Planting Date May Affect Yield and Nutrient Composition of Whole-plant Small-grain Forages

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The objective of this study was to evaluate effect of planting date on nutrient composition of whole crop cereal grain forages harvested at the mid-dough stage. Two barley varieties (AC Lacombe and Vivar) one oat (AC Murphy) and one triticale (Wapiti) were planted in Lacombe Research Station at 7 different dates from May 12th to June 23rd 2005 and harvested at the same physiological stage of maturity (mid-dough stage). Dry matter (**DM**) yield and concentrations of crude protein (**CP**), neutral detergent fiber (**NDF**), in vitro fiber digestibility (**IVFD**), starch, and free glucose were determined. Earlier planting dates were associated with greater DM Yield for barley, but not for triticale. DM yield was positively related with the cumulative temperature (r = 0.67) and cumulative precipitation (r = 0.44) from heading to harvest. Concentrations of free glucose, CP and NDF at harvest were not affected by planting date for all varieties. However, CP concentration was related positively with the cumulative temperature from seeding to heading (r = 0.33) and negatively with that from heading to harvest (r = -0.54). Contrarily, free glucose concentration was related negatively to cumulative temperature from planting to heading (r = -0.43), but positively to that from heading to harvest (r = 0.54). Planting date affected IVFD of oat ($P < 0.01$) and starch concentration of triticale ($P < 0.01$), but not for the others.

Implications. Planting date affected DM yield and nutrient composition of whole-pant small-grain forages. Altering planting date may allow for increased management options to optimize forage quality. Further studies are needed to determine if planting date consistently affects forage quality.