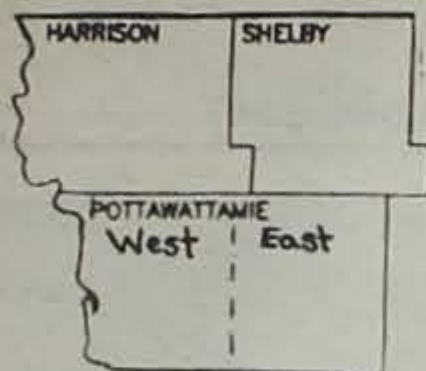




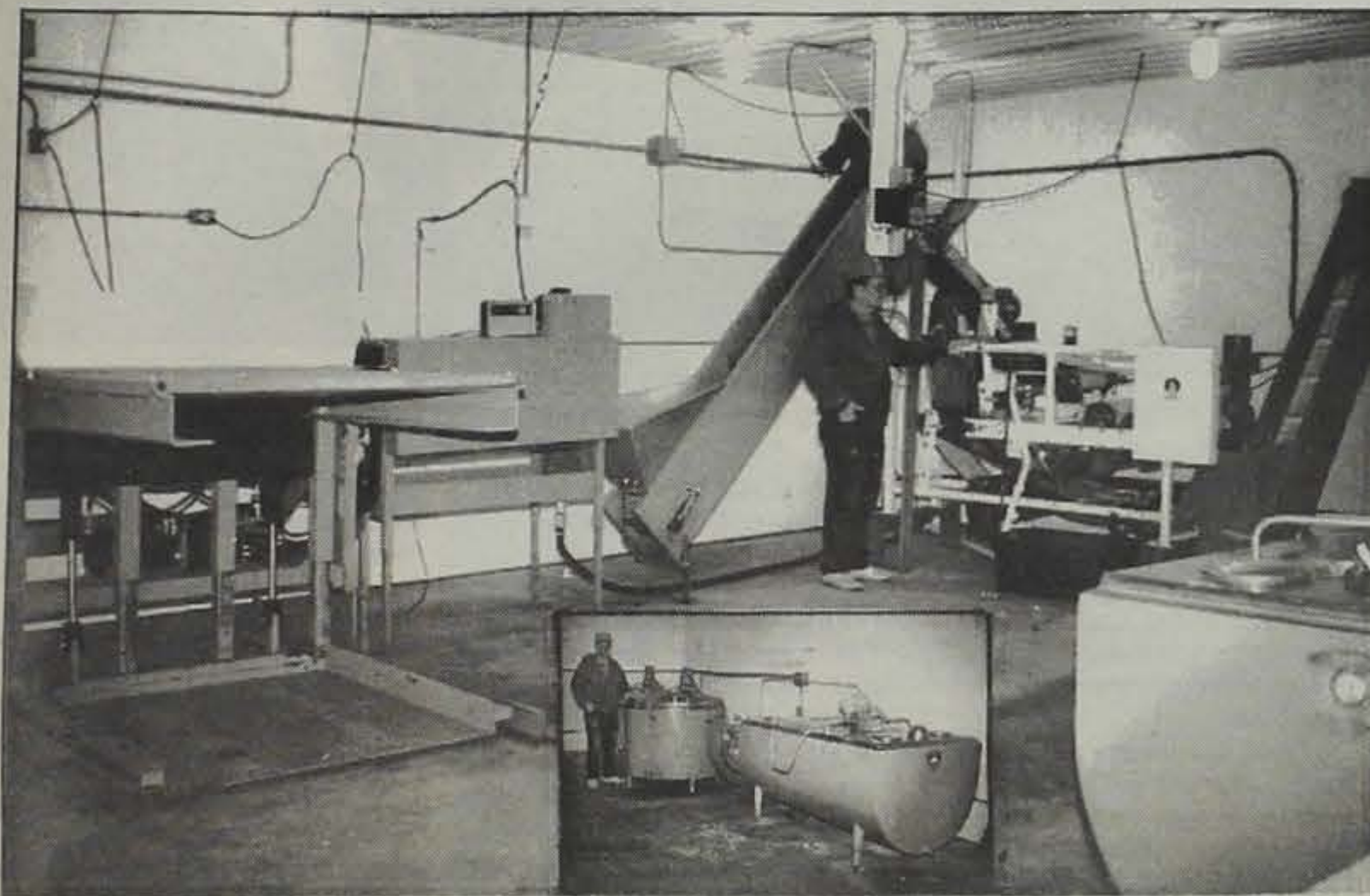
Volume 2
Issue 1

Quad-District Conservation Newsletter



Spring
1997

Making cider has become a year-around occupation at Small's



Russ stands beside the cider press, with some of the attached equipment used in the cider making process also shown in the photo. (Inset: Vats in which the cider is temporarily stored)

"It's hard work, but it has its rewards . . .
most of the time, anyway"

-- Russ Small

run off a batch of cider," Russ reminisced, "and only six bushels of apples could be processed at one time. Now a continuous belt feeds apples into the press allowing us to make any amount, which is usually 600 gallon every third day. It only takes one man to operate the equipment, so it is a great labor and time saver."

The apples used for cider are the smaller ones which have been sorted out in the grading process. Before reaching the press, they are placed on a conveyor belt and carried through a brush washer. The "rejects" are removed by hand enroute.

Russ laughed when asked if the apples with worms go through, since sometimes there is no outward indication of such infestation. "We don't have wormy apples," he said, convincingly. "thanks to the chemical sprays we use." (Alar is not one of them, by the way).

The Smalls noted that some years ago, a man from Texas ordered a crate of cider shipped to him, which was a "first" for them at the time. That customer remains, and is not alone, for currently cider is shipped to customers in many states. It is also sold to retail outlets, such as super markets, etc., and is available with or without added preservatives.

Although late frosts or freezing temperatures can and do limit the crop, the Smalls usually harvest around 20,000 bushels of apples. The staff of two or three full-time employees is augmented during the picking season, and often numbers

25 or 30. "We use Mexican laborers for much of this," Russ said. "They are very good workers, but so of course are our local employees."

The Small's son, Jim, is involved in the family business, working closely with his parents. In addition to Joyce's many other chores, she clerks and supervises the pie parlor. (The day of the interview, she was making apple butter, which filled the room with its rich, spicy fragrance.)

