



LITCHFIELD ANALYTICAL SERVICES

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Feeds Forages Mycotoxins Soils Plant Tissues Manure Fertilizers Lime Water

Soluble Salts / Electrical Conductivity (EC) of Soils & Greenhouse Media

The following general guide to plant effects associated with different ranges of specific conductance measured in a 1:2 soil:water ratio by volume is used to interpret soluble salt analysis data, which are expressed in mmhos/cm or in mmS/cm at 25° C.

<u>mmS/cm @ 25° C* or mmhos/cm @ 25° C*</u>	<u>Effects*</u>
< 0.40	Salinity effects are mostly negligible.
0.40 - 0.80	Very slightly saline, but yields of very salt sensitive crops may be restricted.
0.81 - 1.20	Moderately saline. Yields of salt sensitive crops are restricted. Seedlings may be injured. Satisfactory for well-drained greenhouse soils.
1.21 - 1.60	Saline condition. Yields of most crops are restricted. Salinity is higher than desirable for greenhouse soils.
1.61 - 3.20	Strongly saline. Only salt tolerant crops will yield satisfactorily. Bare spots due to germination injury are a likely result. Greenhouse soils should be leached.
> 3.20	Very strongly saline. Only a few very salt tolerant crops will yield satisfactorily.

* Excess salts can be removed by leaching with sufficient water of suitable quality. The dissolved salts must be carried below the root zone. The approximate amount of water that must pass through the root zone to reclaim a salt affected soil can be estimated from the following information.

6 inches of water per foot of root zone will remove approximately 50% of soluble salts.
12 inches of water per foot of root zone will remove approximately 80% of soluble salts
24 inches of water per foot of root zone will remove approximately 90% of soluble salts.

Relative Salt Tolerance Ratings of Selected Crops

<u>Field Crops</u>	<u>Tolerance Rating</u>	<u>Forage Crops</u>	<u>Tolerance Rating</u>
Barley	T	Alfalfa	MS
Corn	MS	Bentgrass	MS
Cotton	T	Bermuda Grass	T
Flax	MS	Brome, Smooth	MS
Oats	MT	Clover	MS
Peanuts	MS	Dallis Grass	MS
Rice	MS	Fescue	MT
Rye	MT	Kallargrass	T
Safflower	MT	Orchard Grass	MS
Sesame	S	Ryegrass	MT
Sorghum	MT	Salt Grass, Dessert	T
Soybeans	MT	Sudan Grass	MT
Sugar Beets	T	Timothy	MS
Sugarcane	MS	Trefoil	MT
Triticale	MT	Vetch	MS
Wheat	MT	Wheatgrass	MT

<u>Vegetable Crops</u>	<u>Tolerance Rating</u>	<u>Fruit / Nut Crops</u>	<u>Tolerance Rating</u>
Artichokes	MT	Almonds	S
Asparagus	T	Apples	S
Beans	S	Apricots	S
Beets, Red	MT	Avocados	S
Broccoli	MS	Blackberries	S
Cabbage	MS	Cherries, Sweet	S
Carrots	S	Dates, Palm	T
Cauliflower	MS	Figs	MT
Celery	MS	Grapes	MS
Cucumbers	MS	Grapefruit	S
Kale	MS	Lemons / Limes	S
Kohlrabi	MS	Mango	S
Lettuce	MS	Muskmelon	MS
Onions	S	Olives	MT
Peas	S	Oranges	S
Peppers	MS	Papaypa	S
Potatoes	MS	Peaches	S
Pumpkins	MS	Pears	S
Radishes	MS	Persimmons	S
Spinach	MS	Pineapples	MT
Squash	MS	Plums / Prunes	S
Tomatoes	MS	Pomegranates	MT
		Raspberries	S
		Strawberries	S
		Tangerines	S
		Watermelon	MS

<u>Rating</u>	<u>Interpretation</u>	<u>Soluble Salts / Electrical Conductivity Range</u>
S =	Sensitive	0.0 - 0.8 mmhos/cm or mS/cm @ 25° C
MS =	Moderately Sensitive	0.9 - 1.6 mmhos/cm or mS/cm @ 25° C
MT =	Moderately Tolerant	1.7 - 2.4 mmhos/cm or mS/cm @ 25° C
T =	Tolerant	2.5 - 3.2 mmhos/cm or mS/cm @ 25° C