Big corn yields pay if management is right

LANCASTER — Every corn harvest brings at least a handful of overwhelming high corn yields that are grown at scattered locations across the U.S. Accompanying these high yields are a number of critics who say it's not feasible because there is no way to get a return-on-investment with high yields.

But Robert Munson, Midwest director for the Potash and Phosphate Institute, recently threw new light on the subject in an article appearing in Better Crops With Plant Food, PPI's official publication.

Munson carefully studied several farm operations that continuously produce at or near the elusive 300-bushel mark and found that not only is producing at that level economically feasible, but it is very economically feasible.

For instance, when Roy Lynn, Jr. of Schoolcraft, Michigan set a new world yield record of 352.6 bushels per acre with DeKalb XL-54 in 1977, the seed company sponsored him at farmer meetings around the country where he insisted his special 10-acre plot was his most profitable piece of corn ground.

Munson's figures bear that out Lynn's high corn yield compares to the Michigan 1977 average of 85 bushels per acre. His production costs ran at $347.91 per acre while the average grower in the state racked up $255 per acre in production costs Breakeven prices, then, are 99 cents per bushel and $2.65 per bushel respectively.

The record holder netted $357 29 per acre on his 10 acres of special ground if you figure he sold his corn at $2 per bushel, while the average Michigan producer would lose $55 on each acre in 1977

Lynn's story turns out to be typical of that told by other high-yield corn growers. Stanley Wilson of Saybrook, Illinois, took DeKalb Yieldmasters Club dryland honors in 1978 with a 280 bushel corn yield.

The average Illinois corn grower had production costs of $254 per acre in 1978. Wilson spent $21.84 more for fertilizer, $2.38 more for a higher plant population and another $30.42 for extra harvesting and drying costs. When added to the $254 figure, Wilson had a per acre cost of $308.64.

Even if he sold his crop as low as $2 per bushel, he'd gross $560 per acre, leaving net profits of $251.36 per acre. His Illinois peers averaged a net loss of $32 per acre that year.

Houston County Minnesota farmer Hildus Wold hit 247.6 bushels per acre in 1977 while the average farmer in his state produced 100 bushels per acre. At $2 corn, Wold made $.68 per bushel, leaving him with a net profit of $168 68 per acre while the average Minnesota farmer lost $.54 per bushel, or $54 per acre.

Munson points out that an inherent problem is that most of the high yields are grown on limited acreage or at least checked on limited acreage. The limitation seems to be the intensive management practices, not the intensive inputs.

For example, Lynn literally baby-sat his traveling irrigation unit so the corn wouldn't lack at all for water.

"Sometimes, I'd get up at 3 a.m. to turn the machine around at the end of the field," he says.

It's practices such as that which make growing outstanding yields unfeasible on large acreages. But, Munson points out that there remains a more basic problem.

"The rate of nitrogen in corn production still is the limiting factor in many fields over most of the country," he says.

Munson estimated the needed nutrient content for a 400-bushel corn crop based on what it took to produce 235, 255 and 257 bushel crops.

He pegs nitrogen needs at 393 pounds, per acre for a 400 bushel crop, naturally with good environmental factors.

These examples are not to say that going all-out is for everyone. But, for those farmers who have experimented enough to consistently produce at high levels, the economic incentive exists.

The farmer's goal, once he is convinced special high yield plots return more money per acre, is to expand the increased management inputs to the rest of the farm.

Maximum production increases erosion potential

LANCASTER — Tight economic restraints and fluctuating markets have led farmers to continuous farm such row crops as corn and soybeans, according to USDA Soil Conservationist, Paul Petrichenko.

"Erosion potential is increased dramatically with continuous row crops," he said, "but there are several simple inexpensive ways to reduce that potential."

The use of crop residue management, minimum tillage and a cover crop are a few basic means of reducing erosion.

Crop residue management includes leaving corn stalks on the soil after harvesting. These stalks protect soil by reducing the force of rainfall striking the particles of soil and causing soil movement — leading ultimately to soil erosion.

Likewise, sowing a winter rye cover crop forms a protective cover which also reduces soil movement.

Another means of reducing erosion potential is through the use of chisel plowing or minimum tillage. Limiting the amount of soil plowed is advantageous in that less soil is exposed to rainfall.

By coupling these simple soil management techniques with intensive cropping systems, farmers can reduce soil erosion potential while realizing maximum crop yield, concluded Petrichenko.