Russ, although affected by recent surgery, obviously does a good job of "ramrodding" the entire operation. "It's hard work," he admitted, "but it has its rewards." Then with a wry grin, he added, "Most of the time, anyway."

Russ and Joyce enjoy traveling, especially in the winter when they migrate to warmer climates. They also square dance and fish when they "have time". Russ plays golf, a game which Joyce admits she hasn't as yet quite mastered. "But I'm learning," she said.

Russ is one of the directors of Harrison County Rural Electric Cooperative, a member of the Masonic Lodge, American Legion, and the Iowa Fruit and Vegetable Growers Association, of which he is past-president.

Jim's siblings are Steven of Kansas City, Missouri, who is a railroad engineer; Coleen Roemen, a nurse in Council Bluffs; and Kathy Duncan, employed in the Omaha office of St. Joseph Medical Center. Spouses and twelve grandchildren complete the immediate family circle.

by Lou Waite

Small's Fruit Farm is located between Missouri Valley and Mondamin (Highways 183 and 127)

In 1954, Russ Small had just completed his final tour of duty with the United States Air Force. He and his wife, Joyce, decided to return to Iowa and continue family tradition as orchardists. Russell's father had been involved in raising apples for a number of years.

"When we began," Russ recalled, "there were 20 acres of apple trees, and we also raised watermelon. Today, there are 70 acres of apples, we still raise melons, have 10 acres of strawberries, 2 acres of red and black raspberries, and 30 acres of garden variety vegetables."

Widening the scope of their business made it necessary to have equal accommodations, so in 1965, a large metal building was erected.

This is still used for display and sales of their fresh fruits and vegetables, as well as other items.

In the early 1980's, when the Smalls were looking for ways to draw more customers, Joyce began making and selling pies. The demand for these pastries soon became so great that she found herself preparing over 1,000 each year. "I saw pies in my sleep," she declared, with a slight grimace.

