

Business/Agriculture

SCS-74

Rev. 1-58

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

INFORMATIONAL ACTIVITIES

Name of paper Manchester Press

Where published Manchester, IA

Date of issue January 30, 1990

Sent by Keith Krause/Roger Koster

S. C. D. Delaware

Stationed at Manchester

CLASSIFICATION:

Weekly column ☐

Story (SCS) ☒

(Other) ☐

Feature (SCS) ☐

(Other) ☐

Editorial ☐

Advertisement ☐

Cons. picture ☒



Field operations

PLANTER CALIBRATION is just one form of Low-Input Sustainable Agriculture. Check seed drop, planting depth, soil-to-seed-contact, conservation tillage adjustments; insecticide and fertilizer boxes and attachments; herbicide tanks; hoses and nozzles; to see if they all are adjusted properly and not leaking. Also use quality seed. Is the tractor being used fuel efficient? Roger Koster, ISU Big Spring Basin Project Field Coordinator of Elkader (left) is checking field operations with farmers Gary Burrack (center) and Cliff Kuhse (standing) of Farmersburg to see if everything is working properly.

LISA agriculture

by Roger Koster, ISU
Big Spring Basin
Field Coordinator

We have heard a lot about Low In-Put Sustainable Agriculture (LISA) lately. What is it? To me, LISA is the use of management strategies in farming that effectively do the job, take advantage of any opportunities to reduce purchased input costs, has a minimum effect on both the on-farm and off-farm environment, and provides a sustained level of production and profit from farming over time. Short term goals need to be considered, but long term benefits produce the desired results.

To become a better LISA management strategist you need to ask yourself the right questions:

- Is this trip necessary? One less disking or field cultivation saves \$6 per acre and conserves residue for soil protection.

- Do I need P & K fertilizers? Soil test. No money is made by applying P and K when you have high or very high test levels.

- Am I taking nitrogen credits for legumes? Alfalfa will provide 140 pounds of N for the following corn crop and soybeans one pound of N for each bushel of grain.

- Am I getting the most benefit from my manure? If you spread uniformly and rotate fields receiving manure, you can reduce purchased fertilizer equal to the available N, P and K supplied by the applied manure.

- Can I use the N soil test when corn plants are 6"-12" high? Yes, This test works.

On continuous corn it allows you to apply half the normal rates pre-plant, and tells you if you need to add additional side-dressed N. In most years you should realize a savings.

- Do I scout for pests such as weeds and insects? The Integrated Pest Management (IPM) concept tells you what and where the problem is, and whether it is serious enough to treat. It recommends low input cost treatments, effective and safe for the environment. In many cases recommendations are non-chemical or energy-use related. You do not have this alternative if you apply insurance rates "just in case the problem happens."

- Do I need corn rootworm control chemicals on corn following legumes? No, you do not.

- How can I reduce herbicide use? IPM scouting tells you if you have a problem. Timely rotary hoeing and cultivation with banded herbicides over the row can reduce herbicide use by two-thirds.

- Should I calibrate my pesticide applicator more than once per year? Yes, Only sprayer calibration can tell you if you are getting a uniform spread at the correct rate. Finding out you used the wrong rate, or uneven coverage after you are done, is too late. Five or more percent variation is too much

between nozzles.

- What can I do to reduce planting costs? Start with the following:

1. Use ISU Crop Yield Tests for top varieties

2. Use quality seeds

3. Use plant populations recommended for your area. Proper plant populations are obtained by using minimum seeds planted at proper depths combined with good soil to seed contact tools

4. Prevent seed and seedling loss from soil erosion

5. Follow recommended guidelines specific to each crop

These are just a few of the questions to ask yourself. Decisions based on convenience rather than unbiased research can increase the use of costly purchased inputs. If you are willing to ask questions like these before you act, you too can;

- have a favorable affect on the environment

- maintain or increase farm production

- maintain, or in most cases, improve profits

- buy less (or at least the correct) off-farm inputs

This is Sustainable Agriculture. In other words, we can make a good living, have a quality life on the farm and conserve what God has created for all of us to share with our children.

**FARM
SAFETY**

JAN 22 1990

**IOWA STATE
UNIVERSITY
EXTENSION**

Cooperative Extension Service.

Big Spring Basin
Demonstration Project
133 S. Main Street
Elkader, Iowa 52043
Telephone (319) 245-1451

January 19, 1990

Dear Soil & Water District Chairperson,

Enclosed is an article on low input sustainable agriculture (LISA) by Roger Koster, Big Spring Basin Demonstration Project Coordinator.

The article is prepared in news release form so that it may be used in either a local newspaper or as part of your annual report. I have enclosed an appropriate photo with the article.

If the article is published locally would you please send me a copy for the Big Spring Basin Demonstration Project news release file?

I look forward to hearing from you!

Sincerely,

Kathie Bentley
Kathie Bentley
Enclosures

send to
Manchester
Paper
done - 1-25-90
smB
KK

Roger A. Koster Field Coordinator

Kathie Bentley Information Specialist

Iowa State University and U.S. Department of Agriculture cooperating

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LOW IN-PUT SUSTAINABLE AGRICULTURE

By: Roger Koster, ISU Big Spring Basin Field Coordinator

ELKADER, IOWA - We have heard a lot about Low In-Put Sustainable Agriculture (LISA) lately. What is it? To me, LISA is the use of management strategies in farming that effectively do the job, take advantage of any opportunities to reduce purchased inputs costs, has a minimum effect on both the on-farm and off-farm environment, and provides a sustained level of production and profit from farming over time. Short term goals need to be considered, but long term benefits produce the desired results.

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-30-

Contact: Kathie Bentley, ISU Big Spring Basin Demonstration Project (1/90)

Photo caption: Planter calibration is just one form of Low-Input Sustainable Agriculture. Check seed drop, planting depth, soil to-seed-contact, conservation tillage adjustments; insecticide and fertilizer boxes and attachments; herbicide tanks; hoses and nozzles; to see if they all are adjusted properly and not leaking. Also use quality seed. Is the tractor being used fuel efficient? Roger Koster, ISU Big Spring Basin Project Field Coordinator of Elkader, Iowa (left) is checking field operations with farmers Gary Burrack (center) and Cliff Kuhse (standing) of Farmersburg, Iowa to see if everything is working properly.

DEC 10 1990



Iowa Department of Transportation

News

P.O. Box G, Manchester, Iowa 52057

For further information, contact:
William J. Crawford
Resident Construction Engineer
319/927-2397

K
B
12/12
SP
A

Area Media (Delaware County)

December 5, 1990

MANCHESTER, IOWA - Iowa 13 over the Maquoketa River in the City of Manchester will be closed, starting Jan. 7, 1991, for the replacement of the bridge.

A marked detour will be used for the traffic on Iowa 13. The detour begins on the north end from the corner of Iowa 13 and South Franklin; goes south on South Franklin two blocks; then runs west on West Marion Street to South 5th Street; then continues south on South 5th Street which connects with Burrington Road, a concrete surfaced Delaware County road, to Iowa 13.

This project is expected to be completed by the middle of September 1991.

The prime contractor for this \$972,389 project is Guetzko Construction, LTD, of Manchester.

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UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION
SERVICE

909 W. Main
Manchester, Iowa 52057
319-927-4590

NEWS RELEASE

March 9, 1990

The Soil Conservation Service Office in Manchester will be closed March 19, 20, and 21, so that all staff members can attend a Statewide Meeting in Des Moines. Normal business hours will resume on Thursday, March 22, 1990.

*Sent to all county news offices
cmib*

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Name of paper *The Manchester Press*.....

Where published *Manchester, Iowa*.....

Date of issue *March 13, 1990*.....

Sent by *Marilyn Beaudine*.....

S. C. D. *Delaware*.....

Stationed at *Manchester, Iowa*.....

CLASSIFICATION:

- | | |
|---------------|--------------------------|
| Weekly column | ☐ |
| Story (SCS) | ☐ |
| (Other) | ☐ |
| Feature (SCS) | ☐ |
| (Other) | ☐ |
| Editorial | ☐ |
| Advertisement | ☐ |
| Cons. picture | ☐ |

SEP 13 1990

U.S. Department of Agriculture

Soil Conservation Service

NEWS

Contact: Leroy Brown
693 Federal Building
210 Walnut Street
Des Moines, Iowa 50309
515-284-4260

Vonk Named State Conservationist

For immediate release

Jeffrey Vonk has been selected by the U.S. Soil Conservation Service (SCS) as the State Conservationist for Iowa. Vonk, 39, is currently in the agency's Strategic Planning and Budget Analysis Division in Washington, D.C. He will begin work in Iowa October 22.

Vonk becomes only the fifth SCS State Conservationist in Iowa. He replaces Mike Nethery, who retired August 31.

A native of Albany, New York, Vonk began work for the SCS in 1979 in New York. He has served as a district conservationist and resource conservation and development coordinator in New York, and as a technical advisor for SCS in Lima, Peru.

Vonk has also served as Assistant Director and Director of the Caribbean Area for SCS in Puerto Rico, and as Legislative Assistant in the agency's national headquarters office. For the past four months, he has worked closely with the office of Jim Moseley, the U.S. Department of Agriculture's Assistant Secretary for Natural Resources and Environment.

Vonk received a Bachelor of Science degree in Forest Biology from Syracuse University in 1973, and a Master of Science degree in Wildlife Management from the University of Maine in 1975.

Vonk and his wife Mary Ann have a son, Peter, 9 and a daughter, Laura, 7.

September 6, 1990



Wetlands, water quality role increased under new CRP law

Washington, D.C.

During the 1990 Farm Bill debate and ensuing budget deliberations, there were some concerns about how the Conservation Reserve Program would fare.

Although details are rather skimpy, an ASCS spokesman in Washington, D.C., said the program came through the process in probably better shape than it went in with.

Jack Webb, who works with the environmental aspects of the CRP and other government conservation programs for the ASCS, said in the long run, the CRP fared very well. Not only will it be continued, but it also will be expanded.

New rules are being written, he said, to follow the directive of Congress to create even more programs and to include even more acreage.

The regulations, he said, will include enrolling land destined for windbreaks or shelterbelts and marginal pasture land on which trees would be planted.

Another new program included in the 1990 Farm Bill is called the Water Quality Incentive Program. In this, farmers will be able to receive up \$3,500 a year during a three- to five-year sign-up for programs designed to reduce pollution and enhance water quality.

One report indicated landowners would qualify for the program by adopting management practices that would curb water pollution, such as switching from wintertime manure application to spring application or reducing chemical use or spacing out nitrogen applications.

Another new program will be a Wetlands Reserve Program whereby landowners will be able to receive an annual payment if the land they bid meets the requirements.

It is being speculated that farmers and landowners will be able to gain a one-time, cost-sharing payment for any actions on erodible land that enhance wetlands and wildlife habitat.

"We don't have any details on how the rules and regulations will be written," said Mr. Webb. "It would be premature for me to comment on any specifics."

