Plant Experts

Professor Luis Rodriguez:

Certainly I think you will find rich literature on the detection of water stress on crops. I think if you having trouble, consider not only in field crops, but also greenhouse production systems in your literature searches. This type of imagery might be more commonly studied in leafy green crops, like lettuce, as opposed to corn (maize).

As for this type of imagery, I do not have ready access to any such database, but I am copying a couple of investigators that may have access to such data based recent or past work of theirs.

Professor Jennifer Nelson:

Thanks for your email. Just FYI, I do not have a research program at UIUC, I am a part-time instructor. But I can tell you from past experience that being able to detect water stress early in either a field or greenhouse setting would be very helpful and depending on the crop could be very valuable as well. As for what I do with my own plants at home both indoors and outside, I just rely on my eyes looking at the plants or my fingers in the soil. I have tried moisture probes in the past and found my finger detects moisture just as well. -Dr. Nelson

Professor Bruce Branham:

I apologize for not responding promptly to your post. Certainly, detecting water stress in plants is valuable. However, this is commonly done using infrared thermometers which can measure plant temperatures. As transpiration slows, plant temperatures begin to rise.

From a plant productivity standpoint, you want to avoid water stress. In other words, once a plant is showing signs of water stress, growth has slowed and potential productivity reduced. Water availability to plants is controlled by the available water in soil. So what is valuable is knowing the available water in the soil. That tells you when plants may begin to be water stressed.