

Heat Stress on New Strawberry Plantings



Strawberry Plant Extreme Heat Stress- Potential Early Season Strategy

Extreme high temperatures (>30°C) can cause heat stress on young strawberry plants and established plantings. Lacking a full shade canopy of leaves early in the growing season may subject strawberry crowns and roots to potentially stressful higher temperatures. Fortunately, for established plantings the presence of straw mulch will help keep roots and crowns cooler and reflect sunlight. However, with new plantings surrounded by bare, dark soil this may increase temperatures even higher.

With most growers using drip-line systems to irrigate, the traditional method of cooling the crop via overhead sprinklers is not available. Greenhouse strawberry studies have shown that cooled drip-line irrigation water can effectively lower root temperatures. Early in the season most irrigation sources in Manitoba (i.e. well, dugout, river, etc.) will still be significantly cooler than the ambient air temperature. In a field setting, it is expected that drip-line irrigation systems could also cool down the root zone and help alleviate the high leaf transpiration rate and water stress on the plant. Transpiration is the exhalation of water vapour through the leaf stomata (pores).

Irrigation for root zone crop cooling can be initiated at short intervals on hot, dry days when temperatures reach +30°C and when relative humidity is below 30%. In order to maximize root zone cooling, but not oversaturate the root zone with moisture, the objective should be short and repeated irrigation periodically throughout the hottest portion of the day.

References

[Province of Manitoba | agriculture - Strawberry Production \(gov.mb.ca\)](http://www.gov.mb.ca/agriculture/)

Contact Us

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