So, adhering to the law of supply and demand, the Smalls in 1991 constructed an addition to the existing building, and opened a "pie parlor". In the light and airy "parlor", furnished with tables and chairs, one may enjoy delicious pies (ala mode if desired), as well as coffee, tea, etc. Apple pie remains a favorite, with cherry a close contender. Other varieties in season are peach, raspberry and strawberry rhubarb. Whole pies, baked or frozen, are also for sale.

There are now five or more

women helping with the pie-making. They produced 5,000 pies last year, and Joyce said a bit ruefully that supplies were depleted in the middle of the season. "If you know of anyone who wants to make pies for us, let us know," she added with a chuckle.

A popular tourist attraction and successful sales promotion is the cider-making process. A sign on the recently built "Cider House" invites the public to "Come in, watch and taste". Large plate-glass windows give visitors a view of the spotlessly clean chamber filled with stainless steel equipment used in making the cider.

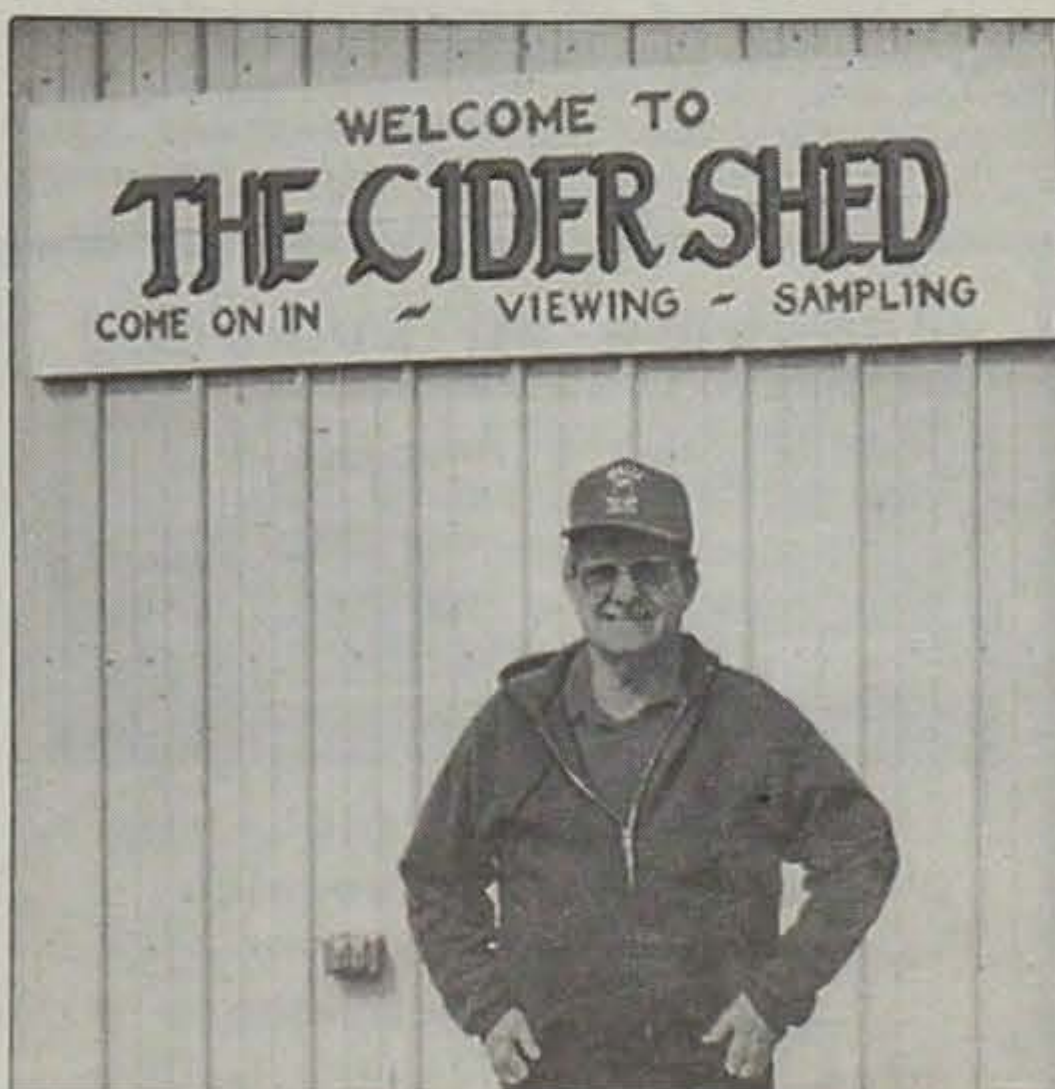
Afterwards, everyone is offered a cup of the refreshingly chilled drink. The cider served to the public is not "fresh from the press", but has been allowed to "settle" for 12 hours or so. Since it is not fermented, children may enjoy it and many do. Usually, these are part of school or youth organization tours which come from all over Iowa and nearby states. Vehicles filled with adults also regularly stop at the orchard, and are given a review of the entire operation. Busloads of people touring the Loess Hills often stop, and many times a "pie break" is part of the agenda.

