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## Tillers in Corn Separate the Fact from Fiction

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Tillers are vegetative or reproductive shoots that grow from the base of grass plants. Corn is a highly specialized grass plant. While tillers are an essential part of wheat, barley, and oat production, they are perceived to be far less desirable in corn. They are commonly referred to as “suckers,” because of the old wives tale that they “suck” the nutrients from the main stem. Research from the University of Illinois has shown that this is not the case. Many agronomists agree that the overall effect of tillers is usually neutral. There may be some benefit to tillers if corn is produced for silage because more dry matter is produced per unit area.



**What are tillers?** Tillers are branches that develop from buds on the lower five to seven stalk nodes of a corn plant. Tillers are morphologically identical to the main stem (also known as the culm), and they are capable of developing their own roots, nodes, leaves, tassels, and ears if there is sufficient time in the season.

**Why do they develop?** The number of tillers that develop is a function of plant population, spacing, soil fertility, early season growing conditions, and the genetic background of the hybrid.

Tillers are more likely to be found on plants that are located in thin areas of the stand or near field edges. Tillers are most likely to develop when soil fertility and moisture supplies are ample. Some hybrids may have retained more of the genes related to tillering from the ancestors of corn, and therefore, are more likely to tiller compared to other hybrids.

University studies have found that there is very little movement of photosynthate between the main stem and tillers before tasseling. However, after silking and during



grain fill, plant sugars may move from earless tillers to ears on the main stem. When there are ears on both the tiller and the main stem, very little movement of plant sugars occurs. The main stem and tillers act independently, and each receives sugars from its own leaves.

### What can be done?

If a particular hybrid shows excellent yield potential and also produces some tillers under normal growing conditions, it is not a cause for concern. However, excessive tillering (more than two or three tillers per plant) may indicate problems with stand density and distribution. Less than optimal plant populations or row gaps are conditions that should be corrected for next year to help ensure optimal yield.

Sources: Pennington, D. Michigan State University Extension, Does Tillering Hurt Corn Yields? <http://www.msue.msu.edu/>

Nielson, B. Purdue University, Tillers or “Suckers” in Corn: Good or Bad? <http://www.ag.purdue.edu/agry/extension/>

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