk the southeast edge, the third relatively softest area and the only softer spot sitting right on a block boundary.
- Also eyeball the one small big-but-pale patch, about 6.5% of the canopy, that is leafy but reads a little low on the red-edge band and is worth a closer look, not a worry.

WHAT IT COULD BE, TO CHECK

- The north and northeast lean could be a soil-depth or drainage change across that side, or a wetter or drier low spot, so it is worth checking underfoot as you walk.
- The southeast edge sits on a boundary, so a scout would rule out perimeter vines competing with a headland or access road, compaction from turning, wind exposure, or simply thinner canopy at the margin letting soil or cover crop show through.
- The big-but-pale patch could be a subtle chlorophyll or nitrogen difference that full canopy size hides, but red-edge is the noisiest band on an uncalibrated Mavic 3M, so treat it as a flag to confirm, not a finding.
- Any single scattered soft pixels along rows are most likely the map blending vine leaves with road, soil or shadow at row edges, so a scout would not chase them.

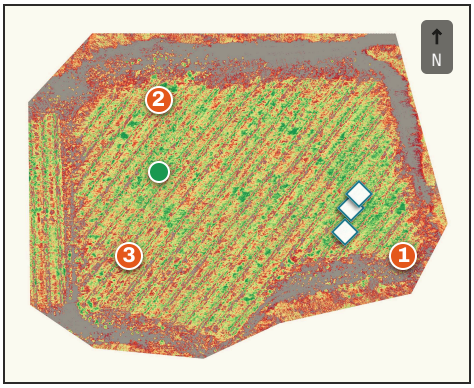
HOW TO CONFIRM ON THE GROUND

- Walk the north and northeast first, then the southeast edge, and look for an obvious physical reason such as a low spot, a soil or drainage change, a headland effect, or a trellis or vine gap.
- In the big-but-pale patch, pull a petiole or leaf-blade tissue sample and send it for lab nutrient analysis, since the lab test, not the map, is what confirms a real chlorophyll or nitrogen difference.
- Compare what you find in each area against the strong southwest corner of this same block so you can judge how small the real difference is before deciding whether any action is worth it.

WHERE TO LOOK FIRST · BLOCK 2 · 0.39 HA

Block 2: your walk order

Block 2 reads healthy and tightly uniform on this single flight, with the centre strongest and only a small, corner-leaning difference to walk first, especially the southeast edge.



1 **Walk-order dots** start at 1, softest first ◇ **Big but pale** pull a tissue sample

● **Green dot** strongest area, for contrast Relative and uncalibrated: confirm on foot.

WALK-ORDER GPS Withheld in this public sample; client pins drop straight into your phone or Google Earth.

WHERE TO LOOK FIRST

- Start at the southeast edge, the relatively softest corner in this otherwise healthy 0.39 ha block, if you only have time to walk a few panels.
- Next check the northwest corner, which reads a touch below the strong centre on this one day.
- If time allows, glance at the southwest corner and at the three small big-but-pale clusters (about 6.1% of canopy) that a plain green map would miss.

WHAT IT COULD BE, TO CHECK

- The corner lean could be perimeter vines competing with a headland or access road, or soil compaction where equipment turns at the ends of rows, both worth a scout ruling out.
- It could also be a drainage or soil-depth change at the block boundary, or a wet or dry low spot at the southeast edge, worth checking for on the ground.
- Thinner canopy showing bare soil, weeds or cover crop at the margins, or a trellis or vine gap, could pull the corner numbers down without the vines being unhealthy.
- The big-but-pale clusters could be a subtle chlorophyll or nitrogen difference that full canopy size hides, but on an uncalibrated Mavic 3M red-edge is the noisiest band, so treat this only as worth a closer look.

