WATERS AGRICULTURAL LABORATORIES, INC.

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LAB FACTS

Understanding Soil Salinity and Soluble Salts

Salinity is a measure of the amount of soluble salts in soil. High soluble salt levels can reduce the growth of most crops. Some crops are more resistant to higher salts levels than others, but as salt levels increase, plant water uptake decreases. This causes chemical drought in the plant, even though soil moisture may be adequate.

See Table Below For Soluble Salt Parameters for Extracted Soil

mmhos/cm	Rating	Effects
<0.40	Very Low	Non Saline: salinity effects mostly negligible, exceptions possibly for beans & carrots
0.40--0.80	Low	Very Slightly Saline: yields of very salt sensitive crops such as flax, clover (alsike, red), carrot, onion, bell pepper, lettuce and sweet potato, may be reduced by 25% to 50%
0.81--1.20	Medium	Moderately Saline: yield of salt-sensitive crops restricted. Seedlings may be injured. Satisfactory for well drained greenhouse soils. Crop yields reduced by 25% to 50% may include brocolli and potato plus other plants above.
1.21--1.60	High	Saline: crops tolerant include: cotton, alfalfa, cereals, grain sorghums, sugar beet, bermuda grass, tall wheat grass and harding grass. Salinity higher than desirable for greenhouse soils.
1.61--3.20	Very High	Strongly Saline: only salt-tolerant crops yield satisfactory.
>3.20	Excessive	Very Strongly Saline: only salt-tolerant grasses, herbaceous plants, certain shrubs and trees will grow.