implement most of the data validation steps. Python scripting was used to
14 seconds, and averaging 9.2, 9.3, and 10.6
delay varied among fields, ranging from 5 to
Beal-Tian surface area ratio technique. Phase
was recorded (signal phase delay) using the
estimation of spatial offset between location of
was separately for each individual pass. Another
mean. Standard deviations were calculated
for which travel speed fell within 1, 1.25, 1.5,
green, yellow, orange, and red indicate points
travel speed on a given pass. Purple, blue,
consecutive sample points) versus average
that values were kept or rejected based on
vertical resolution. All three yield monitor
criteria. Raster pixel size is 10 m. Original
DEM was 10 m horizontal resolution with 0.1 m
vertical resolution. All three yield monitor
images are at 1:3450 scale.

Field elevation at sample points retained using
travel speed within 2 standard deviations
criteria. Raster pixel size is 10 m. Original
DEM was 10 m horizontal resolution with 0.1 m
vertical resolution. All three yield monitor
images are at 1:3450 scale.

Combine yield monitor data points for 2003
grass seed harvest. Color of points indicates
that values were kept or rejected based on
deviation in travel speed (or distance between
consecutive sample points) versus average
travel speed on a given pass. Purple, blue,
green, yellow, orange, and red indicate points
for which travel speed fell within 1, 1.25, 1.5,
2, 2.5, and 3 standard deviations from the
mean. Standard deviations were calculated
separately for each individual pass. Another
technique used in “cleaning up” the data was
estimation of spatial offset between location of
production and combine position when data
was recorded (signal phase delay) using the
Beal-Tian surface area ratio technique. Phase
delay varied among fields, ranging from 5 to
14 seconds, and averaging 9.2, 9.3, and 10.6
seconds for three different growers with 45,
96, and 78 fields. Python scripting was used to
implement most of the data validation steps.


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