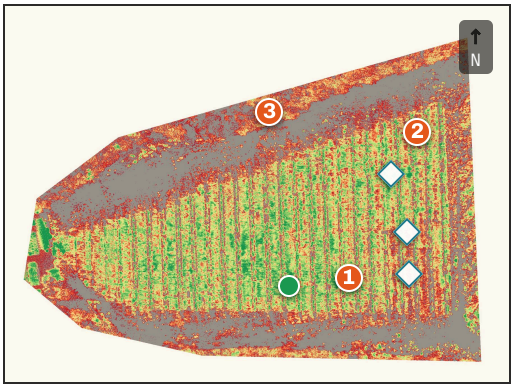
HOW TO CONFIRM ON THE GROUND

- Walk the southeast, then northwest and southwest corners and look for an obvious physical cause such as a headland, a wet or dry patch, a soil change, weeds, or a vine or trellis gap.
- At the three big-but-pale clusters, pull a petiole or leaf-blade tissue sample and send it for lab nutrient analysis, since the lab test, not the map, is what confirms a nutrient difference.
- Treat single scattered soft pixels as the drone blending leaves with soil, road or shadow at row edges rather than trouble spots, and do not chase them.

WHERE TO LOOK FIRST · BLOCK 3 · 0.30 HA

Block 3: your walk order

Block 3 reads healthy and tightly uniform on this single relative flight, with only small gaps between its softest and strongest zones, so treat this as a light walk order and let your boots decide.



1 **Walk-order dots** start at 1, softest first ◇ **Big but pale** pull a tissue sample

● **Green dot** strongest area, for contrast Relative and uncalibrated: confirm on foot.

WALK-ORDER GPS Withheld in this public sample; client pins drop straight into your phone or Google Earth.

WHERE TO LOOK FIRST

- If you only walk a few panels, start at the southeast corner, which reads the softest relative to the rest of this otherwise-healthy block.
- Next check the northeast corner, the second-softest zone by a small margin within this block.
- Then glance at the north edge, after which the south end reads best on this flight and needs no priority attention.

WHAT IT COULD BE, TO CHECK

- Bare inter-row soil, weeds, or cover crop showing through an open canopy could pull a corner or edge reading lower and is often not a vine issue at all, so it is worth ruling out first.
- The southeast and northeast corners sit on the perimeter, so this could be edge vines competing with an access road or headland, headland compaction from equipment turning, or an end-of-row vigour drop worth checking on foot.
- A soil-depth or drainage change at the block boundary, or a wet or dry low spot along the north edge, could nudge those readings and is easy to eyeball on foot.
- A few small big-but-pale clusters (about 6.4% of canopy) read high on the plain green map but lower on the red-edge band, which could be a subtle chlorophyll or nitrogen difference, but red-edge is the noisiest band on an uncalibrated Mavic 3M, so treat it as worth a closer look, not a conclusion.

HOW TO CONFIRM ON THE GROUND

- Walk the southeast then northeast corners and look for an obvious physical cause, such as bare soil or weeds through the canopy, road or headland competition, compaction, or a gap, before assuming anything about the vines.
- At the big-but-pale clusters, pull a petiole or leaf-blade tissue sample and send it for lab nutrient analysis, since the lab test, not this map, is what can confirm a real nitrogen or chlorophyll difference.
- Ignore scattered single soft pixels along row edges, since these are usually the drone blending vine leaves with soil, road, or shadow on a thin canopy rather than struggling vines.

THE FULL MENU

Everything this flight can give you

One multispectral mission produces far more than pretty maps. Here is the honest breakdown: what we deliver from a single flight, and what each upgrade unlocks.

