Grodan®

Part of ROCKWOOL Group

5-Phase Model in Large Blocks | One-Transplant System

Flower Setting

PHASE 3

This structured, phase-based approach enables proactive steering of the crop rather than reactive growing, helping cultivators drive uniformity, optimize inputs, and consistently achieve the desired plant architecture and yield outcomes that Grodan is known for worldwide.

Simpler crop management. More predictable outcomes.

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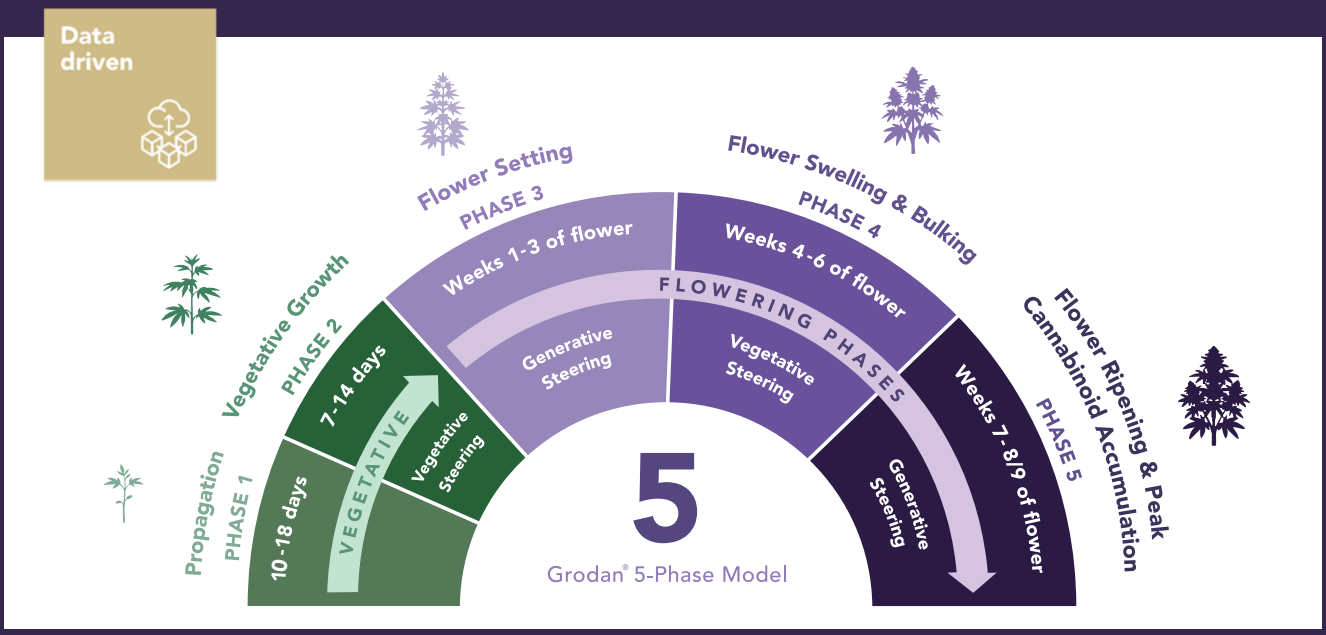
5-Phase Model in Large Blocks | One-Transplant System

A simple framework that breaks the crop cycle into 5 phases, so you know what to do and when to do it.

Grodan's latest cannabis growing advice builds on its decades-long leadership in vegetable cultivation by translating the proven 6-phase methodology into a clear, cannabis-specific 5-Phase Model.

Each chapter pairs Grodan's substrate configuration with phase-specific objectives, root zone and canopy management targets, and tailored crop steering advice, so growers can visually and quantifiably confirm they are on track at every stage of growth.

