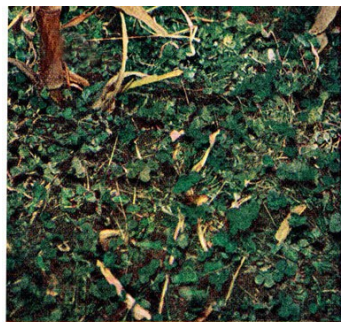


Many farmers are
finding they can
save soil, make more
profit by planting

COVER CROPS IN CORN

How they seed: Bill Cahoon, at right, plants sweet clover between 84-inch corn rows on his farm near Richmond, Indiana, with a seeder on the front of a Jeep. He harvested 80-bushel corn last year. Below, F. E. Walker, Gibson City, Ill., seeds rye in corn by plane before a rain, covered 30 acres in 30 minutes.



Corn yielded 103.7 bu. an acre for this combination of sweet clover-ryegrass-lespedeza. Check plots with bare middles produced 92.8 bu.



Marsh clover planted in middles. Corn yielded 104.5 bu. Purdue tests were made on Kirkendall farm, Tipton Co., Ind.



PHOTOS: J. C. ALLEN; SARRA, INC.

Ladino clover established good cover in corn which yielded 105 bu. Demonstrations show that high fertility helps to get stand in rows.

By JOHN STROHM

HUNDREDS of farmers are growing two crops in the same field this summer—seeding cover crops in corn. They're aiming for near-normal corn yields, *plus* one or more of these extra dividends:

1. Improved soil. Green manure catch crop plowed down in spring improves tilth and adds organic matter. If a legume, it also adds nitrogen for succeeding crop.

2. Higher income. By using corn as nurse crop for seedings, poor-paying oats can be eliminated from rotation. And that means good-by to expensive ombine and drill.

3. Less erosion. That's where the "cover" comes in. Cover crops save bare soil in winter and spring.

4. More pasture. Livestock men can get cheap gains with late fall and early spring pasture.

5. More corn. Improved soil fertility permits more corn and higher yields, which add up to more net profit.

Farmers are using a wide variety of legumes, grasses, and mixtures to do these jobs. They're broadcasting seed at last cultivation; they're using special "high-boy" equipment when corn is taller—and even the airplane. They've broken with century-old planting methods by tossing off the

ox-yoke conception of corn-row width and using 60- to 80-inch rows to let in more sunlight and give room to work the middles. They've even planted corn in cover crops, instead of vice versa.

While cover-crop expectations are high, results range from "very successful" to "total failure." Our roundup shows there is no sure-fire formula. For weather, soil and purpose in using a cover crop all vary from farm to farm.

These color pictures show they got excellent stands in Tipton Co., Ind. This corn, sown to legumes, made 103 to 105 bu. per acre compared with 92.8 bu. for corn with bare middles. Corn sown to grasses yielded about the same as check plots. Two years of tests convince County Agent Walt Clary that high fertility is the key to getting a stand in conventional corn rows. "If you have the fertility, you can get the stand."

Last spring W. R. Orr plowed down a catch crop of rye grass and yellow sweet clover seeded in corn the previous summer. Corn yield was increased 20 bu.

But there have been as many failures as successes, warns Keller Beeson, Purdue agronomist: "You plant corn thin, you get less corn. You plant corn thick, you get a poorer seeding. Of course, some Southern Indiana farmers are using corn as a companion

crop for establishing meadow. They get what corn they can, and figure it's still better than oats."

Gardner Martin, Camden, Ind., seeded sweet clover and rye grass in 65 acres of corn. It made 70 bu., about same as that without cover crop. Despite bad drought, there was little moisture-robbing.

"Most of my land is rolling, and rye grass should help control erosion during the winter and early spring," he suggests. Also, he figures his investment of \$2.45 an acre in seed will more than pay off in extra organic matter and soil improvement. This year, instead of using oats, he's replanted to corn—and plans to seed a legume-grass mixture to stand over as pasture. "I believe I can get a stand in corn as often as in small grain," he says. "While 60-inch corn rows might be better, I'll wait until suitable equipment is available."

