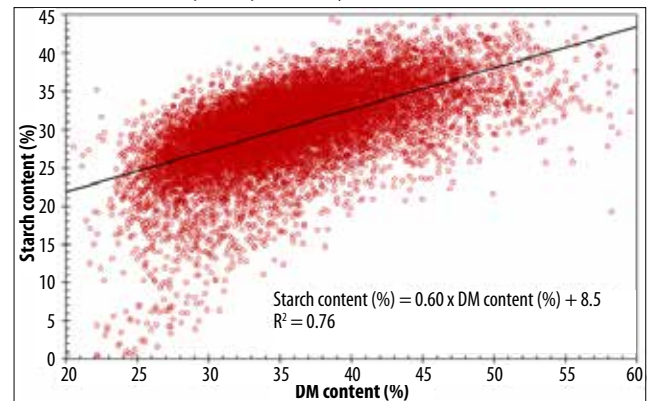


Corn Silage Starch Content & Dry Matter Content Relationship

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Corn maturity of a hybrid affects corn silage starch content and dry matter (DM) content. The amount of starch in grain and overall grain yield are at maximums at physiological maturity (R6 - black layer). Likewise, DM content is at a maximum as the crop matures. Little research has been published about the relationship between starch content and dry matter content during silage harvest, which is occurring during R5.7 to R5.2. University of Wisconsin corn silage trials conducted during 1995-2021 were used to describe this relationship. Hybrid treatment means (GxE) were calculated using data from 460 trials involving 47,388 plots. Starch content data were regressed on DM content using GxE means. The relationship between them is shown in Figure 1. Average starch content was 30.3%; average DM content was 35.7%. The range in starch content values was 0-45% during the silage harvest period with most data at 20-40% starch content. Starch content increases 0.6% for each 1% change in DM content. This relationship holds for the silage harvesting period, which is prior to grain maturity at black layer formation (R6 – typically ~65-70% DM).

Figure 1. The relationship between corn silage starch content (%) and DM content (%). Data is derived from the University of Wisconsin Corn Silage Performance Trials during 1995 to 2021. Each data point represents a hybrid treatment mean at a location (GxE).



Lauer et al., 1995-2021. N = 460 trials; 47,388 plots; 13,700 GxE means.