IL farmer harvests record 370 bu/A corn

ATLANTA, GA. – While most farmers expect good yields from their crops, Herman Warsaw of Saybrook, Illinois, has topped the scale with a new record corn yield of 370 bushels per acre (bu/A). On October 17, 1985, a total of 433 bushels of shelled corn (corrected to 15.5% moisture content) was harvested from a measured 1.17 acres in Mr. Warsaw's intensively managed production area.

In 1975, Mr. Warsaw produced a 338 bu/A yield on a different field, and has also achieved previous yields of 312 bu/A in 1979, 325 bu/A in 1981, and 307 bu/A in 1982.

The 1985 yield was produced with FS Hybrid 854, planted April 25 at an estimated rate of 37,000 seeds per acre. Harvest population was 35,000 plants per acre. Harvest moisture was 22.2%. High soil fertility levels and a favorable growing season were important factors in attaining the yield.

Dr. Harold F. Reetz, Jr., Potash & Phosphate Institute (PPI) Southcentral Director located at Monticello, Illinois, has cooperated with Mr. Warsaw in recent years to observe and identify key management practices in a high-yield system.

"We've helped host hundreds of visitors from around the world, including researchers and farmers who come to talk with Herman Warsaw and hear his ideas. He's worked for many years to improve his crop production methods," Dr. Reetz points out.

Following are some key elements of Mr. Warsaw's system.

• The hybrid, FS 854, has some unique physiological traits (identified in University of Illinois research plots). The hybrid remains active with photosynthesis longer in the season, continued nitrogen (N) uptake later in the season, and its lower leaves stay green longer than several other hybrids tested.

• Deep chisel plowing helps incorporate fertilizer and crop residues deeper in the profile. The rich, deep soil with well-developed structure is partly natural and partly due to management practices on the farm.

• Addition of large amounts of crop residue and livestock manure has contributed to soil tilth and fertility levels.

• There was good rainfall distribution—24 inches during the 1985 growing season.

• With the soil built up to high fertility levels, nutrients were available to meet crop needs. The management system and hybrid responded well. Soil tests taken from the top 10 inches on August 6, 1985, showed the following results:

phosphorus (P_1 - 203 lb/A; potassium (K) - 1,080 lb/A; magnesium (Mg) - 540 lb/A; calcium (Ca) - 5,160 lb/A; cation exchange capacity (CEC) - 23; copper (Cu) - 0.7 (index); pH - 6.0; sulfate (S) - 30 parts per million; zinc (Zn) - 11 ppm; iron (Fe) - 85 ppm; boron (B) - 0.4 ppm.

Mr. Warsaw currently has about 20 acres of continuous corn in his intensive management system.

"With current technology, it's not advisable to attempt such an intensive system on a large acreage," Dr. Reetz notes. "But by concentrating efforts on a small acreage we can learn important responses to the management system and adapt this information to increase yields and profits on larger acreages. Knowing that these super yields are possible provides incentive and confidence to set higher yield goals on other fields."

Corn yields for the entire Warsaw farm are expected to average about 200 bu/A for 1985. Mr. Warsaw says that higher yields per acre help to reduce the cost of each bushel produced. Following is a summary of his production practices and costs for the 370 bu/A test plot.

		Costs
Fertilizer program		
18-46 0	- 250 lb/A, fall applied	$ 32 50
0-0-60	- 250 lb/A, fall applied	18 12
28-0 0	1,070 lb/A, preplant with herbicide	67 50
21-0-0 22 S-	300 lb/A, preplant	25 00
46-0 0	165 lb/A, at cultivation	20 25
	Total fertilizer cost per acre=	$163 37
Limestone applied		
Dolomitic limestone, 2 tons/A (3-year application= $31 35)		
	Limestone cost per acre/year=	$ 10 42
Chemicals		
Buctril- 1 pt/A		$ 4 60
Lasso- 3 qt/A		16 00
Furadan- 1 lb/A		18 50
	Total chemical cost per acre=	$ 39 10
Seed		
FS 854 -36,000 seeds/A		$ 26 00
Total fertilizer, chemical, and seed cost per acre-- (Approximately 20 tons/A of livestock manure was applied to this field in addition to fertilizer listed Assume that value as a soil amendment is offset by cost of application)		$238 89
Field operations		**Estimated Costs Per Acre**
(Costs are based on current custom rates in Illinois, including labor, fuel, repairs, depreciation, and interest on capital)		
Stalk shredding		$ 7 00
Fall chisel plowing, 15 inches deep		12 50
Spring field-cultivating		5 50
Planting		12 25
Cultivation, with nitrogen application		6 75
Harvesting (based on 25 cents per bushel)		92 50
Drying (approximately 2 cents per point of moisture removed)		50 00
	Total cost of field operations=	$186 50
TOTAL OUT OF POCKET PRODUCTION COSTS------		**$425.39**

Based on the figure of $425.39 per acre, the out-of-pocket cost per bushel for the 370 bu/A yield averages only $1.15: ($425.39 – 370 bu = $1.15 per bushel).

This figure does not include a charge for land. However, assuming a rate of $130 per acre, the production cost would total $555.39: ($425.39 + $130 = $555.39). With this total cost per acre, the production cost per bushel for the 370 bu/A yield would be $1.50: ($555.39 – 370 = $1.50 a bushel).