

Selecting Sugarbeet Payment In Kind (PIK) Acres

Background:

Because of overproduction of sugar worldwide, the Department of Agriculture implemented the PIK program in 2000 to reduce excess sugar inventories and thereby support prices. The mechanics of the program are that the farmer would destroy a specified number of sugarbeet acres in return for a like amount of Government-owned sugar, thus reducing sugar inventories.



IKONOS derived NDVI for selection of beet acres for destruction under PIK program

The growers were given the opportunity to participate in the program based on a limited

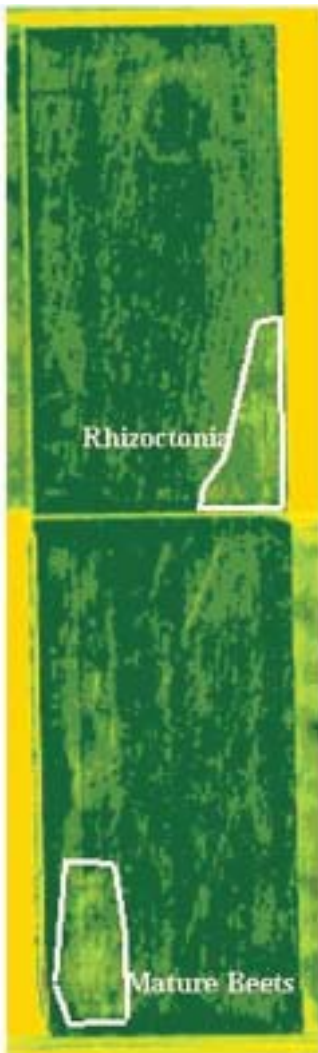
acreage per grower. Selecting the program acres for an average farm (500 acres of beet) would have necessitated a huge amount of groundtruth making a timely and cost effective decision impossible. Few growers in the Red River Valley in North Dakota resorted to the high-resolution satellite imagery to help identify the least productive acreage for destruction.

Use of Imagery:

In the example shown here, the IKONOS derived NDVI was first applied to narrow down the number of fields for closer consideration from seven to three. The areas within these three fields where the crop seemed stressed were selected for groundtruthing. Two of the three turned out to be affected by rhizoctonia, a type of fungus, while the third was merely mature crop with less canopy. The decision as to which areas within the field to be destroyed was much easier based on these results.

Economic Benefits:

Timely decision making was of utmost importance for the PIK program and this could be achieved with the help of high-resolution imagery. Imagery helped in destroying the less productive acres rather than the more productive parts of the field, resulting in economic benefits.



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