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FROSTMAP™

FROSTMAP defines areas in your orchard where the cell structure of the leaves have been changed due to frost damage. When a plant cell is frozen the water in it expands and ruptures the cell. This causes differences that AG-RECON can detect and map to a much greater sensitivity than can be seen with the human eye. The amount of foliage damage is always closely related to the type and severity of fruit damage. Frost damage severity is separated into as many as 8 categories, with the total acreage given for each category.

Quantify and characterize frost damage: Select an area that is representative for each of the categories on the map. Sample and cut fruit from areas in each category. Write a description of the fruit quality and condition for each category on the back of the map. After you have characterized each category, select an area in the field and predict from the map the type and severity of frost damage you expect to find. If your prediction is incomplete or inaccurate, redefine your description of the category and test your conclusions again. If your prediction is correct then you know that you have accurately described the frost damage, and that you can apply those observations to every acre of the orchard.

FROSTMAP gives managers a tool to cover more ground in less time and provides for more accurate and timely reports that are easy to understand. Most orchards take less than 1½ to 2 hour to characterize, and with the field notes written on the back of the image, the field report on the crop damage is already completed and is ready to be used for harvest management to salvage maximum value from the field.

Some field variables other than frost damage may affect the images such as: standing water and wet foliage, variety change, rootstock change, root disease, new growth vs. old growth, nutrient deficiency, and crop cover or weeds.

Once the frost damage has been characterized in its type and severity, you will have the information to:

- Prioritize harvest areas
- Evaluate wind machine and protection cost effectiveness
- Report crop damage and adjust predicted yields
- Reduce harvest costs and improve field crew control
- Increase packout percentage at packing house
- Select acreage to harvest to juice
- Analyze air flow patterns across an orchard
- Choose harvest areas and fruit quality to match market conditions for export or balance load quality to maintain grade standards
- Easily update frost damage reports from multiple frosts with successive flyovers

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