The whole cider-making process was enhanced by a Rural Development Through Forestry grant, received with assistance of Marty Braster of the Golden Hills RC&D. The grant money was used to purchase a cider press, with the Smalls using their own funds for the remainder of the equipment needed.

"In the past, it took three men to



Jim, Joyce and Russ Small enjoy a rare coffee break together



The Cider Shed is popular with the kids who visit

Dwight Mills "retires" as SWCD Commissioner

by Lou Waite

Dwight Mills retired December 31, 1996, after having served twenty-four years as Harrison County Soil and Water Conservation District (SWCD) Commissioner. He began as a volunteer assistant commissioner in 1972 and then was elected to consecutive terms of full tenure. He presided as chairman of the board of commissioners for the past 16 years. He has now agreed to once more serve as an assistant commissioner, however, proving the old adage, "what goes around, comes around," perhaps.

Dwight lives west of Dunlap on the farm where he was "born and raised". The 320 acre tract produces corn, beans and alfalfa, with the pastures reserved for a cow/calf herd.

Through the years, Dwight said he had witnessed and/or implemented many changes in farming and agricultural applications and techniques.

"I am pleased that no-till has become more of an accepted practice to reduce soil erosion in the county," Dwight said, "and that we at the SWCD established it, offering cost share incentives to help get it started. I am also proud of the progress in the watersheds through the years, with many structures and other practices being installed to help solve erosion problems. Cost share funds also made most of this possible."

Noting that methods of administration of the cost share have varied throughout, Dwight said in the early years only federal funds were available. But in the 1970's, state funds began to be allocated as well. This was an added benefit, he felt. There have also been many changes in the "rules", Dwight said, with a grin and a lift of an eyebrow. (No further comment?)

He also felt that the Conservation Reserve Program (CRP) had been of great value. "It has taken out some of the land which never should have been farmed in the first place," he said, "especially in this township."

The Mills farm, which has

belonged to that family for three generations, is mostly highly erodible land (HEL), located in Lincoln Township. "When I was a boy, there were ditches you couldn't cross with a cultivator without getting stuck," Dwight recalled. "Now you can drive a car in those same fields without a problem." Much of that improvement is due to conservation measures such as terraces and waterways which have been installed, along with contour farming and no-till.

