



Section 1

Introduction

Chad Lee, James Herbek, and Richard L. Trimble

The soft red winter wheat (*Triticum aestivum* L.) grown in Kentucky provides flour for cookies, cakes, pastries, and crackers and is the fourth most valuable cash crop in the state (Figure 1-1). Winter wheat has been an integral part of crop rotation for Kentucky farmers. Wheat is normally harvested in June in Kentucky and provides an important source of cash flow during the summer months. Several trends should be examined when considering the economic potential of wheat production in the state (see *Section 9—Economics of the Intensively Managed Wheat Enterprise*).

Improvements in varieties and adoption of intensive wheat management practices have resulted in dramatically increased wheat yields. Prior to 1987, the highest average yield achieved in Kentucky was 42 bushels per acre; since 1987, averages have been at least 49 bushels per acre in all but two years (Figure 1-2). State average yields have been 59 bushels per acre for the past decade and 62 bushels per acre for the past five years. State averages were above 70 bushels per acre in 2006 and 2008. Continued increases in yield help to keep wheat in the crop rotation.

Figure 1-1. Kentucky crop values according to the Kentucky Agricultural Statistics Service.

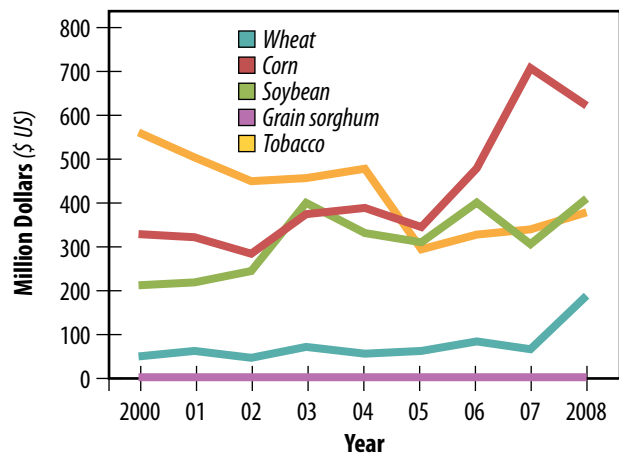


Photo 1-1. Soft red winter wheat (*Triticum aestivum*) grown in Kentucky is a valuable commodity and an important component to crop rotations. It also provides flour for cookies, cakes, pastries, and crackers, and feed for livestock.

The average yield of wheat trend has been upward, but the number of acres of wheat planted in the state has declined since 1981. Harvested acres were 680,000 in 1981 and were 460,000 in 2008 (Figure 1-3). Fluctuation in wheat acres harvested is a function of government programs, crop condition and economics.

This publication will help you use wheat management practices to improve the competitiveness of wheat in your crop rotation. There is no single best wheat management prescription for all circumstances, but this comprehensive publication explains the principles of wheat growth and management so you can make decisions appropriate to your situation. This publication also will help troubleshoot problems encountered during the growing season. If you use and adopt the following principles and practices, you should see increased yields, higher profits, and improved environmental protection from your wheat fields.

The important steps for intensive wheat management can be summarized in 18 steps. The application of these steps at the proper stage of growth and time of year is the basis for obtaining maximum and efficient wheat yields. (See *Winter Wheat Calendar* [ID-125A].)

18 Steps for Maximum Winter Wheat Yields	
1.	Test soil to determine fertility of field.
2.	Apply P, K, and lime according to soil test and University of Kentucky recommendations.
3.	Select several high-yielding, disease-resistant, winter-hardy wheat varieties.
4.	Calibrate the drill or other seeding equipment.
5.	For conventional tillage, prepare a good seedbed.
6.	For no-tillage, use a contact herbicide.
7.	Use 30 lb/A Nitrogen in fall as residual or applied.
8.	Plant from Oct. 10 to Oct. 30.
9.	Plant in 4- to 8-inch row spacings. Tramlines may be established at this time for subsequent applications.
10.	Seed 35 (up to 40 for no-till) seeds/square foot of high quality viable seed.
11.	Apply insecticide as needed for insect control (fall and spring).
12.	Check stand density near mid-February when winter survival can be rated.
a)	If stand is adequate (25 plants/square foot or more), apply 30 to 40 lb of nitrogen mid-to-late February.
b)	If stand is thin (less than 25 plants/square foot), apply 40 to 50 lb of nitrogen mid-to-late February.
13.	Apply an additional 50 to 60 lb nitrogen at Feekes 5 (mid-March).
14.	Use proper weed control measures (fall and spring).
15.	Apply fungicides as needed for disease control during the growing season.
16.	Harvest on time at optimum grain moisture (13 to 15%).
17.	Provide and prepare adequate, safe storage space.
18.	Market wisely for optimum profits.

Figure 1-2. Kentucky average wheat yields according to Kentucky Agricultural Statistics Service.

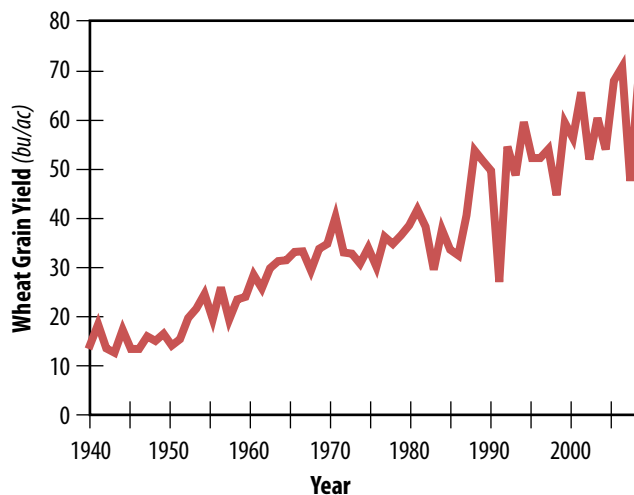


Figure 1-3. Kentucky planted and harvested wheat acres according to Kentucky Agricultural Statistics Service.