However, he said the 1990 Farm Bill will bring some basic changes in the entire Conservation Reserve Program. "The bill calls for new rules," he added.

One of the reasons for the changes, particularly in the area of water quality, Mr. Webb said, is the public's concern about water quality.

"The '90s act addresses the issues of water quality and the CRP program and wetlands. People are most concerned about these issues and Congress reacted," Mr. Webb said.

The water quality issue was expressed like a "big bang," he noted.

The Conservation Reserve Program is well on track toward taking from 40 million to 45 million acres out of production, Mr. Webb said. So far the USDA has 33.9 million acres enrolled in the program, through which landowners are paid to take erodible or marginal land out of production in return for payments and an agreement to plant an appropriate cover crop that may include trees. The contract is for 10 years.

Mr. Webb said with the emphasis on the water quality

aspects, the USDA would expect further participation in the program.

It may take three to five months for the new rules to be drawn up and then put out for public comment.

"We are just in the process of drawing them up and I can't say today what they will be," Mr. Webb said. "The policy decisions have not been made."

As of Nov. 2, President Bush had not signed the 1990 Farm Bill that authorizes the new program.

There had been some reports that sign-ups under the new bill could start as early as February. However, Mr. Webb said that is unlikely under the present timetable. On the other hand, he said the timetable for the new rules could be moved up.

Mr. Webb said Secretary of Agriculture Clayton Yeutter will review the proposed rule changes and will take an active role in the final version.

The new buzzwords and initials for the program will be HEL (highly erodible land), ARCP (Agriculture Resources Conservation Program). Please turn to Page A12

First Ag Clean Sweep a success

Ellsworth

The first Agriculture Clean Sweep in Wisconsin was termed a success by Ed Hass, Pierce County Resource agent, one of the coordinators of the event.

"We had stuff come in here that could have been on farms for years. Some of it was in old paper bindings and some in old containers," he said.

"In all we must have had about 4,000 to 6,000 pounds of ag chemicals brought in," he added.

All of the material was weighed and identified to let the state ag department, which funded the project, know what kinds of chemicals are on the farms. "They surveyed everyone that came in. We wanted to know where the farms were located, how much and what type of chemicals were coming. It gives us some data sort of idea what is out there," Mr. Hass said.

After it arrived, it was separated and chemical containers that were rinsed a third time were taken to local dumps, the others along with chemicals were shipped by Chemical Waste Management to disposal areas in Illinois.

Two other clean sweeps are scheduled. The first will be from 9 p.m. to 2 p.m. Nov. 10 at the Fair Park in Door County and the second from 9 a.m. to 6 p.m. Nov. 12 at the Portage County Highways shop at Plover.

Iowa farmers second in conservation tillage

Iowa farmers are ranked second in the nation in their use of conservation tillage according to figures from a 1990 tillage survey.

Iowa's total of 7.3 million acres of conservation tillage is second only to Illinois, with 8.4 million acres. Iowa's conservation tilled acres account for 7 percent of the nation's total, according to data gathered cooperatively by the Soil Conservation Service (SCS) and the Conservation Technology Information Center in West Lafayette, Indiana, for 1990.

Conservation tillage is the practice of planting crops while leaving at least 30 percent of the previous year's crop residue on the soil surface.

Iowa showed some increases in all areas of conservation tillage over the 1989 survey. Figures were down last year because many farmers, concerned with herbicide carryover due to the drought in 1988, tilled the ground.

"Iowa is back on track now and we hope to be leading the way in 1991," said Jeffrey Vonk, State Conservationist for the SCS in Iowa. "Many farmers used more conservation tillage methods in 1990 because they've seen the benefits it has to offer and because they are beginning to apply the scheduled practices in their conservation compliance plans," says Vonk.

Barb Stewart, a soil conservationist for SCS adds, "When all the conservation plans have been applied, Iowa's figures will nearly double. By 1995 Iowa's total acreage of conservation tillage should be close to 12 million."

In 1990 Iowa led the nation in mulch-till acreage with 6.3 million acres. Iowa's 624,409 no-till acres ranked eighth in the nation, up from 13th place last year. In the ridge-till category Iowa is ranked third with 357,902 acres.

Within Iowa, counties with the most acreage of conservation tillage on corn were Franklin, 99,073;

Pottawattamie, 93,300; Fayette, 93,000; and Boone, 83,640.

County mulch-till acreage figures for corn were topped by Franklin, 84,988; Fayette, 83,000; Boone, 73,603; and Pottawattamie, 70,504.

Leading counties and acres in no-till corn were Pottawattamie, 22,760; Keokuk, 17,250; Taylor, 16,000; and Audubon, 15,000.

Iowa counties leading in ridge-till practices are Webster, 24,672; Buena Vista, 11,500; Kossuth, 10,000; and Franklin, 9,390.

Farm employers' meeting planned

A meeting, "Farm Employees: A Vital Resource", is planned for Feb. 14 at the Cliff House in Decorah. Topics of discussion will include: Recruiting and Hiring Farm Employees; Organizing the Farm Work Force; Communication, Evaluation and Motivation; and Wages, Benefits and Labor Management by Iowa Farmers. Program presenters include Bemie Erven, Extension Economist from Ohio State University; William Edwards, Extension Economist from Iowa State University and Ronald Orth, Extension Dairy Specialist from Iowa State University. Panels of local farm employers will round out the program.

The meeting is designed for farmers that hire either part-time or full-time labor or are considering hiring labor. Much of the information will also be useful to those involved in intergenerational farming operations with sons, sons-in-law or daughters.

There is a registration fee per person, except for those who responded to the farm labor survey last summer. Those people are entitled to a reduction in the registration fee if it is accompanied by the certificate they received from ISU. For further information contact the Delaware County Extension Office at 115 E. Delaware, Manchester, phone 927-4201.

Attention FARMERS

We are
concerned about
YOU!



Continued from Page 6B

mann said the prosthesis is built according to the person's weight.

"Yeah, it was hard to adjust to," Wegmann said. "I can do everything but run. I still have problems, though, because I get sores from the prosthesis."

Things changed around the farm since Wegmann, 53, had to slow down his active lifestyle. Wegmann's son, Dennis, became a partner in the farming operation and Wegmann took a job at K & A Farm Equipment, Inc. in Strawberry Point, partly because he had to slow down at the farm and partly for the income since insurance costs had risen.

"There's nothing I can't do. I just have to do it differently," Wegmann said. "I have to make sure my left foot is on a ladder because there is no feeling. And I don't like to drive anything with a clutch in it. When driving a clutch, I have to make sure no one is behind me hooking up a wagon or something until I make sure I stop. If my foot happened to slip off, I would go back several feet."

Wegmann's accident is proof that a person has to be careful only once to become an accident victim. Agnes said he was always pretty careful and normally shut the equipment down before making repairs.

Wegmann made the point that accidents don't happen during the harvest season because farmers are tired or stressed. They happen because farmers are in a hurry and don't take the time.

"People are always cutting corners to save time," Wegmann said. "I could have shut the auger off to avoid the accident. It was just coming good out of one silo, but I wanted to get the other one unburied. The cows would have had enough silage from the



BOB WEGMANN WAS fitted with a knee-length, flexible foot prosthesis after his left heel was cut and his foot mangled in auger accident on the farm he rents outside of Edgewood. (Manchester Press photo)

other silo." Agnes said the recent attention, in papers and on television, on farm safety and farm accidents has been helpful.

"Like 911 (the television program), you see so much of it," she said. "Yes, I do think it's helping, but you can only stress to a certain point. Then you have to follow through with it."

Agnes said young children also should be kept inside and away from farm machinery. "And when they are old enough stress safety," she said.

Though there have been tough times, the thought of quitting

farming after the accident was never discussed.

"I never wanted him to quit," Agnes said. "I enjoy it too much, too. It did put pressure on Doug, who was 17 at the time, when he first took over for his dad. But we never thought of quitting. We knew we had two boys coming up who would help."

For Wegmann there are tough times, too, when he really misses the sports and playing with the kids. "There are days I am tempted to throw it (the prosthesis) away," he said. "But then I realize I need it. I am stuck with it and I am going on with it."

Tractor fatalities raise questions

An Iowa State University Extension agricultural engineer points to a series of recent tractor fatalities as one reason why all tractors in a farm operation need to be equipped with rollover protection.

"Most tractors manufactured since 1985 have a special rollover protective structure, or ROPS, that keeps the operator safe if the vehicle overturns," said Mark Hanna, who specializes in machinery and equipment. "However, many people keep their older tractors around just to do off-season tasks, such as mowing, when the risk of an overturn is possibly the greatest. If you're going to be mowing roadside ditches, use a ROPS-equipped tractor."

According to the Iowa Department of Public Health, at least 10 Iowans have died in farm-related accidents since July 1. Seven fatalities involved a tractor without ROPS, and most were farmers over age 50. Last weekend, an 80-year old Benton County man and a 74-year old Emmet County man died when they were pinned underneath their tractors. Both had been mowing.

"Accidents often occur when a tractor is used for something other than fieldwork," Hanna explained. "An uneven surface can cause the tractor to tip, and so can a sharp turn or backing down a hill. The person who works under these conditions on a tractor without ROPS has no protection. The speed of the accident usually makes it impossible for you to jump clear of the tractor."

The National Safety Council shows tractor rollovers as the leading cause of farm operator deaths since 1970. Each year in Iowa, about 30 tractor-related deaths are reported, about half the result of overturns.

Although ROPS cannot prevent a tractor from overturning, it can guard against serious injuries if the operator is wearing a seatbelt when the tractor rolls over. Since 1988, no deaths have been

reported from overturns of tractors equipped with ROPS. "Despite better tractor design, many tractors still used in Iowa are unsafe," added Hanna. An ISU survey of 517 Iowa farm operators in 1991 showed an average 3.9 tractors in each farming operation, but only 1.4 were equipped with ROPS.

"In many cases, it's a question of economics and you cannot afford to take older models out of operation," he said. "However, several manufacturers are making ROPS retrofits for older tractors an affordable option."

A basic retrofit can range in price from \$250 for some utility tractors to \$500 or more, depending on the options and tractor model. Several manufacturers produce ROPS retrofits, Hanna said, and one is offering them at cost to tractor owners.

When selecting a ROPS retrofit, always look for manufacturer's certification that the retrofit has been approved by ASAE (American Society of Agricultural Engineers). Hanna cautioned operators to have retrofits installed only by an implement dealer or someone experienced in ROPS equipment.

ROPS retrofits may not be available for all makes and models of tractors, but more have become available within the past two years. At least one manufacturer offers a ROPS that can be folded to allow clearance in low doorways or areas where height may be a problem.

Hanna admitted that cost and availability are key factors in a decision whether to equip an older tractor with ROPS.

"You might like to think that you'll never get into a dangerous situation but even experienced operators make mistakes," Hanna added. "The real question is whether you can afford not to have that added protection. A ROPS retrofit is good insurance against being seriously hurt or killed if your tractor overturns."

