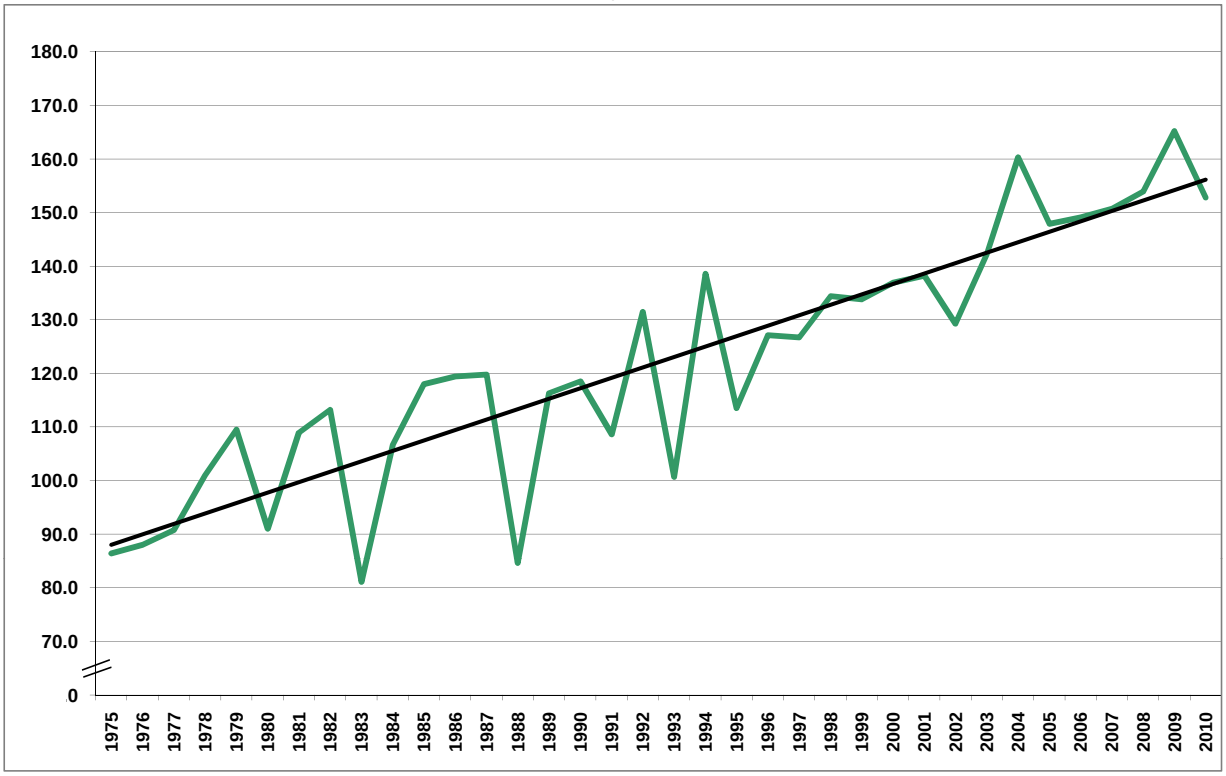
Doberman et. al., noted in 2002 that average corn yields have increased linearly at a rate of 1.7 bushels per acre (bu/ac) per year. At present that translates to a rate of 1.1% per year, but if the same average linear rate continues, the percentage rate will decline. Corn yields must continue to increase at a rate of at least 1% per year to meet the demands created by expected population growth.

In 2002 average corn yields approached 140 bu/ac with progressive farmers routinely harvesting 160 to 220 bu/ac. Yields rose in the 60's and 70's largely due to increasing application of fertilizer to responsive corn hybrids; however, after 1980 yield increases were maintained without continued fertilizer increases due to significant increases in nutrient use efficiency. In the past 15 years, yields have continued to increase due to improved hybrids with greater stress resistance together with improved crop management techniques such as conservation tillage, higher plant densities and improved seed qualities.

Yields at a given site fluctuate as much as 10-15% from year to year due to normal variations in solar radiation and temperature regimes assuming suitable moisture levels. Lack of sufficient moisture is the most important factor reducing yields in most of the U.S. corn belt where most corn is not irrigated. The yield potential of corn continues to be much greater than the average yields currently being obtained in most locations in the U.S.

Genetic improvements (particularly in drought resistance) are expected to continue to contribute to yield increases, but continued improvements in crop management will be ever more important. Key references on yield potential follow.

Section: FEEDSTOCKS
Corn Yield, 1975-2010



Source:
U.S. Department of Agriculture, National Agricultural Statistics Service
http://www.nass.usda.gov/

Additional References:

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Both Doberman, et. al references can be obtained at the following url:
http://soilfertility.unl.edu/Materials%20to%20include/Research%20Pubs/Ecological%20Intensification.htm

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