

FARMER GUIDE TO THE LIGHT BANDS

Blue
450-490 nm

Green
520-570 nm

Red
630-690 nm

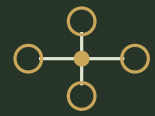
Red edge
700-740 nm

NIR
760-900 nm

Index	Formula	Best for	Limitation
NDVI	$(\text{NIR} - \text{Red}) / (\text{NIR} + \text{Red})$	Early health, stand assessment, general screening	Saturates after canopy closure
NDRE	$(\text{NIR} - \text{Red Edge}) / (\text{NIR} + \text{Red Edge})$	Mid-season nitrogen, full canopy, late stress	Needs red-edge multispectral band
GNDVI	$(\text{NIR} - \text{Green}) / (\text{NIR} + \text{Green})$	Chlorophyll / nitrogen when red-edge unavailable	Less precise than NDRE
SAVI	$[(\text{NIR} - \text{Red}) / (\text{NIR} + \text{Red} + \text{L})] \times (1 + \text{L})$	Early season with visible soil	Little advantage after canopy closure
CI	$(\text{NIR} / \text{Red Edge}) - 1$	Precise chlorophyll / research N work	Less intuitive; less common

PRACTICAL TWO-INDEX APPROACH

Use NDVI before canopy closure. Use NDRE after canopy closure or when nitrogen/chlorophyll is the question. If you are flying RGB only, skip true vegetation indices and use the imagery for patterns.



MAP INTERPRETATION MISTAKES TO AVOID

AUTO-SCALED COLORS

Lock color scales before comparing dates. A green zone on one map may not equal green on another.

MIXING NDVI AND NDRE

They have different ranges. Know the index before interpreting the number.

CLOUD SHADOWS

A moving shadow can mimic stress. Check individual photos and flight conditions.

SINGLE-FLIGHT ACTION

One map is a snapshot. Two maps create a trend. Ground-truth before spending.

PIXEL OBSESSION

Look for zones, bands, gradients, and repeatable field patterns, not isolated pixels.

RGB-NDVI CLAIMS

RGB software can show relative vigor, but cannot create true NIR-based NDVI or NDRE.

FIELD REMINDER

A vegetation index ranks places to investigate. It does not diagnose nitrogen, disease, drainage, compaction, or chemistry by itself.