From one flight, now

NO EXTRA KIT

- The four canopy indices (NDVI, NDRE, GNDVI, LCI) per block
- A combined overall health map, plus a stress hotspot go-look-here map
- Vigour vs chlorophyll quadrant that catches big-but-pale vines
- Canopy-cover % and an evenness score per block
- Per-row vigour ranking (walk rows 12 to 18 first)
- Auto-dropped scouting pins to your phone or Google Earth
- Irrigation weak-run flags (possible blocked driplines)
- Block league table, scorecards, GIS layers, the live viewer and this PDF

Flown calibrated

STANDARD ON YOUR PROGRAM

- Absolute numbers, comparable across dates and against real thresholds
- A true, valid OSAVI soil-adjusted map
- Input zones for your agronomist to set rates
- We own the reflectance panel, so this is included, not an extra

+ Matrice 4E, 3D pass

SECOND AIRCRAFT

- Vine-by-vine count and missing-vine census, human verified
- Canopy volume (3D), terrain, drainage and frost-air mapping
- Trellis as-built and a centimetre base map

+ Repeat flights

THE MONTHLY PROGRAM

- Change-over-time maps and decline alerts within about 30 days
- Before and after sliders across the season
- A dated record of every block, all season

The live version of this document. Everything in here is also delivered as an interactive web viewer: switch between the photo and the five maps on any block, fade between them, and zoom right into the rows.

THE FULL RANGE, TWO DRONES

Everything a coordinated capture can show

Health is the headline. With both aircraft on one visit, here is the complete picture, and what each piece is for.

MAVIC 3 MULTISPECTRAL

How the vines are doing

The five health indices you just saw: vigour, chlorophyll and relative stress, canopy variability, management zones, and irrigation-uniformity patterns. The physiological read the eye cannot see.

MATRICE 4E · RTK

What is physically there

Centimetre-level RGB (single vines, gaps, trellis, weeds), 3D and terrain (slope, drainage, frost-air), visible water cues (ponding, wet vs dry soil), and a centimetre-accurate base map. The structural and visual read.

★ **Irrigation uniformity and problem runs**
Weak or dead rows show where the system is not delivering, and the RTK RGB pinpoints the exact spot to inspect or dig.

★ **Vigour and early-stress zones**
Where vines thrive vs struggle. NDRE catches decline before it is visible: the lead time to act within the season.

★ **Management and quality zones**
Consistent vigour zones for variable-rate decisions and selective, by-zone harvest for higher-value fruit.

★ **Missing-vine and replant inventory**
Objective count of gaps and failing vines from cm-level RGB, an asset register for replant planning.

★ **Terrain, drainage and frost**
The 3D surface shows where water ponds and runs, and where cold air pools: context the health map cannot give.

The honest line on water and leaks. Multispectral shows the vines' response, not water directly. The RGB shows visible wet and dry cues. Together they tell you where to confirm with a soil probe or a dig. Measuring water directly, and finding a buried leak live, is what a thermal sensor adds (our planned next step).

MONTHLY CROP INTELLIGENCE

A season-long picture, not a snapshot

One flight is a moment. The value is the baseline you build. Month over month you see what is improving or slipping, and an emerging irrigation fault surfaces within about 30 days, not at year end.

What makes the months comparable, and the maps absolute

Each visit is flown the same way, and our reflectance calibration panel (with the drone's sunlight sensor) converts the imagery to calibrated reflectance. That turns relative maps like this sample into absolute numbers, comparable flight to flight and against real thresholds, and unlocks the soil-adjusted (OSAVI) and leaf-chlorophyll (LCI) indices at full strength. The difference between disconnected snapshots and a true trend.

A cadence tied to the vine, not the calendar

STAGE	ROUGHLY	WHAT THAT FLIGHT DELIVERS
Budbreak / early	Apr, May	Baseline plus first irrigation-uniformity check on the system
Canopy / bloom	Jun	Vigour and chlorophyll zones, early-stress watch, scouting targets
Veraison	Aug	Vigour and quality zoning, harvest-block planning
Pre-harvest	Sep	Finalise the selective-harvest map by zone
Post-harvest / dormant	Oct, Nov	Missing-vine and replant inventory (RGB)

What lands in your inbox each visit

- Calibrated NDVI, NDRE and chlorophyll maps per block, plus a true-colour ortho, georeferenced for your own GIS.
- A short what-changed-since-last-time report with the zones to walk and any flags.
- Management and scouting zones as shareable layers, plus the live web viewer to zoom any row.
- An ongoing, dated record of every block across the season.

