Methods and definitions to work with Sensoterra sensors data

There are two ways of displaying soil moisture data when using Sensoterra sensor data:

Volumetric soil moisture data: provides a percent value of the soil moisture content of the soil. It is simply the ratio of water volume to soil volume. The volumetric soil moisture percentages allow for careful management of soil moisture levels in your soil.

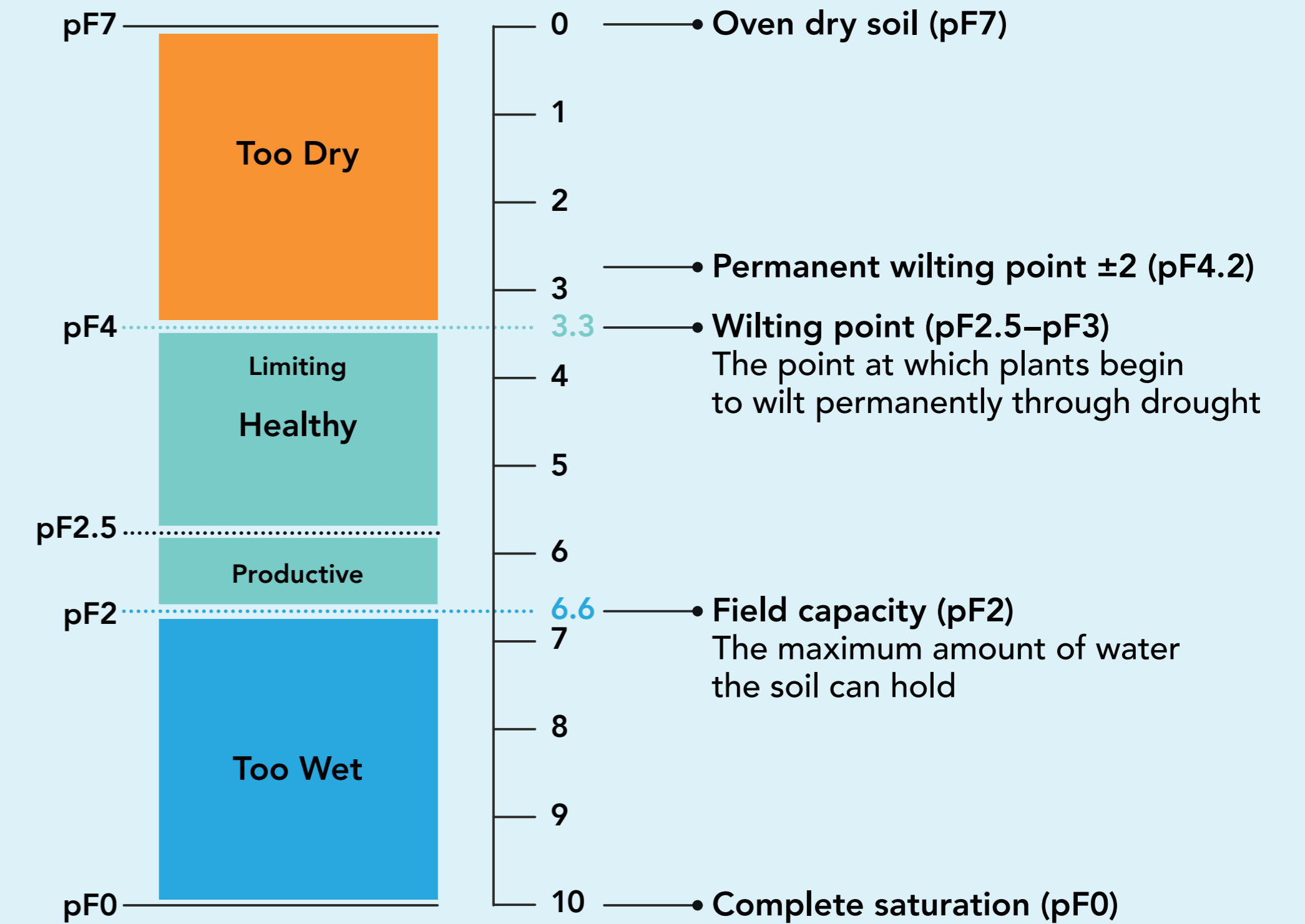The volumetric soil moisture content of the soil is expressed in the app as Volumetric (%).