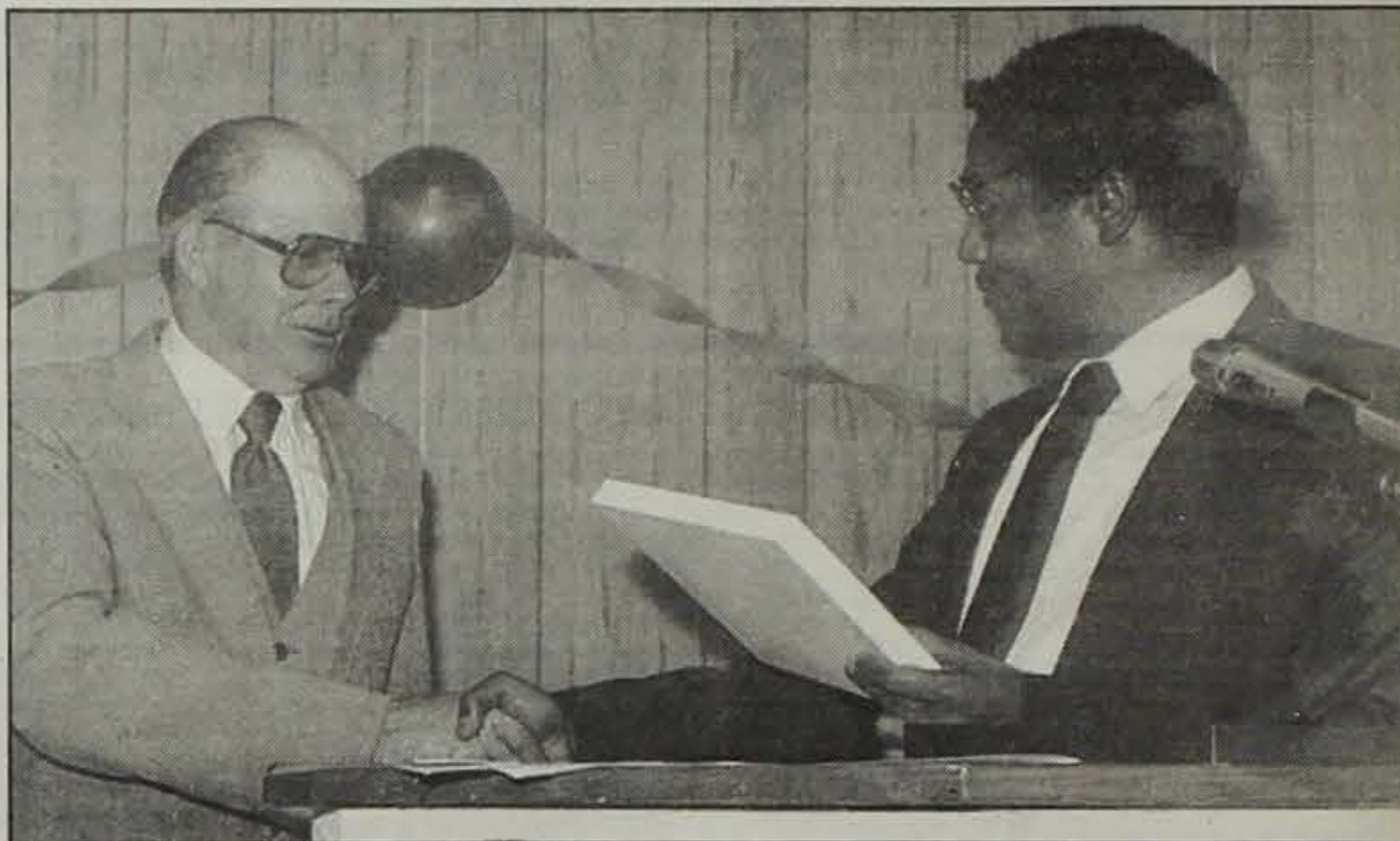
Dwight also reminisced that at one time, almost every farm in his vicinity had feed yards filled with cattle, and always some hogs. "But now the only cattle are found in cow-calf herds which graze the pastures and stalk fields, and I can't think of a farm in my neighborhood with a hog on it," he reflected.

"Of course, at one time, every farmer milked cows and raised chickens," Dwight pointed out with another wry grin. "You don't see that any more, either. Actually," he continued, "everything is so specialized today that modern farm operations would be a complete mystery to farmers of the past. If my grandfather could come back, he would never recognize anything!"

Dwight's wife, Marian, is a native of South Dakota. They have two children, Kathleen LaCost of Lamar, Colorado, Barbara Wynn of Omaha, and one grandson, Austin LaCost. Marian has "always supported" Dwight's interest and involvement in conservation, and has served as the Conservation Poster Contest Chairman for a number of years, as well as assisting the district in other areas.

The Mills attend the Woodbine United Methodist Church, with Dwight having served as a board member and trustee. Marian is past president of the United Methodist Women's local group, and is currently serving as vice president of the Council Bluffs UMW district.

Dwight is a lifetime member of the National Rifle Association (NRA) and enjoys target shooting,



Dwight Mills, left, is congratulated by Leroy Brown, Iowa State Conservationist, at the right.

woodworking, occasional hunting and other hobbies.