Women not immune to accidents

Statistics show that women involved in agricultural work may be at an increased risk for certain types of accidents. While men are involved in more tractor rollovers, women are at a higher risk of being run over by tractors and other farm machinery, according to preliminary data from the National Safety Council. Farm and ranch experts say that women often assist their spouses by helping hitch equipment to tractors. This activity may expose them to injury or death.

Another area of increased risk for women is working with farm animals and livestock. Preliminary data from farm states shows women often tend livestock while men work with farm tractors and other machinery. As a result, women may suffer disabling injuries from farm animals. In order to prevent accidents, the National Safety Council reminds women who participate in farm chores to take preventive measures such as the ones offered below.

- Wear clothing and safety gear that is appropriate for the tasks or chores at hand. Boots and shoes should be fully laced and loose clothing tucked in to prevent power take-off and equipment entanglements.

- Keep your hair neatly tucked under head gear or tied up when working around wrap points such as power take-offs.

- Be extremely careful when helping to hitch implements to tractors. Do not get caught in a tight location between a tractor and other farm machinery. Learn the common hand signals associated with safe hitching procedures.

- Always face unpredictable livestock so you can watch them at all times. Larger farm animals such as bulls and horses may panic or become aggressive and inflict serious injury. Swine, especially sows with young pigs, can be very protective of their young and may injure a person when aggravated.

Tips on avoiding respiratory hazards

What can you do to avoid respiratory hazards on the farm?

Avoidance: Don't go into manure pits. Don't go into silos, especially in the first two weeks after filling. Never go into oxygen limiting or sealed silos. If you must do these things, use gas detectors to be sure that toxic gases are not present, and that there is adequate oxygen to support life.

Use pesticides safely: Read the label and follow directions, wear protective clothing and a respirator appropriate to the situation.

Protection: Another way to protect yourself and your family against agricultural respiratory hazards is to eliminate or minimize them. For example, work habits such as using a respirator, can make a difference.

Consult your doctor: A baseline pulmonary function test is a simple breathing test that assesses your ability to breathe. When compared with later tests, this one can show any changes that may have occurred, and indicate what kind of respiratory problem may have developed.

Respirators
Think of protective equipment as another necessary and inexpensive piece of farm equipment. Before buying a respirator, you should know to what harmful dusts, gases, and vapors you may be exposed; the types of respirators that are available; and the maintenance procedures that are required for them to function properly.

There are numerous types of respirators on the market. Be sure you buy a NIOSH (The National Institute for Occupational Safety and Health) approved respirator.

Also select a respirator to protect you against the breathing hazards you will encounter.

Respirators are usually divided into two categories.

1. **Air-purifying respirators** remove contaminants from the air around you. They do not provide oxygen in an oxygen-deficient atmosphere. These can be very effective to filter dust particles from the air you breathe.

2. **Air-supplying respirators** (Self-Contained Breathing Apparatus - SCBA's) provide clean, uncontaminated air from a source outside the wearer's environment. They are necessary when entering a confined space containing toxic gases or lacking oxygen. Most farmers don't have much need for such a respirator. Special training is required to use and maintain air-supplying respirators, and should not be used without this training.

Sources for respirators include safety equipment suppliers in several Iowa cities, farm supply stores, and grain elevators. If you have difficulty locating a respirator, contact the Iowa State University Extension Agricultural Engineering office in Ames.

At the least, everyone exposed to dust hazards needs to have and use air-purifying respirators. Your best choice is probably a disposable mechanical filter respirator; or a chemical cartridge respirator. Remember, though, since they don't supply air, they cannot be used in oxygen-deficient situations, or in any situation which is immediately dangerous to life and health.

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DELAWARE COUNTY SOIL & WATER CONSERVATION DISTRICT

50th Anniversary



District Activities

July 1, 1993 to June 30, 1994

JULY - Jill Hendersen is working for us under the JPTA program.

- The office has been notified that Tony Goedken won the IASWDC Regional Conservation Award.
- Reviewed the 93 Tillage Survey for Delaware County.

AUGUST - Knipper attended Buchanan County Implementation Show.

SEPTEMBER - Fall Regional was attended by Calonder, Eibey, Lucken and Krause. Krause made a presentation on Mr. and Mrs. Tony Goedken, IASWDC Fall Regional Conservation Award winners.

- Roger Klosterman was picked as Izak Walton League Windbreak Award Winner.
- Marvin Schulte resigned as Assistant Commissioner.

OCTOBER - Preliminary District Regulations for the Organic Nutrient Management Program was approved.

NOVEMBER - Eibey attended the Annual Conference in Des Moines.

- Donation was made to the 50th Anniversary for the Soil and Water Conservation Society.

DECEMBER - Todd, SCS Technician, is on Maternity Leave.

- Annual Report was mailed out.

JANUARY - Officers for 1994 are: Chairman - Marvin Calonder; Vice-Chairman - Arnold Lucken; Secretary/Treasurer - Marilyn Beaudine; Assistant Commissioners - Vernon Schmock and Eric Wahl.

- Eastern Iowa Tillage Show attendees and workers were Eibey and Calonder.
- State employees were furloughed one day to help State budget.
- Reviewed and updated Delaware SWCD Management Practices Rules.
- Staff held Contractors' Meeting.
- Supplemental Allocation request was submitted.
- Annual Plan of Work was reviewed, updated, and approved.

FEBRUARY - Sinkhole Program information was sent to local newspapers.

- Lucken is Delaware County delegate for REAP Assemblies.
- Appointed Eldon Koenke, Board of Supervisors, as Assistant Commissioner.

MARCH - Spring Regional attendees were Calonder and Krause.

- Calonder, Knipper, McGrane, Eibey, and Krause attended the Annual Chamber of Commerce Ag-Businessman luncheon to present the Conservation Farmer Award for 1993 to Tony Goedken.
- A Concrete Contractors meeting on Pits was held by staff. - RC&D area was accepted and approved by Washington.

APRIL - Trees were distributed for the Tree Sales Program.

- James Gudenkauf was hired as WAE.
- Shadow Day was held April 28th. Aleshia Beaudine and Kayla Krause participated.

MAY - District gave \$100 Scholarship to the County Selectee for the IASWDC Auxiliary Scholarship Award. Eibey made the presentation.

- Ken Jasper was picked for '94 Conservation Award winner.
- Warren Johnson, District Conservationist at Maquoketa, has been chosen to be the Limestone Bluffs RC&D coordinator.
- Soil Stewardship Materials were distributed to the churches and libraries.

JUNE - Shannon Manson is working for us under the JPTA Program.

- Aleshia Beaudine is working as a volunteer for the summer.



CONTOUR STRIPCROPPING is an important part of Henry Brunsmann's farming operation. By combining a crop rotation with contour farming, stripcropping provides maximum control. (Photo submitted).



Reduce soil erosion

Brunsmans use farm conservation practices

Henry Brunsmann and son, Lynn Brunsmann of rural Dundee, have been doing more than their share of crop contour farming and erosion control terrace practices in the past several years.

In 1991 the Brunsmans received the Iowa Soil Conservation Award for their efforts with meeting and exceeding certain guidelines of the Soil Conservation Service (SCS) program.

Henry said a former Delaware County SCS director, Norman Bruns, initiated their plan. "He came out to see if we were interested and walked the entire farm. We started with the program in 1986," he noted. "It's been saving the soil. It was complicated at first to plant and harvest, but you've just got to get used to it."

Lynn said contour farming results in no real change in corn yields, other than the strips along terrace areas, which are no different than leaving fences. "It (erosion control) prevents a lot of washing," he stated.

The Brunsmans, utilizing approximately 220 acres of strip crop farming, rotate the strips with continuous corn in the terrace areas, along with oats and hay.

While the Brunsmans joined the program eight years ago, the last section of their farm to be converted to erosion control practices and compliance with SCS standards occurred in 1992.

Two existing woodland areas on the Brunsmann farm

provide additional wildlife cover. They presently have 13 acres in the forest reserve, four of which are included in the Conservation Reserve

"It's (contour farming) been saving the soil."
- Henry Brunsmann, rural Dundee

Program (CRP) since 1987 when they planted black walnut and red and white pine trees.

The penalties for violating guidelines of the SCS Conservation program "are pretty strict," according to Henry. Expenses assessed against the Brunsmans relating to the conservation measures include the purchase of seed and maintaining the terrace areas. The Agricultural Stabilization Conservation Service (ASCS) oversees the SCS practices of where and how they are to be constructed. "We strictly work with the federal government," Henry pointed out.

In their farming operation, the Brunsmans farrow to finish 1,500 to 1,600 head of hogs per year. They are raised in confinement facilities and manure from the hog enterprise is knifed into the soil in the fall. Manure applied in the spring is chisel plowed immediately after it is spread.

They also maintain a herd of 30 beef cows to utilize their forage production.

Calves from the herd are sold as feeders.

Since becoming a district cooperator in 1984, Henry has applied a variety of conservation practices, including strip cropping, grass waterways, field borders, terraces, tile drainage, erosion control structures and permanent pasture.

Henry served on the Delaware County Extension Council for two terms (1955-58 and 1961-64) and on the ASCS County Committee for six years while presently serving as chairman. He is also a township trustee and was township assessor (1963-64). Lynn served on the Delaware County Pork Producers Board, is a first responder and fire chief for the Dundee Fire Department, and a member of the Edgewood Cooperative Board.

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County SWCD chairman announces 50th anniversary

Marvin Calonder, Chairman of the Delaware County Soil and Water Conservation District, announced the district is celebrating their 50th Anniversary. The district was formed in 1944 by a group of farmers. These farmers acknowledged that there was a need to protect the soil and water. The district devised a system that would save the soil and water from destruction. "Today many of the old practices are still being applied. Each year new conservation practices are being innovated," according to Calonder.

In 1944 about 60 members of the Delaware County Farm Bureau were called together to discuss forming a district, the vote was unanimous. In cooperation with Farm Bureau, local civic groups and Agricultural Adjustment Administration (AAA) committee held a series of educational meetings and circulated petitions for a hearing. On Aug. 3, 1944 a hearing was held and attended by various civic and agricultural agencies to testify in favor of forming the district. On Sept. 2, 1944 the referendum and election of

commissioners was held. The final tabulation of votes were 287 in favor and 23 votes against the formation of the district. The SWCD was certified on Sept. 29, 1944.

In the months to follow, the commissioners held a series of meetings for designing a district program and preparing a plan of operations. With the help of various groups, organizations and individuals, a system was devised and on Jan. 13, 1945 the program was adopted. To help with the upcoming workload, Richard Pulse and Frank Nugent were hired.