THE VALUE

What it is worth to the vineyard

Figures reported in precision-agriculture and viticulture studies, shown as potential to prove on your own blocks (sources available on request):

20 to 50%
Water savings reported from imagery-guided and variable-rate irrigation

~10 to 15%
Revenue uplift reported from vigour-zone selective harvest

over 90%
Accuracy of missing-vine detection reported from drone RGB

~30 days
To catch an emerging irrigation fault, vs at year end

NDRE
Flags stress before it is visible to the eye or in NDVI

Whole block
Replaces walking rows and point-by-point sampling

The simple business case: target water by zone instead of uniformly, catch a failing run before it costs a panel of vines, pick the right fruit by zone, and replace dead vines on data, for the cost of a flight and a report. The maps pay for themselves on a single avoided problem.

Figures are from published precision-agriculture and viticulture studies across comparable crops and conditions, not a guarantee for any specific block. The program proves the number on your own vineyard over the season.

WHY KENDAL

A partner you can put on the vineyard

The maps only matter if the people behind them are reliable, insured, and straight with you. Here is who you would be working with, and the work that stands behind it.

Certified	Insured	Your data
TRANSPORT CANADA RPAS PILOT	COMMERCIAL LIABILITY INSURANCE	MAPS, ORTHOS AND GIS LAYERS ARE YOURS

✓ **A turnaround we commit to**

Your report and live viewer land within days of each flight, on a schedule we agree up front and hold to.

✓ **The kit for the job**

Two drones, the Mavic 3 Multispectral for health and the RTK Matrice 4E for centimetre RGB and 3D, plus our own reflectance calibration panel for absolute, trackable numbers on the program.

✓ **Local to the South Okanagan**

Based in Summerland, in the middle of the wine country, so your blocks are a short drive and get flown on the window the vines need.

Real work behind it

A SUMMERLAND VINEYARD

The flight in this report

The three-block multispectral survey you have just read, flown and processed end to end, from raw imagery to the maps, the read, and the live viewer.

BLAIR VINEYARD

A delivered health report

A full relative-vigour report delivered to another Okanagan grower, the same methods and the same honest framing you see here.

STRAIGHT TALK

What it can, and cannot, do

You should know exactly where the line is. That is how this stays useful, not hype.

WHAT IT DOES RELIABLY

- Maps relative vigour, chlorophyll and stress, block by block, row by row.
- Flags where irrigation is not performing evenly (the consequence) and pinpoints the location.
- Catches decline early (NDRE) and builds a comparable monthly trend (with calibration).
- Counts missing vines, delineates quality zones, and maps terrain and drainage.

WHAT IT DOES NOT DO (ALONE)

- Measure soil moisture or vine water directly, it shows the plant's response.
- Tell over-watering from under-watering by imagery alone, that needs a ground check.
- Find a live buried leak by its wet signature, that is a thermal job.
- Diagnose why a zone is weak, or detect disease, the ground-truth confirms the cause.

How we close that gap, and what is next

- **Ground-truth, day one.** We anchor the maps to your soil-moisture probes and water-status readings, which turns "this zone looks stressed" into "this zone is genuinely short on water."
- **Calibration, standard on your program.** We fly with our own reflectance panel, so every month is comparable, the numbers defensible, and the full five-index toolkit rigorous.
- **Thermal, the next step.** The one sensor that measures crop water stress directly and finds buried leaks live. Once we have proven value on your blocks, it is the obvious add to take this from "where to look" to "here is the leak."

Let's fly your first block.

A single calibrated multispectral and RTK capture, ground-truthed to your own probes, with a full report and a live viewer, so you see exactly what this gives you before committing to the season.

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