Along with hundreds of other farmers, F. E. Walker, Gibson City, Ill., seeds rye in corn by plane "just before or just after a good rain. We seeded 30 acres in 30 minutes, and got a lot of fall and winter pasture."

A successful cover crop must meet three tests, says Dr. J. L. Haynes, Ohio Experiment Station: 1. Put nitrogen in soil for following crop. 2. Improve soil structure. 3. Control erosion, if it's a hazard.

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Cover Crops in Corn

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"Our batting average for getting rye grass in 42-inch corn rows is satisfactory, but we have no evidence to indicate it's a beneficial practice. In fact, our experiments show it has had a depressing effect on the following crop, unless you add at least 100 lbs. of elemental nitrogen," warns Haynes.

However, Ralph Weyerbacher, Posey Co., Ind., says grass sown in corn in the river bottoms has "given me pasture most of the winter." And Orson and Stanley Robson, Ontario Co., N. Y., have grown 125 bu. of corn per acre for 12 years in a row on the same land—thanks to use of a rye-grass catch crop each year, plus heavy fertilization. Soil is better now than it was 15 years ago, say Cornell agronomists.

A completely reverse twist is to plant the corn in the cover crop with a new experimental mulch planter developed by International Harvester. Wisconsin used this planter on an old legume sod heavily infested with quack grass. Corn yielded 135 bu. compared with 131 bu. when soil was plowed and planted with regular methods.

Wide corn rows improve chances of getting seeding off to good start—but weeds must be controlled, say those who have tried it. Bill Cahoon, Richmond, Ind., harvested 80 bu. of corn from 84-inch rows. "That's better than I got before in

42-inch rows, with better weather," he says. He sowed sweet clover in the middles with a broadcast seeder mounted on a Jeep. The prolonged drought and a heavy pre-emergence weed spray hurt his clover stand. "What I'm after is normal corn yield, plus more organic matter and pasture," he says.

On Funk's Research Acres in McLean Co., Ill., corn in 40-inch rows made 118 bu.; in 60-inch rows, 125 bu.; and in 80-inch rows, 99 bu. North-south rows had better stands of legumes in the middles

When relatives visit the farm they usually take everything back to town but the road.

—DAN BENNETT.

than those planted east and west. Scorching sun killed young seedling in unshaded south side of row.

Replacing oats in the rotation with another crop of corn has dollar appeal for farmers. Russ Jeckel, Delavan, Ill., ordinarily has a 3-year rotation of corn, oats and clover on 120 acres. However, this year he's replacing half of his oats with 80-inch corn rows, seeded to clover. That gives him $\frac{1}{2}$ of his land in corn instead of $\frac{1}{4}$, and still leaves $\frac{1}{4}$ of land in rotation pasture. His 80-inch corn rows made 75 bu. of corn last year. "This new system makes it possible for us to raise 3000 feeder pigs on this 135-acre farm," says Russ.

Oats are not very much of a "hurrah" crop for anyone who knows simple arithmetic: Forty bu. of oats @ 80c = \$32 an acre. Sixty bu. of corn @ \$1.50 = \$90. Tenant farmers, particularly, clap their hands at thought of putting 50 per cent more corn in rotation by getting rid of oats—and their investment in combine and grain drill.

Wide rows in Nebraska have not decreased corn yields much—perhaps from 50 bu. down to 45 bu., reports Paul Stewart, Waterloo. Iowa State tests show yields dropped 5 to 10 per cent when rows were upped from 40 inches to 60 inches; 10 to 20 per cent when rows changed to 80 inches.

Dr. George Scarseth, American Research Association, isn't so sure but what weeds, properly controlled and heavily fertilized, aren't as good a "cover crop" as rye grass, clover, and so on—when used to control erosion and add organic matter. "And weed seed is cheaper," he grins, "and doesn't even have to be planted."

Even enthusiastic proponents admit they don't have all the answers. "We feel we should have about 3 to 4 more years of experimental work to take out more of the 'bugs' before green manure interplanting is recommended as a general practice," says Doctor Haynes.

Meanwhile, farmers from New York to Nebraska are trying it out—fitting it to their conditions and purposes. And you can find many who are convinced it will pay off in better soil, less investment, more feed and more profit.

THE END