With the conservation program in place and with the help of technical staff, the district set forth to promote the new program. It was explained to the farmers that there was an erosion problem. In order to reduce the soil loss, various options for a good land use program, along with suitable erosion control practices, could be adopted. Here were some of the options: a good crop rotation, seeding down and maintaining waterways, con-

Continued on Page 12A

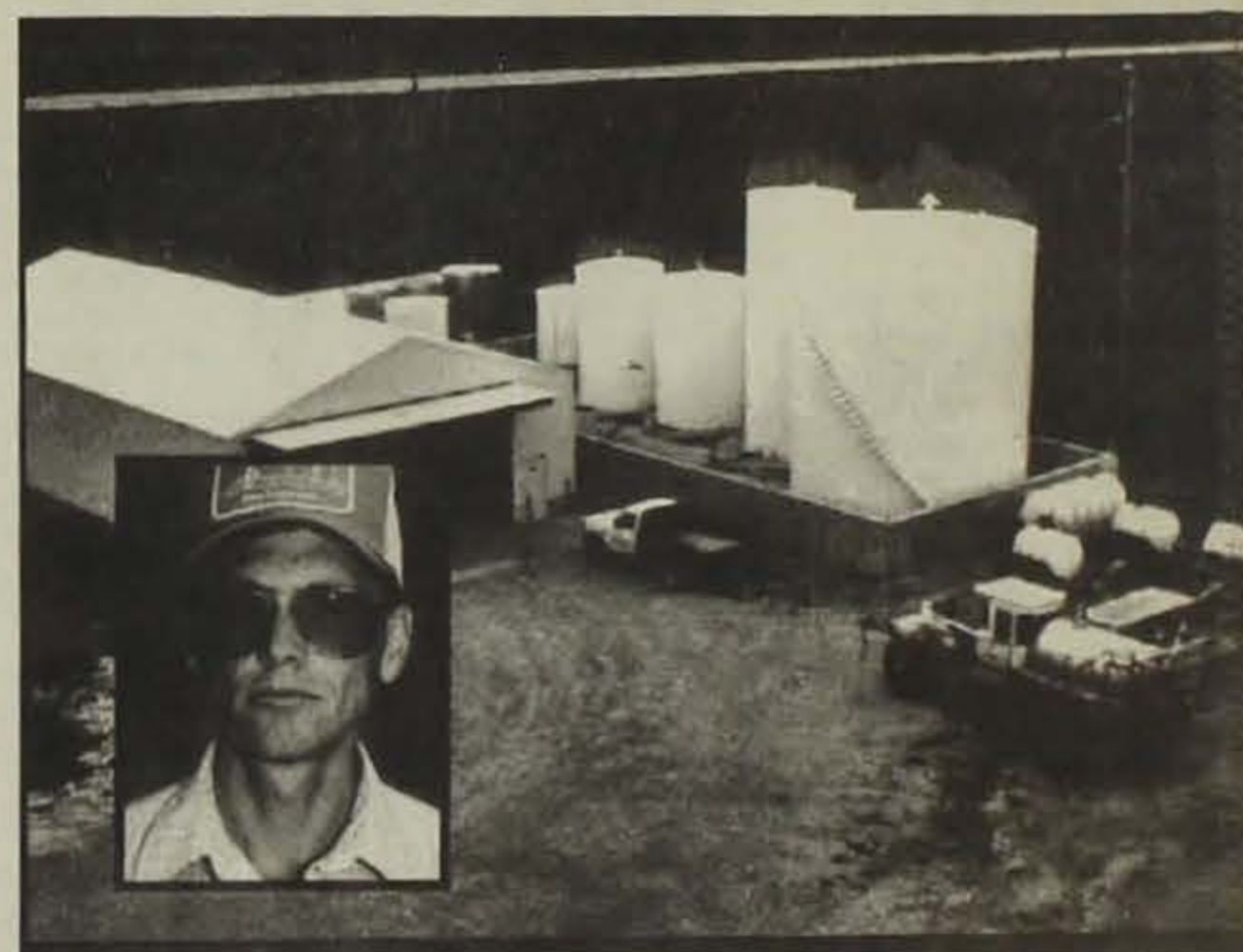
Dundee area

HENRY (right) AND LYNN BRUNSMAN proudly display the Iowa Soil Conservation Award for their efforts with stripcropping and erosion control since 1986. The Brunsmans operate 220 acres of farmland just northeast of Dundee. (Manchester Press photo)

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Delaware County
Soil & Water Conservation
District & SCS Staff

DELAWARE COUNTY SOIL & WATER CONSERVATION DISTRICT

50th Anniversary



Three generations practice soil conservation

by Kirsten Cole

Eroded waterways, large ditches — the farm definitely needed some work, so Don Eibey volunteered for a Conservation Field Day Sept. 7, 1949. That may have been one of the smartest decisions Eibey made. Today, the farm still thrives under the direction of Eibey's grandson, Chris Eibey.

In 1949, four years after Eibey had purchased the farm from his father, 1,500 feet of eroded waterways were filled, smoothed and seeded and a six foot deep gully was filled in during a Soil Conservation District field day. More than 500 farmers were on hand for the all-day demonstration.

The district had designed the farm plan, which also included plans for planting in strips on the contour the following year.

Eibey's farm, 204 acres in Delaware Township just off of Highway 13 south, also implemented the following conservation practices: contoured crop acres, crop rotations, a wind break, three additional acres of trees, two ponds and waterways.

The two ponds have become a county attraction. A 1976 *Manchester Press* article said more than 500 people had used the recreation area in one summer. The ponds were funded in part by cost-share money provided by Soil and Water Conservation District. One was designated as a wildlife pond, the other a stock pond. They are stocked with bluegills, bass and catfish.

Eibey said the novelty of the ponds has worn off, although families still request use of it for fishing. Two weddings were also held out by the ponds this summer.

Eibey, who retired from farming in 1979, believes in implementing conservation practices to save the soil. There are other benefits, though.

"My dad said to always try to make it better than you've

got it," Eibey. "Our crop yields went up 30 percent. A pond normally lasts 10 years and both of ours have lasted over 20 years."

Eibey credits the Soil and Water Conservation Service for helping him get started with conservation practices.

"The cost-share programs they offer got me encouraged," Eibey said. "You can sign up for a farm program and are allowed so much per person. Like for the farm pond, they were \$1,000 each, but I paid half."

Although there was no pressure to continue what his father started, Dave Eibey said he could see the benefits and made the decision to implement conservation practices on his own farm.

Dave, who began farming with his father in 1960, has 300 acres of corn, soybean and hay five miles west of Ryan. His farm, which he began in 1965, features waterways, crop rotation, no-till and ridge-till.

"Right after I bought the farm I began implementing conservation practices," Dave said. "I received cost-share funding for the waterway work. In 1967, I put in the farmstead windbreak, which is still there and expanding. I started with 60 trees and 25 honeysuckle and am planning on planting another 60 trees."

Dave said that ridge and no-till have been especially beneficial to his farm.

"There are big savings in fuel and time," he said. "There is less machinery and a lot less surface erosion. Yields came along with it."

Dave said he also implements conservation practices because he has always tried to take care of the land.

"We're saving the soil and the environment," Dave said. "It (conservation practices) are also going to help the water quality in the long run because it keeps the soil in place. It also keeps fertilizer from going into the stream."



FOUR GENERATIONS OF Eibeys gather in front of one of two ponds, designed for conservation purposes, on the home farm. Back row, left to right: Daniel, Chris, Audrey and Tammy and Keith Eibey. Front row, left to right: Don Eibey and Dave Eibey. (Manchester Press photo)

Besides the farming conservation practices, Dave also has 11 acres of CRP land which provides wildlife cover.

"It's designed as a measure to seed down high erodible land so it doesn't erode because of wind or water," he said. "It has served its purpose well and its a big plus to the wildlife."

Like father and grandfather, Chris Eibey is very involved in soil conservation. He took over his grandfather's farm in 1983. The farm currently supports corn, oats, hay, beans, pasture, and cow/calf and stock cattle.

Chris has been continuing what his grandfather had set up, and also no-tills and ridge-tills. Chris' wife, Tammy, said he incorporates several things he learned while studying farm operations at Iowa State University.

"We continue these things because of aesthetics. It's pleasing to the eye," Tammy said. "We also save the soil and water quality is also important."

Tammy said one benefit of soil conservation on the farm is yields have held steady throughout the year, even in



CHRIS EIBEY MAINTAINS crop residues with a JD no-till drill while drilling soybeans into cornstalks.

drought and wet years.

"We also have lower costs in fertilizers and sprays than some people," she said. "With no-till there aren't as many trips across the field and we aren't disturbing the soil."

Crop rotation also takes less from the soil, she said. The farm uses a five year rotation of two years corn, one year oats, two years hay, then back to corn.

"With hay, you don't have such gully washers," Tammy said. "It slows down moisture and there is less erosion.

You also work the soil less. Plowing disturbs the soil, but with oats and hay, you are not tilling up the field (as much)."

There is a chance the Eibey family will see a fifth generation of farmers and a fourth generation of soil conservationists. Chris and Tammy have two sons, Daniel, 9, and Keith, 6.

"Both like livestock and both like being out with their dad and grandpa," Tammy said. "And they say they want to farm."



ABOVE: Shown is a reinforced concrete drop structure built in Sept. 1959. The structure helped to stabilize the grassed waterway and provide an outlet for the tile drainage system. Pictured in 1959 are, left to right, the landowners Tony Broghammer and Gib Hoffman, along with the late George Carlson, district conservationist for the SCS at that time. Below: Thirty-five years later, Broghammer and Hoffman are standing next to the erosion control structure still functioning as it was originally designed. (Photo submitted)



Waterways help control erosion

In 1958 when Gilbert (Gib) Hoffman and Tony Broghammer started farming two miles north of Manchester, it didn't take them long to realize that something had to be done to protect their soils and improve the farming operation. Both had soils that were wet and saturated to the point of making farming impossible. "Water would run off the uplands and spread over the lower fields," said Broghammer. "On a good year you had to be careful and wait for the fields to dry enough for the ground to be fit to work."

Hoffman explained, "There was a big ditch that started on the lower end of my property and meandered for a quarter mile up to Tony's property. The drainageway then continued through Tony's property for another three fourths of a mile upstream to highway 13. The total area drains over 600 acres. That meant a lot of water came down through our property."

To try and correct some of the erosion and drainage problems Hoffman and Broghammer contacted the Soil and Water Conservation District. "At that time they were planning a lot of tile drainage systems," explained Broghammer. "But before we could tile we had to have an outlet that was permanent and stable."

"In September of 1959 we

built a reinforced concrete drop structure at the lower end of the drainageway just before it left my property," said Hoffman. "This provided an outlet for our tile and helped to stabilize the ditch. We then shaped a 60 foot wide grassed waterway and installed a 12 inch tile main along each side of the waterway running the length of our property. The SWCD cost shared 50 percent on the concrete structure and the tile main and Tony and I shared the rest. We each then shaped our own waterways in cooperation with the SWCD."

Broghammer said, "This was the best thing we ever did. The waterways concentrated the run-off water in a 60 foot grass channel so it wouldn't spread all over. The structure helped heal up the old ditch and provided a permanent outlet for our tile. And once we had the tile mains, we were then able to start installing pattern tile on our cropped fields because we had the main to hook into. It took over 13 years to get all the ground tiled that needed it."