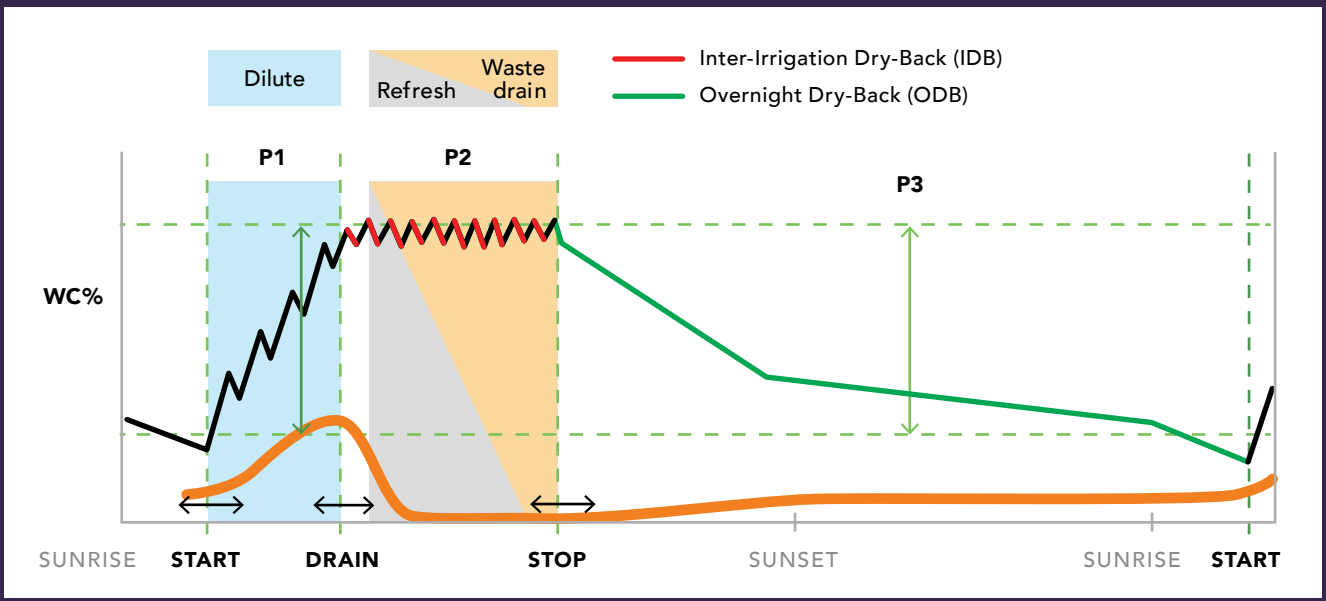


Grodan's DAY-DYNAMIC MODEL

P1 - First irrigation to first drain | P2 - First drain to last irrigation | P3 - Last irrigation to first irrigation

Inter-Irrigation Dry-Back (IDB): Dry-back in between P2 irrigation events.

Overnight Dry-Back (ODB): Dry-back from last irrigation of the day to first irrigation of the following day.



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Phase 3

Flower Setting

in Large Blocks | One-Transplant System

Typical duration

~21 days (weeks 1, 2, & 3 of flower)

Start of Phase

Plants have established sufficient leaf area and vegetative tissue to intercept available light and sustain the metabolic demands of flowering. Photoperiod is shifted to short-day to induce flowering.

End of Phase

Flower sites are established at all nodes and pistils are fully emerged. Internode and shoot elongation has ceased and the plant's canopy structure and height are fixed.

Note: Some cultivars may have slightly longer generative flower setting requirements due to genetically determined growth habits.

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Phase Objective

Maintain crop health, growth momentum, and nutrition while managing the transition from vegetative to reproductive growth. Use generative signals to encourage plants to shift energy allocation from vegetative structures to reproductive structures.

Control plant stretch using a host of generative steering signals (in addition to changing the photoperiod) to direct plant energy toward establishing uniform bud sites at all nodes rather than excessive internode elongation.

Crop Target

Encourage compact plants with short internode spacing and strong lateral branching. White pistils should be visible at all bud sites starting in week 2.

Uniform development across the canopy. Fast bud initiation will create more opportunity for swelling and bulking of the flower sites during Phases 4 and 5.

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Root zone Target

The transition from vegetative growth to flowering places new demands on the root system. Maintaining an active, healthy root zone with full colonization of the growing media volume is essential — the root system established in Phase 2 is now the primary driver of nutrient and water delivery to developing flower sites.

Fertilizer regimen should be adjusted to support nutritional demands of flowering. Progressively increasing the overnight dry-back (P3) and allowing the root zone EC to rise across weeks 1-3 of flowering reinforces the generative steering impulse, helps consolidate plant architecture by suppressing further internode elongation, and creates the mild root zone stress that promotes reproductive development over continued vegetative growth.

Phase 3 Root zone & Irrigation Targets

Start time	+~0.5-2 hrs after lights on or 1-2% decrease in WC%
Stop time	+~2 hrs before lights off or stop time required to achieve 15-25% overnight dry-back (P3)
Target Day-Level WC	60-65%
Overnight Dry-Back (P3)	15-25%
Inter-Irrigation Dry-Back (P2)	4-6%
Drip EC	2.5-3.5 mS/cm
Substrate EC	4-9 mS/cm
24-Hr Drain Volume	10-20%
Steering Impulse/Shot Strategy	Generative/Large, Infrequent

Table 3.1

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Managing the Canopy During Phase 3

By weeks 2-3 of flowering, the canopy will typically be dense with overlapping foliage and shaded interior growth. A moderate defoliation and pruning strategy is appropriate for most cultivars at this stage — remove fan leaves and underdeveloped bud sites in the lower canopy that are receiving insufficient light to contribute meaningfully to yield or assimilate production.