Sensoterra Index data: focuses on the 'Too Dry', 'Too Wet', and the 'Plant available water" (or Healthy) zones and spreads the three zones over a 0 to 10 scale. The 0 and 10 values represent oven-dry soil and complete saturation of the soil, respectively. The Sensoterra Index allows for a simplified soil moisture score that allows you to determine soil health at a glance.

pF data: indicates soil moisture retention in the soil over a 0 to 7 scale. The pF values have helped determine the too wet, too dry and healthy sections of both the Sensoterra Index and the Volumetric Soil Moisture content of the soil. The scale can be read as: pF 7-4 representing unavailable moisture for the plant, pF 4.2-2 representing available moisture for the plant, and pF 2-0 representing soil moisture content released by drainage. The water retention capacity of any soil is due to the porosity and the nature of the bonding in the soil.

The Sensoterra Index is expressed in the app as 'SI'.

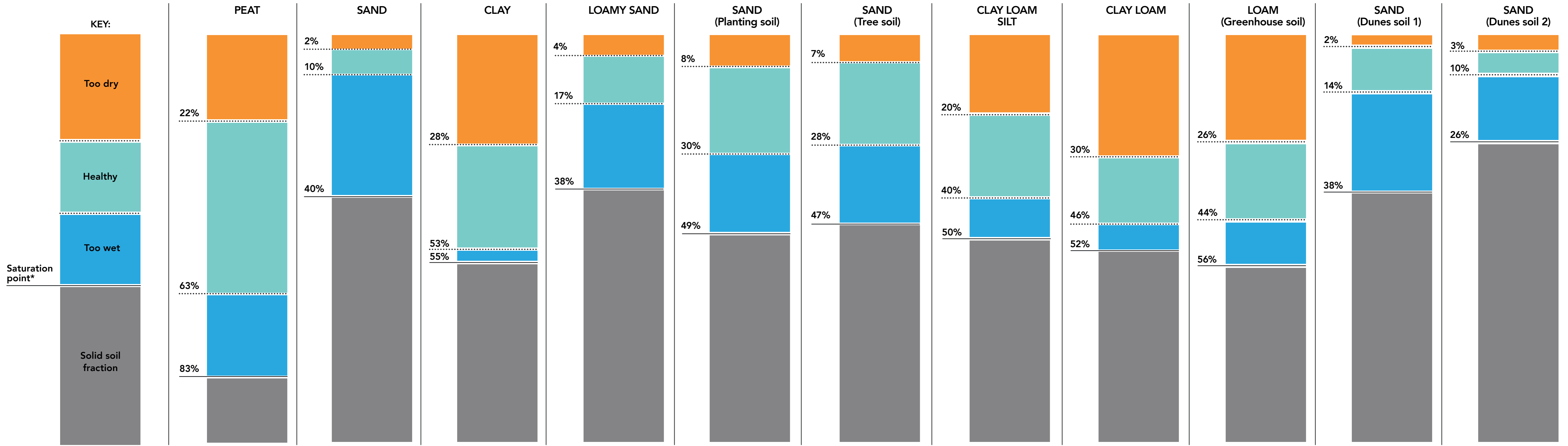ⓘ For more information, please access our Support Portal: **https://support.sensoterra.com/hc**

Sensoterra Index and pF methods

The Sensoterra Index is defined by four key points of soil moisture, creating three regions: Too Dry, Healthy, and Too Wet. These regions are the same across all soil types.

pF7	0	Oven dry soil (pF7)
	1	
Too Dry	2	
	3	Permanent wilting point ±2 (pF4.2)
pF4	3.3	Wilting point (pF2.5–pF3)
Limiting	4	The point at which plants begin to wilt permanently through drought
Healthy	5	
pF2.5	6	
Productive		
pF2	6.6	Field capacity (pF2)
	7	The maximum amount of water the soil can hold
Too Wet	8	
	9	
pF0	10	Complete saturation (pF0)

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Volumetric soil moisture content (percent values)

KEY:
- Too dry
- Healthy
- Too wet
- Saturation point*
- Solid soil fraction

PEAT
- 22%
- 63%
- 83%

SAND
- 2%
- 10%
- 40%

CLAY
- 28%
- 53%
- 55%

LOAMY SAND
- 4%
- 17%
- 38%

SAND (Planting soil)
- 8%
- 30%
- 49%

SAND (Tree soil)
- 7%
- 28%
- 47%

CLAY LOAM SILT
- 20%
- 40%
- 50%

CLAY LOAM
- 30%
- 46%
- 52%

LOAM (Greenhouse soil)
- 26%
- 44%
- 56%

SAND (Dunes soil 1)
- 2%
- 14%
- 38%

SAND (Dunes soil 2)
- 3%
- 10%
- 26%

* Saturation point = maximum volume of water that the soil can hold

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