"But it was well worth the investment," added Broghammer. "The tile allows more water to soak into the soil because the ground is less saturated. This means we have less water running off our fields and less soil erosion. The water that comes out of the tile lines and down through the water-

way is also much cleaner because it has been filtered by the soil and the grass sod."

Hoffman and Broghammer both explained that 35 years ago everybody had cattle and hogs and grew a lot of hay. "About one third of my farm was seeded down every year," said Hoffman. "This really helped to control erosion. We used contour farming and contour strip cropping, along with our crop rotation to protect the soil," said Broghammer.

But as the times changed, so did farming operations. "It used to be we had to plow everything till it was black," said Broghammer and Hoffman. "As we sold the cattle we were growing less hay and more corn." To protect the soil, both farmers started using a conservation tillage system. "We have been using this system for over 20 years. To protect the soil and to prevent water run-off, we try to have 40-50 percent residue cover after the crop is planted. It's also important to make sure the water stays in the grassed waterways and doesn't start running along the edge of the field," said Broghammer.

Hoffman and Broghammer both have sons farming the land now. And thanks to 35 years of good soil stewardship, their investment is still paying off.

Contour buffer strips control soil erosion

Contour buffer strips have been used for the past 40 years to control soil erosion. This conservation practice was the one Lavern Kelchen selected to install on his 280 acre farm southwest of Edgewood. Kelchen has been operating this farm for the past four years.

"The contour buffer strips have been a good choice for me," said Kelchen. Kelchen continued, "Unlike terraces, the buffer strips did not require a large amount of capital to install. A contact was made with the Soil Conservation Service office for the design and layout. The system was designed with 38 foot grass strips and 90 foot row crop strips. With this design it allows me to plant 36 30-inch rows with my six row planter. With the lay of the land, some of the curves did get a little tight, but the overall system works out re-

ally well. On the really tight curves during harvesting, if I stop and back up, I can negotiate the curve and make it on around."

Kelchen continued, "The buffer strips allow more row crop acre than contour strip cropping." The buffer strips were designed to leave around 30% of the slope in grass. This gives him enough hay to meet his needs. With a strip cropping system, around 50% of the slope would have been in oats and meadow. The grass buffer strips are planted to a perennial type vegetation. Where possible, the buffer strips were laid parallel to help eliminate point rows. The first buffer strips, approximately 77 acres, were laid out in 1993 and the remaining 129 acres were installed this past spring.

A grassed waterway was also installed this past

spring. This has helped in farming the buffer strips, according to Kelchen. The waterway helped to combine the adjoining fields and buffer strips together.

Another important part of Kelchen's total conservation program is crop residue management. "We haven't used a plow for the past 26 years," reports Kelchen. "Today our tillage program is fall chisel, field cultivate in the spring, and plant," said Kelchen. "Our residue cover ranges from 40% to as high as 52% cover after planting corn with this system. We have also no-tilled corn into bean stubble," added Kelchen.

Fields are checked weekly for needed cultivation and any other problems. Kelchen indicated that only areas needing weed control are cultivated. "Why spend the time and money to cultivate

if it isn't needed?" noted Kelchen.

Kelchen further reported, "The buffer strips must be doing their job. During oat harvest on the new strips

this summer, I didn't notice any soil movement into the strips. According to my conservation plan, the buffer strips, along with the residue cover, has cut my soil losses by 70%."



CONTOUR BUFFER STRIPS can be used on cropland when sheet and rill erosion are a problem. The strips are seeded to a permanent vegetation which reduces runoff and traps sediments. The above picture shows part of Kelchen's strips that were installed in 1993.

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DELAWARE COUNTY SOIL & WATER CONSERVATION DISTRICT

50th Anniversary



DELAWARE SWCD COMMISSIONERS are, sitting: Joe McGrane and Marvin Calonder; standing: Larry Knipper, Arnold Lucken and David Eibey. Assistant Commissioners not present are: Vernon Schmock, Eric Wahl and Eldon Koenke. (Photo submitted)

History given on SWCD

A soil conservation district is an association of landowners organized under the law for the purpose of bringing about better land use and the conservation of the soil. Soil conservation districts enable farmers to band together in community-wide action to control soil erosion through their own initiative and according to local conditions and requirements.

In 1946 a careful study of the erosion problem was made by many counties in the state, and they found that uncontrolled erosion generally resulted in low income for the farm family, a decline in business and the curtailment of community activities.

Knowing and understanding the problems that were evolving within Delaware County, the local people assumed the responsibility of circulating a petition, holding a public hearing, and co-operated with the State Committee to develop the Delaware County SWCD.

In the beginning, only three commissioners were elected by the landowners. As time has passed, we now have five commissioners with six year terms. The time these people have given to their county is voluntary out of concern for the land we use.

Delaware County SWCD is proud to list the following dedicated individuals who have given their time to our county.

COMMISSIONERS

Clifton Klaus 1944-62
Maynard Schnitger 1944-51
Wm. Haussler 1944-48

C. C. Robinson 1949-54
Lyle Sutton 1952-57
Donald Eibey 1955-66
Donald Glew 1957-59
Paul Gienapp 1959-82
Vernie Herman 1963-73
Herbert Pridge 1967-78
Gilbert Hoffman 1970-74
Norman Fiddelde 1970-76
Vernon Schmock 1973-86
Larry Knipper 1974-present
Marvin Calonder 1977-present
David Eibey 1979-present
Steve DeShaw 1982-83
Richard Jurgens 1984 & 1987
Joe McGrane 1984-present
Arnold Lucken 1988-present

ASSISTANT COMMISSIONERS

Maurice Minor 1957-77
Donald Glew 1957-58
Vernie Herman 1958-61
Vernon Schmock 1968-73
1988-94
John Finley 1960-61
Kimbal Gates 1962-64
Harold Nieman 1965-67
Robert Nelson 1977-78
Pam Ledenbach 1977-81
Gilbert Hoffman 1974-1981, 1984
Herbert Pridge 1978-81
Orville Schmitz 1981, 1984, 1986-89
Richard Jurgens 1985-86
Arnold Lucken 1988
Katherine Thompson 1988
Harvey Robinson 1988-91
Marvin Schulte 1991-93
Eric Wahl 1992-94
Eldon Koenke 1994

FORMER EMPLOYEES:

District Conservationists -
Irvin Christensen 9-44 to 1-46
Emerson Wolfe 1-46 to 2-50
George Carlson 10-46 to 12-80

Larry Beeler 8-81 to 11-86
Jim Lummis 2-87 to 4-87
Keith Krause 5-87 to present

Soil Conservationists -

Mark Biggs 82 to 83
Norman Brus 83 to 86
Richard Belden 6-87 to present
Connie Reichenauer 2-88 to 9-89
Randy Hefel 90

Technicians - Federal, State, District

Dick Pulse 11-44 to 4-6
Frank Nugent 45-48 and 10-49 to 3-66
Jim Bostwick 11-48 to 3-50
Ray Wycoff 6-66 to 1-88
Beth Todd 12-87 to 2-94
Ken Klein 11-87 to present

Part-time Help - Federal, State, District

Carl Haltmeyer 55 to 59
Richard Vaske 60
George Rans 60
Clarence McQuillan 61
Donald Melloy 66
Robert Carradus 66 to 69
Chris Funke 83
Shelly Zumbach 88 to 89
Ray Wycoff 89 to 90
David Arnold 90
Randy Hefel 90
Greg Deutmeyer 90 to present

Robin Gudenkauf 91 to present
Chad Kehrl 93
Jim Gudenkauf 94

Secretaries -
Mrs. Bostwick 7-50 to 12-50
Mrs. Florence Nugent 2-51 to 66
Pearl Williams 5-67 to 2-75
Pat Maker Hogan 7-75 to 4-83
Marilyn Beaudine 5-83 to present

Volunteers -
Lisa Schaul 84
Mark Sheppard 91
Chad Kehrl 92
Aleshia Beaudine 94
Cory Ballina 94
Thomas Ryan 54
Jason Fiedler 90
Jill Wade 91
Donna Antons 92
Jill Henderson 92 & 93
Shannan Manson 94

O. Fensterman practices 46 years of conservation

For Orval Fensterman of rural Colesburg, soil conservation is a way of life. The Fensterman farm is located two miles southeast of Colesburg. Fensterman has been farming, using soil conservation practices, ever since moving onto his 150 acre farm in 1948. "When I started on this farm in 1948 all of the corn rows were up and down hill and I couldn't even get the team of horses and plow across the ditches," said Fensterman.

I had read and heard about contour farming. In April of 1951 Fensterman signed up as a cooperator with the Delaware County Soil and Water Conservation District. "The District Conservationist, George Carlson, came out and we contoured about 25-30 acres of corn ground that first year," said Fensterman. "We continued to contour 25-30 acres for the next two years until all of the fields were completed. At that time my conservation plan included a corn, oats, hay rotation. Grassed waterways were seeded down in the drainageways to stop the gully erosion." Fensterman added, "We also ridged up our corn when we cultivated. These ridges, along with the contours and grassed waterways, sure did reduce the erosion."

In 1954 Fensterman had soil conservation technician Frank Nugent lay out terraces. Orval said, "The terraces were plowed up with C Case and a 2-16 bottom John Deere plow. All of the water was graded to the grassed waterways for a stable outlet. This not only helped reduce the erosion but also enabled me to add an extra year of corn to my crop rotation. Farming the terraces on the contour was much easier and faster than going up and down the hills. I could go

one gear faster on the contour and I didn't have to worry about any ditches to cross.

"One draw back," said Fensterman, "you always had to keep the terraces plowed up so they wouldn't over top and the waterways had to be maintained. With the changes in farming machinery and farming practices this could be quite a job."

In 1986, with the assistance of SCS District Conservationist Larry Beeler, Fensterman



Orval Fensterman

re-worked some of the older terraces with the newer narrow based tile-outlet terraces. This change required less maintenance, fewer waterways to maintain, and farmed easier with modern day equipment.

Fensterman continues to use a crop rotation, grassed waterways where needed, and conservation tillage. He is continuing to work with the Soil and Water Conservation District on updating the remaining older terraces.

Fensterman said, "My only salvation to farm this ground and to save the soil was to practice good soil conservation. The benefits far out weigh what would have been lost over the years."

Conservation Accomplishments

Oct. 1, 1993 to Sept. 30, 1994

	No.	Acres/Feet
New District Cooperators	59	8,894
Individuals and Groups Assisted	829	
Individuals & Groups Applying Conservation Practices	356	
Conservation Plans		12,673 ac.
Conservation Cropping Systems		10,803 ac.
Conservation Tillage Systems		19,537 ac.
Contour Farming		3,092 ac.
Farmstead & Feedlot Windbreak		14 ac.
Field Border		152,033 ft.
Grassed Waterways		297 ac.
Contour Stripcropping		1,035 ac.
Terraces		40,510 ft.
Tree Planting		15 ac.
Water & Sediment Control Basins	13	
Wildlife Upland Habitat Management		26 ac.
Wildlife Wetland Development		10 ac.
Cropland Acres Treated		16,627 ac.
Conservation Reserve Program		
Total No. & Acres to date (10/1/91)	281	14,520 ac.
Follow-up with Conservation Compliance Plans	504	
Acres in Conservation Compliance		61,073 ac.



