To: Norton Telegram, Sheridan Sentinel, Lenora Meridian, Oberlin Herald, KQNK, Hill City Times, Prairie Dog Press

From: Keith P. VanSkike, Twin Creeks Extension District
Agriculture and Natural Resources Agent

While corn is technically a crop and not a weed, volunteer corn can possibly do more harm to your yields than good. Ignacio Ciampitti, K-State Crop Production and Cropping Systems specialist has conducted research on effects of volunteer corn in cropping systems.

The moisture this year helped the corn along well. The widespread adoption of Roundup Ready corn can make management of volunteer corn in corn fields a little complicated. There are really only a few options, other than cultivation, available to control volunteer corn once this year's corn has emerged.

Volunteer corn is highly competitive with both corn and soybeans, Timely management is critical to protect crop yields infested with this plant.

Tillage can affect volunteer corn. Conventional tillage results in about 80% kernel germination and No-till about 10% germination as volunteer.

Eliminating volunteer corn as soon as possible can minimize potential impact on water use (more precisely in dryland environments) and to increase the probability of achieving efficiency in soil moisture storage.

Ciampitti cites some research studies done on the effects of volunteer corn.

- In 2007, researchers at South Dakota State University indicated that volunteer corn is much less competitive in corn than soybean. The South Dakota study (Alms et al. 2007) evaluated the full season effect of a range of volunteer corn densities (800-14,000 plants/acre) on both corn and soybean and reported yield losses that ranged from 0% to 13% in corn and 0% to 54% in soybean.
- A 2007 University of Minnesota (U of M) study reported yield loss potential in corn that was very similar to the South Dakota study.
- Iowa State reported one volunteer corn plant per 10 ft. of row reduced corn yield 1.3%.
- Field studies in Western Kansas have been conducted from 2006-2010 to evaluate soil moisture impact. Plant populations in the study were anywhere from 250 plants/acre to 8,000 plants per acre. Volunteer corn reduced available soil water by one inch for every 2,500 plants in the succeeding rotations' winter wheat crop. Wheat yields were reduced

one bushel for every 500 corn plants per acre. When wheat yields were greater than 70 bushels per acre or less than 35 bushels per acre other factors affected yield other than volunteer corn.

An example of plant densities were measured in 30 x 30 ft. plots and then extrapolated to plants per acre. Ten plants in a plot equaled 500 plants per acre and 21 plants equals 1,000 plants.