

Sampling for Moisture Content in Corn Silage Fields

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In the fall of 2019, a dozen corn fields were sampled for moisture content. At least 40 plants per field were individually sampled, and dried to determine moisture content. By randomly selecting from 1 to 20 plants to calculate an average moisture content, and repeating this process 20 times, we can estimate the number of plants required to have an average moisture that is within plus/minus one percentage unit of the actual field moisture (represented by the average of all plants sampled).

For very uniform fields, a 5-plant sample is likely to produce a moisture content within plus/minus one percentage unit of the actual field moisture. For fields that are not as uniform (uneven emergence issues, etc.) it is better to take a 10-plant sample for determining field moisture. For the example farm below, any random 7-plant sample will produce a moisture content that is within one percentage unit of the actual field moisture. A 5-plant sample in this case produced a moisture content within one percentage unit of actual field moisture 19/20 times that 5 plants were randomly selected out of the 50 plants in the dataset.