THE FOLLOWING PEOPLE are members of the Soil and Water Conservation District Staff, front row, left to right: Keith Krause, District Conservationist; Ken Klein, Soil Conservation Technician; Marilyn Beaudine, State Secretary. Back row, left to right: Richard Belden, Soil Conservationist; Jim Gudenkauf, Greg Deutmeyer and Robin Gudenkauf, part-time Soil Conservation Aids. (Photo submitted)

Delaware Soil & Water Conservation District Annual Report

Financial statement expenditures of funds provided by the State of Iowa for District Commissioners expenses, office supplies, and cost share program.

July 1, 1993 through June 30, 1994		
IM BUDGET		
Original Allocation		\$2,500.00
Supplemental Allocation		
Commissioners' Expenses	\$ 913.24	
Office Supplies & Expenses	\$1,811.23	
Total Spent		\$2,724.47
Recalled by State		\$ 600.00
Remaining & Returned to State June 30, 1994		\$ -0-
IIIM BUDGET - COST SHARE PROGRAM		
FY 93-94 Original Allocation 7/1/93		\$25,057.00
Spent in FY 94	\$ 4,796.99	
Uncompleted Obligations	\$15,630.00	
Remaining June 30, 1994		\$ 4,630.01
FY 92-93 Original Allocation 7/1/92		\$26,577.00
Recalled by State 12/31/93	\$ 179.83	
Supplemental	\$ 9,500.00	
Spent in FY 94	\$ 22,797.17	
Uncompleted Obligations	\$ 10,896.50	
Remaining June 30, 1994		\$ 2,203.50
REAP Practices Cost Share Program		
FY 93-94 Original Allocation 7/1/93		\$22,933.00
Spent in FY 94	\$ 4,374.54	
Uncompleted Obligations	\$11,082.26	
Remaining June 30, 1994		\$ 7,476.20
FY 92-93 Original Allocation		\$ 5,220.00
Spent in FY 93	\$ 1,400.00	
Spent in FY 94	\$ 2,435.80	
Recalled by the State 9/30/93	\$ 1,384.20	
Remaining June 30, 1994		\$ -0-
REAP Forestry/Native Grasses		
FY 93-94 Original Allocation		\$ 5,586.00
Spent in FY 94	\$ 1,485.05	
Obligated	\$ 2,150.00	
Remaining June 30, 1994		\$ 1,949.95
REVOLVING FUND		
Balance 7/1/93		\$ 1,204.57
Minus - Education items, prizes, camps	\$ 506.79	
IASWCD & NACD Dues	\$ 1,050.00	
Sales Tax for '93	\$ 118.10	
Purchase Trees	\$ 1,259.01	
Annual Report	\$ 3,563.53	
Nursery License	\$ 25.00	
Equipment	\$ 42.00	
Purchase Flags	\$ 94.72	
Office Supplies	\$ 623.84	
Plot - Reimbursement from IM Fund		\$ 1,811.23
Sales of Trees, Seals, Flags, Grass Seed, Calendar Ads, Savings, Misc.		\$ 5,929.01
Balance 6/30/94		\$ 1,734.09

The Manchester Press would like to congratulate the Delaware County Soil & Water Conservation District on their 50th Anniversary!

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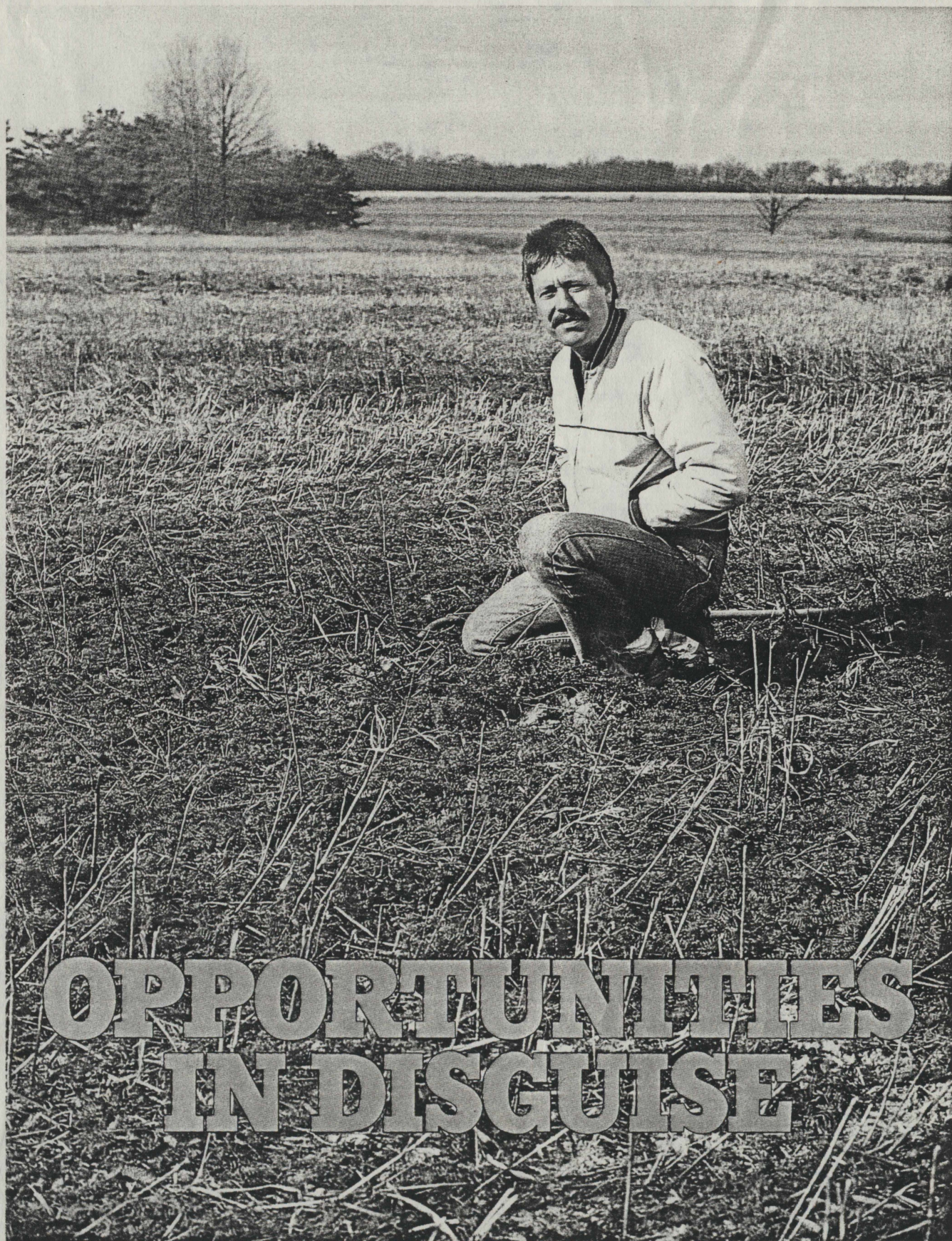
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HAIRY VETCH PLANTED AS A COVER CROP is only one of the changes Mike Strohm made to make farming more profitable. He designed and built a custom tillage implement, incorporated both rye and vetch cover crops, and converted to no-till.

PHOTO: DARRELL SMITH

A CROP FAILURE LAUNCHED MIKE STROHM INTO A MORE PROFITABLE, RESPONSIBLE WAY OF FARMING

By Clem Marley

After a bad season in 1983, Mike Strohm decided he had no choice but to change the way he farmed. His initiative still is paying dividends, and judging from his experience and from the reception he is receiving from other farmers, it looks like his success will continue.

"In 1983, I was being pulled and pushed," Strohm says. "I had just completed my first year of farming on my own, and what I had experienced was a drought and a complete crop failure. To make things worse, I had bought some land at a too-high price.

"You can believe me when I tell you I had to find a better approach to farming."

It has been an eventful five years for Strohm, and his crash course in survival has produced promising results and a promising future. A good part of this is because other farmers, seeing Strohm's results, are moving in his direction also. This is helping Strohm's fledgling hairy vetch seed business and the manufacturing of his no-till aerator.

Lots to learn. When he got caught in the 1983 crunch, Strohm had just taken over the farm near West Union, Ill., that had been in the Strohm family for several generations.

"It always had been farmed with the moldboard plow and old-time conventional tools," he says. "But there was a growing awareness of compaction and erosion, serious problems that resulted from those methods.

"At the same time there were rising complaints by the nonfarming public about unwanted chemicals getting into the groundwater. And there was tough talk by the U.S. government centering on erosion."

The 560 acres farmed by Strohm is south of the Shelbyville moraine and is older soil with tight subsoil. If compaction was bad somewhere else, it was even worse here.

Strohm looked in all directions for something that would help him out of his dilemma. Here are some of the things that looked promising to him:

- Zero-till cropping of both corn and soybeans.
- Hairy vetch and rye as winter cover crops.
- Finding a way to aerate corn roots while the crop was growing.

- Finding an implement to dry out soils without compacting them.

Custom aerator. Strohm's approach to the complicated problem of compacted soil took the direction of both mechanical and biological methods. Innovation and management has produced his most dramatic results.

"Here, subsoiling in the fall is not right because the soils start to set up again within three months. Subsoiling in the spring is out because the soil usually is too wet then," Strohm says. "What I needed to do was aerate between the corn rows while the crop was from 4" to 8" tall. There was not a tool on the market that would do what I needed done. So, I built it myself."

Strohm's aerator is designed to lift and aerate the entire soil profile without

***"You can believe
me when I tell you
I had to find a
better approach
to farming"***

MIKE STROHM

inverting it. To do this each knife has a lifting wing on the bottom. Strohm also side-dresses with 28% N during this operation.

"This aeration makes for better water and air penetration, and it does it at exactly the right time," Strohm says. "When I first used the aerator this way, I got an immediate 24% to 48% yield increase as compared with several of my check strips."

Cover crops. The other dramatic change in the Strohm operation is the use of both rye and hairy vetch as winter cover crops.

"I like to have something green on my land the year around," Strohm says, and to accomplish this he zero-tills rye into corn stubble after harvest and hairy vetch into bean fields after harvest.

In spring when the vetch is green and heavy, he zero-tills corn into it. Then he kills the vetch with a light spraying of 2,4-D.

"I first tried vetch because of its reputation for producing nitrogen as a catch crop in my corn-soybeans rotation, and because it would retard erosion," Strohm says. "Also, research I read from North Carolina State University says vetch pumps up potash levels."

His new system has produced corn yields in the 140-to-160-bu.-per-acre range in his less-than-first-class soils.