Thin, weak interior branches should also be removed — these act as energy sinks, diverting assimilates away from primary and secondary bud sites without producing commercially viable flower material.

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Managing the Root zone During Phase 3

During weeks 1 through 3 of flower, the plant is simultaneously elongating, establishing flower sites, and sustaining rapid canopy expansion. The root zone must supply adequate and balanced nutrition for all three demands.

Water uptake and transpiration will increase and the overnight dry-back (P3) should be progressively built from an initial starting point of ~10-15% to a consistent ~25% by day 21 — this trajectory reinforces the generative steering impulse.

Substrate EC should be allowed to gradually increase or "stack" across consecutive days.

This applies a calculated and controlled stress that suppresses further vegetative development and drives reproductive resource allocation.

However, under high light intensity, increasing EC, and large overnight dry-backs (P3), daily drain and nutrient refreshment become critical — without adequate and uniform pore water solution refreshment, pH drift and ion accumulation in the root zone will compromise nutrient availability and root health.

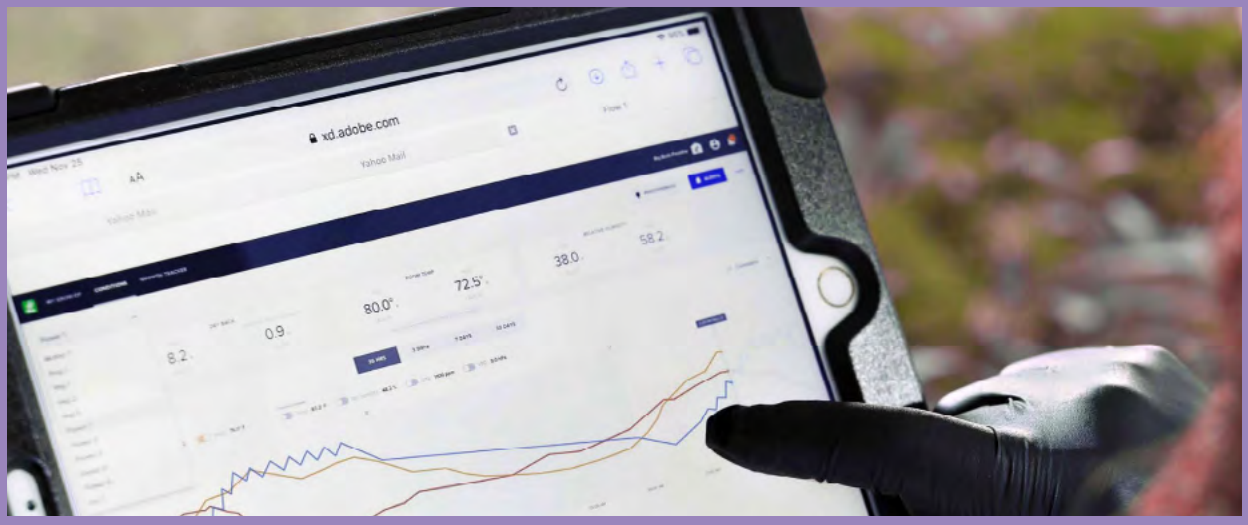
Equal attention should be given to the daytime re-saturation trajectory. If the peak daytime WC% is trending downward across consecutive days, the substrate is not being adequately re-hydrated during the P1 irrigation window. In cases where drain is being achieved at a low WC% — indicating rapid channeling of solution through the substrate rather than full re-saturation — shifting to smaller, more frequent shots during the morning re-saturation period will improve hydraulic distribution throughout the block and allow the target daytime WC% to be recovered and held.

Excessively low water contents should be avoided, as this can place undue stress on the root system and make re-saturating the substrate challenging.

The generative transition defines the crop cycle. Steer it with precision.

GroSens helps growers monitor root zone behavior in real time, so you can see how the crop is responding and steer the transition into flower with greater control.

See what's happening inside the root zone. **Explore GroSens Suite.**



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This is what control looks like

With Grodan, you're not left guessing.

You're working with a consistent root zone, clear signals, and a system designed to be repeatable. From propagation to harvest, every phase becomes easier to manage and more predictable.

Ready to see it in your own grow?

Talk to a Grodan advisor to start a trial.

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Designed to grow

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