

VPD – Vapour Pressure Deficit

- Temperature and relative humidity are closely related
- VPD measures the combination of temperature and RH
- Getting the VPD right typically makes plants grow faster
- Cannabis grows well at VPDs between 0.8 to 1.2 kPa
 - “kilopascals” (measures pressure)
- Greater than 1.0 kPa is considered “high” and means plant will be drinking a lot of water
- Under 0.8 kPa makes it more difficult for plant to suck up water (and nutrients)

- High VPD - Air is hot and/or dry
 - Stretched growth
 - Drinks a lot of water
 - Dries out quickly
 - Prone to nutrient burn (from sucking up so much water)
 - Leaves get stressed, edges tip up
 - Bad for clones
- Low VPD - Air is more cool and/or humid
 - Great for clones
 - Slow growth for others
 - Reduced yields
 - May get nutrient deficiencies (plant can't move water & nutrients via roots)
 - More prone to mold, fungus and disease

How to Measure VPD

1. Get an infrared thermometer gun
2. Aim at top leaves to measure the leaf surface temperature
3. Take multiple measurements, focusing on parts of the plant directly under the light (in prime growth spots)
4. Write down average temperature and measurement of RH
5. Check your results against a VPD chart (next page)

Examples of Good VPD

- Example of VPDs in the right range (0.8 to 1.2 kPa)
 - 68F (20C) & RH of 37-54%
 - 70F (21C) & RH of 41-56% ← Night
 - 72F (22C) & RH of 44-58% ← Night
 - 74F (23C) & RH of 46-60%
 - 75F (24C) & RH of 49-61% ← Day
 - 77F (25C) & RH of 51-63% ← Day
 - 79F (26C) & RH of 54-64%
 - 81F (27C) & RH of 56-66%

Last thoughts on VPD

- VPD numbers based on greenhouse observations, not watching cannabis plants
- I've had the best growth around 77F (25C) and 50% RH during day
- In late flowering, I like it a bit cooler, 75F and 45-50% RH if possible
- Don't focus on VPD unless you've dialed in EVERYTHING else
- Keep temperature and RH within recommended levels even if VPD is not ideal, especially if you've got big buds 😊