Rye is the other winter cover crop in the Strohm system, and he says it helps with weed control. In his part of the country he can have a severe problem with winter annual weeds. With rye on the ground, weeds are kept in check, and the rye also helps transpire out some of the moisture.

"What I strive to do is plant zero-till soybeans in tall rye. Then I shred the rye to kill it," he explains. "The rye that is mowed is beneficial to soybeans and helps control weeds."

As for bean yields, the Strohm's topped the state in the zero-till category in both 1986 and 1987. Their high is 64.8 bu. per acre.

But this year . . . But this year was a different story. "My beans were a complete failure," Strohm says. "I learned that in dry years you have to monitor subsoil moisture and kill the rye much earlier. My corn system in the vetch fared well, though. Yields were 90 to 100 bu., but it was my most economic yield ever because of low costs. Every acre is seeded back into cover crops."

One spin-off from Strohm's cropping system takes advantage of the increasing demand for hairy vetch. Strohm changed his crop rotation to include a full year of hairy vetch and rye, and purchased a fan mill and bagger so he can offer Illinois-grown vetch. He is completely sold out.

"My next move is to become a certified seed producer," Strohm says.

Farmers also have expressed enough interest in Strohm's no-till aerator that Mike and his brothers John and Bruce are manufacturing it.

It wasn't Strohm who first said, "Problems are opportunities in disguise," but he probably would agree with it. ◀

The ***NO-TILL AERATOR***

A Better Soil-Loosening Device



■ Better Versatility...

Designed for spring and summer use in standing row crops or after fall harvest, the *NO-TILL AERATOR* offers true versatility in tillage. Liquid fertilizer can also be applied below surface residue during this trip across the field. The *NO-TILL AERATOR*'s better versatility means better value. It's more than just a fall tillage tool.

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Unlike straight subsoil shanks, which merely fracture soil around the shank, the *NO-TILL AERATOR* lifts and aerates the entire soil profile without inverting it. Its patented design brings a new standard of excellence to conservation tillage. There's nothing else like it.

■ Better Erosion Control...

Narrow shanks on the *NO-TILL AERATOR* create minimal surface disturbance, much less than competitive tools. Undisturbed surface residue holds valuable topsoil and applied nutrients in place, providing erosion control to be proud of.

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When used in standing row crops, the *NO-TILL AERATOR* eliminates compaction at a time when proper root growth is essential. After aeration, a deep and fibrous root system develops which promotes efficient nutrient uptake by growing plants. And that means higher yields from lower inputs in your conservation farming system.

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During dry periods, roots are able to reach moisture reserves deep in the subsoil because the hardpan has been fractured. And during periods of high rainfall, water does not run off, but is absorbed into the subsoil where it is stored to be used when needed most.



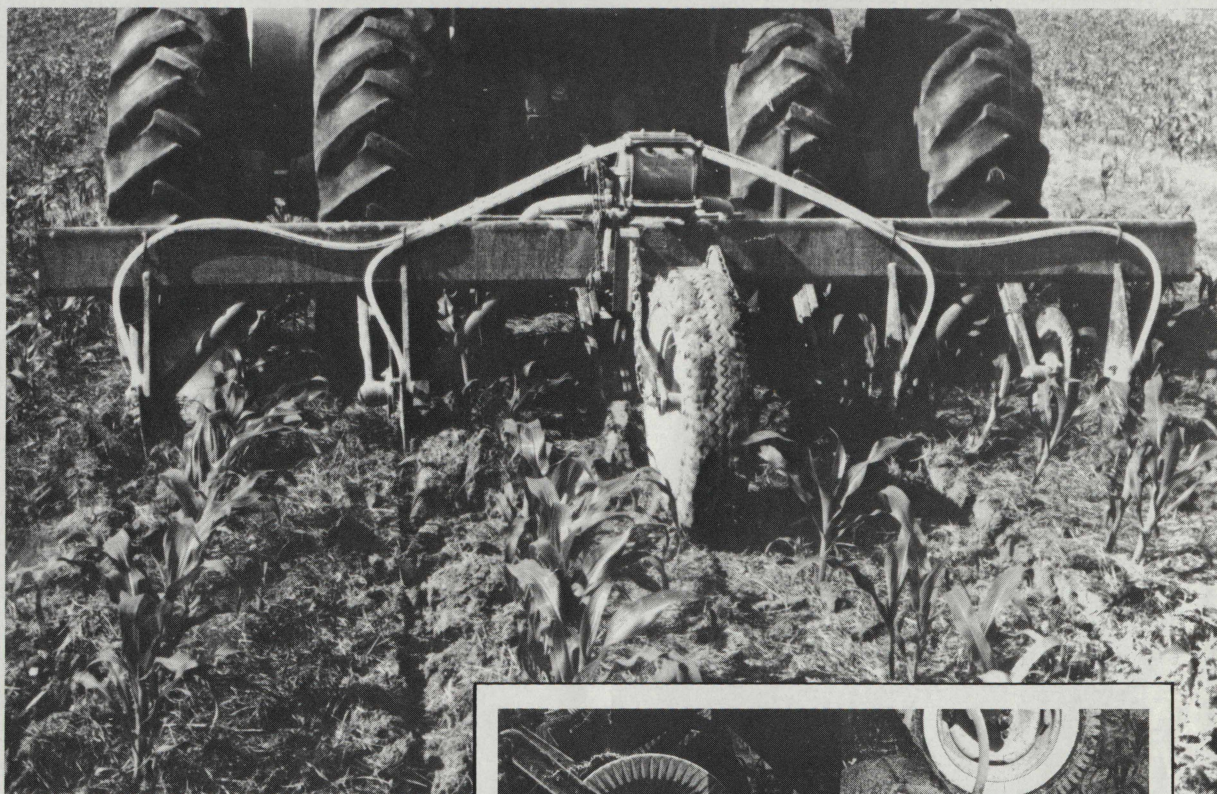
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- The *NO-TILL AERATOR* is available in widths of up to 7 shanks.
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- Category II or III 3-point hitch.
- United States Patent #4699220. Other patents pending.
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Mike Strohm removes compaction and aerates the soil under growing crops with a tool, above, he designed. The West Union, Ill., farmer uses a toolbar with five 24-inch knives that run 16-inches deep. At right, the coulters cut residue ahead of each knife. Wings 2 inches from the bottom of each knife help lift and break subsoil.



No-Till Tools Air Out Compacted Soils

by Syl Marking

One limitation of no-till has been the lack of a way to reduce existing compaction. But, Mike Strohm has found a way to remove compaction and aerate soil that has added up to 45 bushels on to his corn yields. And his soybeans averaged 52.5 bushels on 210 acres in 1985.

The West Union, Ill., farmer is doing it with a pair of implements, one a commercially produced unit for use in his narrow row soybeans.

The other is a deep running tool he calls his no-till aerator that he uses after corn emerges. He developed the latter unit, has a patent pending on it and plans to market it.

"What it boils down to is managing air and water in the soil profile," Strohm explains. "I primarily designed the no-till aerator implement to remove compaction, which we were having a problem with on these soils. But once I got into it, I learned I was getting a lot

of help from the aeration aspect."

Removing compaction and aerating the soil are necessary for maximum performance, especially from a soil that is compaction prone, he says.

The no-till aerator would work equally as well for soybeans as for corn. But Strohm is in 7- and 15-inch row beans and can't use his unit after beans emerge.

But he believes aeration and elimination of compaction in the top



Strohm aerates the top 3 or 4 inches of soil with an Aer-Way, a single bar of rotating tines that can penetrate 7 inches deep.

3 to 4 inches, what he calls the bacterial zone of the soil, are important. So he uses the Aer-Way unit just before or after no-tilling beans.

The Aer-Way unit is a single toolbar with weight trays over a single bar of rotating angled tines, which penetrate up to 7 inches deep. The tines leave crop residue virtually undisturbed.

The Aer-Way, developed originally in New Zealand for pasture renovation, is a multi-purpose secondary tillage tool that offers a chance to aerate and remove compaction to a depth of 7 inches. It has a much lower power and energy requirement than Strohm's deep running no-till aeration unit. Its limitation is that it can't remove deeper compaction and aerate below 7 inches. That's where Strohm's unit, expected to be put into commercial production this spring, comes in.

His unit is a toolbar with five 24-inch knives that can run 16 inches deep. A coulter runs ahead of each knife to cut crop residue. Wings are affixed on each knife 2 inches from the bottom.

The wings provide a lifting ac-

tion from well below the so-called plow pan. That lifting action picks up the soil and corn plants 2 to 4 inches, then lets it settle back down without disturbing the soil surface, except where the narrow knife runs. It bends and breaks the soil, much in the matter of the recently introduced Paraplow. The difference is that the no-till aerator unit is designed to do it while the crop is growing to avoid recompaction and provide aeration when the growing plant most needs it, Strohm says.

eliminated those problems, and we're real happy with the results."

Strohm became a believer the first year, 1984, when he used it in 6-inch tall corn. It turned dry, with no rain for three weeks in June. Un-aerated no-till corn stressed badly with typical leaf rolling. Aerated no-till corn never rolled, and out-yielded untreated no-till corn by 48%. Conventional corn that was aerated produced 137 bushels per acre, compared to the no-till aerated 138 bushels.

Equipment handles hardpan

As one would expect, horsepower (hp) requirements are substantial with the deep running aerator, about 30 hp per shank when run at maximum depth, or 150 hp on the five-shank unit. "It uses every bit of the power, too, running at maximum depth," Strohm acknowledges. "But it's well worth it."

"I had a real bad hardpan problem," he explains. "I'd been playing with no-till, and found that I was having trouble with compaction and a lack of air in the soil. The soil just wasn't drying. This unit has

The reason for the difference, Strohm says, was that the roots in aerated corn went right through the pan down to where moisture was plentiful, plus the effect of adding air into the soil.

Strohm added a squeeze pump and floating drive wheel to meter fertilizer to his aerator unit in 1985 and applied all his nitrogen with the aerator, eliminating the 100-hp tractor trip across the field. He also feels that he has been able to reduce the amount of nitrogen needed because of the deeper placement. ○

Mike Strohm admits rye may not be a flashy crop, but it glistens in his program to cut costs and save soil.

