

Water for Profit

WATER QUALITY PARAMETERS



Table 1: pH

| ACID | | | | ALKALINE | | | |
|-------------|--------|----------|--------|----------|----------|--------|-------------|
| Very strong | Strong | Moderate | Slight | Slight | Moderate | Strong | Very strong |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

Table 2: Sodicity classes of irrigation water

| SAR | RSC (meq/L) | Sodicity class | SAR level | Management options |
|--------|-------------|----------------|---------------------|--|
| < 3 | < 1.25 | S0 | No sodicity problem | |
| 3 - 6 | < 1.25 | S1 | Low | Few problems except for sodium sensitive crops |
| 6 - 8 | < 2.5 | S2 | Medium | Increasing problems. Use Gypsum. Avoid sodium sensitive crops. |
| 8 - 14 | < 2.5 | S3 | High | Not generally recommended |
| > 14 | Disregard | S4 | Very high | Unsuitable |
| < 6 | 1.25 - 2.5 | S5 | Medium RSC | Increasing problems. Use Gypsum. Avoid sodium sensitive crops. |
| < 14 | 2.5 - 5 | S6 | High RSC | Not generally recommended |
| < 14 | < 5 | S7 | Very high RSC | Unsuitable |

Table 3: Electrical conductivity (uS/cm) - 1 dS/m = 1000 uS/cm = 640 ppm

| EC level | Comment |
|-------------|---|
| < 650 | Low - suitable for all crops |
| 650 - 1300 | Medium - suitable for the majority of crops. Sprinkler irrigation may cause leaf burn. |
| 1300 - 3000 | High - water should not be used on poor draining soils |
| 3000 - 5000 | Very high - suitable to high tolerant crops. Soils need to be permeable and free draining |
| 5000 - 8000 | Extremely high - generally unsuitable for irrigation unless well drained permeable soil |
| > 8000 | Too saline for irrigation |

Table 4: Classification of irrigation water

| Salinity class | Level | dS/m | Total dissolved ions (mg/L) |
|----------------|----------------|------------|-----------------------------|
| C1 | Low | < 0.65 | < 400 |
| C2 | Moderate | 0.65 - 1.3 | 400 - 850 |
| C3 | High | 1.3 - 3 | 850 - 1900 |
| C4 | Very high | 3 - 5 | 1900 - 3200 |
| C5 | Extremely high | 5 - 8 | 3200 - 5100 |
| C6 | Excessive | > 8 | > 5100 |



Table 5: Total dissolved solids (TDS)

| | No effect | Slight to moderate | Severe |
|----------|-----------|--------------------|--------|
| TDS mg/L | < 450 | 450 - 2000 | > 2000 |

Table 6: Permeability

| | No problem | Increasing problem | Severe problem |
|---------------------------------|------------|--------------------|----------------|
| EC (dS/m) - caused by low salt | 0.5 + | 0.5 - 0.2 | 0.2 - 0.0 |
| TDS (dS/m) - caused by low salt | 450 | 450 - 0 | |
| SAR - caused by sodium | 0.0 - 6 | 6.0 - 8.0 | 8.0 + |

Table 7: Chloride

| | |
|-----------------|---|
| < 350 mg/L | Suitable for all crops |
| 350 - 700 mg/L | Suitable for low, medium and high salt tolerant crops |
| 700 - 900 mg/L | Suitable for medium and high salt tolerant crops |
| 900 - 1300 mg/L | Suitable for high salt tolerant crops only |
| > 1300 mg/L | Too saline for irrigation |

For more details contact Growcom on 07 3620 3844.

Disclaimer: This information is provided as a reference tool only. Seek professional advice for irrigation specifics.

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