What Factors Are Important for Attaining Higher Yielding Corn. (A09-ritchie110520-Oral)

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Abstract:

Corn yields as high as 400 bu per ac are possible as has been demonstrated by Iowa award winning farmer Francis Childs. High yields result when combinations of good climate, soils, management and hybrid selection are a part of the farming system. Moderately cool summer temperatures similar to those of Northern Iowa result in relatively slow crop development, especially during seed set, for obtaining maximum kernel number per acre. When inputs of water and nutrients are adequate and pests are controlled, the key to high yields is to maximize ear numbers per unit area with each ear containing near the maximum possible number of kernels. Uniform plant spacings in high populations (about 45000 per ac for Upper Mid-West climate) result in high ear number. Skips, late emerging plants and doubles all contribute to yield losses. Required hybrid characteristics include upright type leaves with the ability to withstand high population without barren plants and the potential kernel number in a single ear be in the range of 600 to 700. Nitrogen fertilizer use should supply approximately 125% of the expected grain N and be added in two to three applications. Other major and minor nutrients should be added according to specific soil conditions and known needs.

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