Low-Input System Sparkles

by Grant Mangold

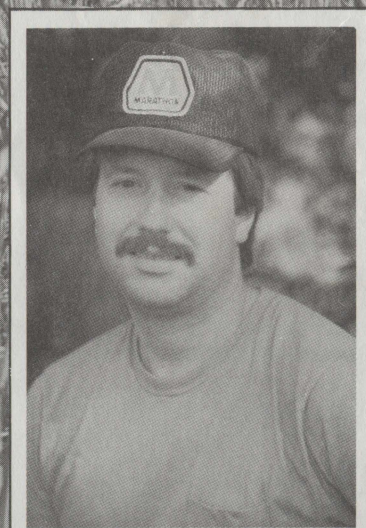
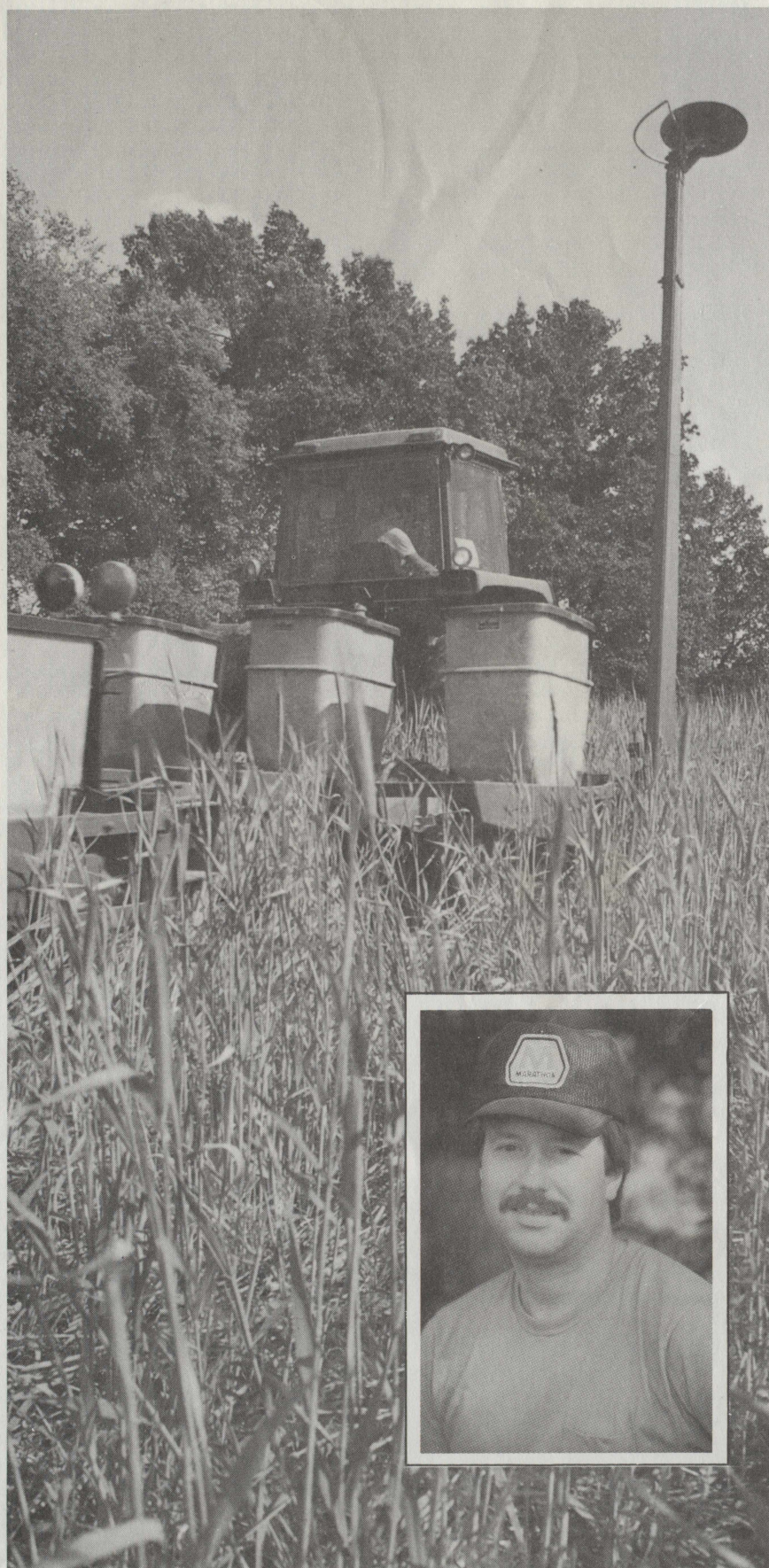
I'm in business to make a profit," declares Mike Strohm, West Union, Ill. "And I'm using a tillage system that enables me to make a profit even with low crop prices. It's a no-till cover crop system that I'm comfortable with for the 1990s and that meets all the requirements set forth by the 1985 Farm Act. It not only keeps the soil in place, it also improves it by increasing the organic matter content."

Strohm developed his cropping system over the past five years. It requires low inputs and intensive management, while returning high efficiency, good yields and profits.

"Soybean yields can really go through the roof in a year with normal rainfall," he relates. His beans pegged 64½ bushels per acre in 1986—winning his district and the no-till division of the state yield contest. In 1987, when no rain fell from July until after harvest, his beans still ran 50 bushels per acre, and captured first place in his district and third place in the state.

"The soybeans really jumped when erosion levels made a dramatic drop," Strohm notes. His county Soil Conservation Service measures his soil losses at less than 500 pounds per acre. That's compared to losses of 6 to 8 tons under conventional tillage and no-till without cover crops, he points out.

"Corn yields consistently run in the 140 to 160 bushel range," notes Strohm. "There's no sense in shooting



PHOTOS BY GREGG HILLIER

for 200 bushel corn if it costs you too much to raise it, especially when there's no market for it. It makes more sense to raise 150-bushel corn with fewer inputs.

"I'm looking for an all-around system that produces year after year. I'm not necessarily shooting for top yields, but they've come up because I've increased my efficiency," he observes.

After corn harvest, he makes a light tillage pass with a tool called an AerWay. "It pokes holes in the soil to alleviate surface compaction, which is a problem in our soil type," he explains.

Then, Strohm drills a rye cover crop into the corn stalks at 60 to 75 pounds per acre. "Some nitrogen also helps get the rye started, due to the wide carbon-to-nitrogen ratio present with high residue levels," he adds. He generally applies about 100 pounds of ammonium sulfate, at a cost of about \$6 per acre. But he figures this cost is offset by eliminating burndown herbicide the following spring.

"In the spring, I no-till soybeans in 15-inch rows right into the rye cover crop with a Deere 7000 planter with no-till coulters," he continues. To control the rye, he runs a stalk chopper after planting. "This shreds the rye cover crop and eliminates the need for a burndown chemical. Plus the rye provides a living mulch that has an allelopathic or growth-inhibiting effect on weeds, particularly broadleaves."

Mowing controls 70% to 80% of the rye, so he may come back with a light application of postemergence grass herbicide. And he spot sprays post-emergence broadleaf material only where it's needed.

Total weed control costs in beans run \$10 to \$12 per acre. Strohm also cuts costs by purchasing through a local buying group. The rye costs \$4 to \$5 per bushel, but he offsets the cost by raising his own. "The rye also allows me to reduce dependency on herbicides for weed control, which is a major obstacle for no-till," he notes. Total chemical costs runs \$5 to \$8 per acre.

Right after soybean harvest, Strohm makes another pass with the AerWay tool, then drills hairy vetch into the soybean stubble as a cover crop. "Normal rates are 20 to 30 pounds per acre, but in some cases I kick that up to 40 to 50 pounds, which really helps the winter survival rate," he notes. "And I grow my own vetch and rye, which helps cut down the cost of the cover crops." Normally, vetch runs 50¢ to 70¢ per pound or around \$15 per acre. Strohm also plants oats with the vetch to provide a quick fall cover. He uses a Tye no-till drill, and has experienced

no problems drilling into corn stalks.

In the spring, he no-tills corn into the vetch cover crop. His weed control program includes a pound of atrazine, a pound of Bladex and a pint of 2,4-D for a total cost around \$6 per acre.

The cover crop also cuts his nitrogen requirements. "I generally apply only 50 to 60 pounds of 28% nitrogen shortly after planting corn," he notes. "If I get a 2,500 pound per acre vetch crop at 4% nitrogen, that provides 100 pounds of nitrogen. And that more than offsets the cost of the vetch." No-tilling corn into soybean stubble without cover crops would likely require 100 units of 28% nitrogen to yield 160 bushels of corn, he adds.

Profits shine in no-till cover crop program

"Whether you disk in the cover crop or leave it on the surface affects availability," he explains. "You can weigh the actual organic matter to calculate the nitrogen content or you can take a tissue analysis. I am also working in my test plots to find a base rate for nitrogen application, but this varies with weather and moisture."

Strohm monitors nitrogen and other nutrients in his soil through annual soil tests. "But I use them only as an assay to find out what's in the soil. Because of my reduced fertilizer application, I want to make sure levels aren't dropping. But potash levels, for example, have been staying the same and in some cases have increased."

The increased organic matter from cover crops has also boosted his cation exchange capacity by an average of two points, he notes.

The cover crops reduce nitrogen needs in another way. "The way to keep nitrogen from leaching is to tie it up in organic matter. So keeping something growing in the soil year around helps prevent losses as well as reduce application needs."

His no-till cover crop system also promotes earthworm populations. "Earthworms loosen the soil and help keep pores open for air, water and nutrient uptake," notes Strohm. "And their castings are rich in nutrients. Earthworms like a carbon-to-nitrogen ratio of 25-to-1 or less, which is where vetch comes in. They really thrive un-

der these conditions. We've taken counts as high as 25 to 30 earthworms per cubic foot in our soil."

Strohm's cover crops offer a wide range of advantages: lower production costs, weed control, nitrogen contribution and halting erosion.

"But all the advantages didn't appear right away," notes Strohm. "And it took a few years to learn how to raise cover crops. For example, it's best to be using a total postemergence herbicide system in soybeans. Vetch doesn't like certain residual herbicides, so I had to clean up my soil."

Strohm farms about 30 miles southwest of Terre Haute, Ind. "The rule for planting cover crops is the earlier, the better. In more northerly regions, cover crops need to be interseeded before harvesting corn or beans," he says.

"My lighter colored silt loam responds well to this type of management," he adds. In addition to the dramatic drop in soil erosion, he's also found a way to manage his compaction-prone soil. "Conventionally farming for so many years really compacted the soil's natural clay pan subsoil, so the soil didn't get good air and water movement," he explains. "Performing deep tillage in the fall or early spring doesn't do much good to relieve compaction. The soil sets up or recompacts before it can do the crops any good."

The time to relieve compaction is while the plant is growing, he believes. Using a tool he designed and patented, Strohm breaks subsurface compaction early in the growing season, and sidedresses nitrogen at the same time.

"It has a working action similar to the Paraplow, and runs 12 to 14 inches deep. Wings on the bottom of the shanks perform a lifting action to put pore spaces back into the soil, allowing air and water to infiltrate," he says.

Strohm and his brothers John and Bruce build and sell aerators.

The aerator also helps reduce his nitrogen requirements. "Applying the nitrogen at the same time as aerating the soil increases its efficiency, so the soil doesn't lose nitrogen due to denitrification. It's more available for the plant's uptake, so I can use lower rates. This also helps the groundwater situation, as I'm applying only what the plants need."

"I'm exchanging dollars for more intensive management," says Strohm. "My 560 acres take two people during the most labor-intensive periods of planting and harvest. But the system has greatly reduced my input costs while returning a profit and good yields. I'm interested in high yields, but not high input costs." ○