The Mills own and operate the Woodbine Oil Company, and expanding business activities there, as well as their farming operation, keeps them "very busy".

"I can't say enough about how much I have enjoyed my association with the SWCD," he emphasized. "I always looked forward to the meetings, and found them to be interesting and informative. I have felt this was one area where we were really accomplishing something. I also appreciated the association with the other commissioners and the office staff. It has been a very rewarding experience."

When asked what major concern he might have for the future of conservation, Dwight responded by saying, "I would like to see more watersheds established. To me that is a top priority. I feel the funding will be made available if we can just get enough people

involved, and keep reminding the members of Congress of the importance of what we are attempting to accomplish."

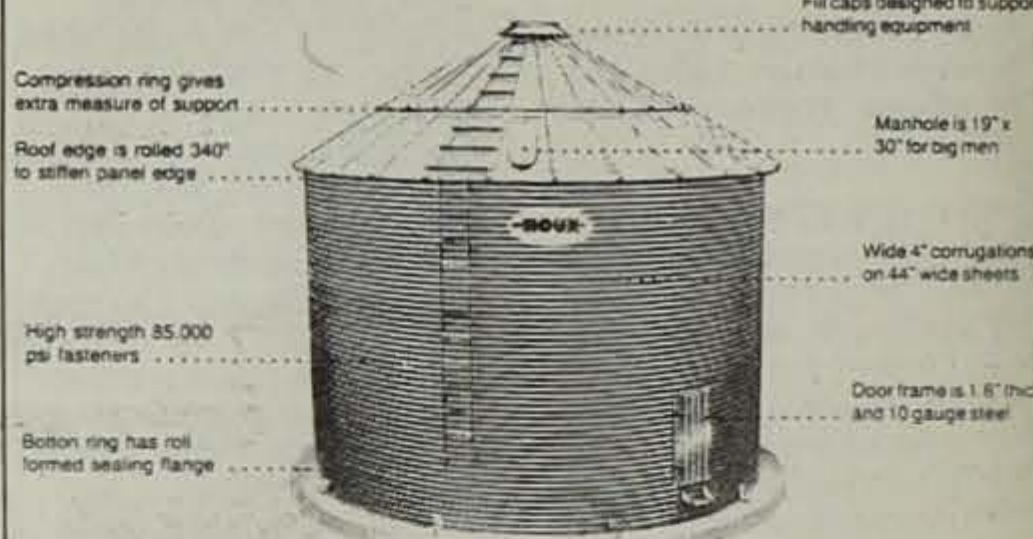
Russ Kurth, District Conservationist commented, "I really enjoyed working with Dwight for the past 10 years. He provided excellent leadership to the district, serving as chairman and in many other ways. He is also very

interested in getting conservation of the land through the PL566 Watershed Program in Mill-Picayune Creek and Mosquito of Harrison watersheds.

"I look forward to working with him further, to see if there is enough interest in developing other watershed treatment programs in his area, especially on Willow Creek or Mud Creek."

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Windbreak planted for future generations to enjoy

by Lou Waite

About ten years ago, Dwight and Doyné Willard's son, Bob, said to his parents, "You know, you really need a windbreak on this place!" The "place" was the homestead in LaGrange Township, on the farm where Dwight was "born and raised". He and Doyné had moved back to it in 1953, after his service with the United States Army had ended.

"The buildings are located high on a windy hill," Dwight said, with a grin, "but I guess I hadn't thought about planting a windbreak until Bob mentioned that it might help the cause."

Once the idea was "planted" however, it wasn't long until Dwight consulted Kevin Holcombe at the Soil & Water Conservation Service office in Logan (now NRCS). Kevin laid out a windbreak design, and made recommendations about which species of trees could be used. Ed Seidel of SCS was also later involved with the project. After discussion, the decision was made to plant windward rows of Black Hills Spruce, middle rows of Ponderosa Pine and leeward rows of Blue Spruce, with Amur Maple shrubs along the outside perimeter. The windbreak was of L-shaped design, extending along the north and west sides of the farm buildings site.

The trees and shrubs were procured through Tim Sproul and the County Conservation Board, and planted with the help of sons Bob and Jim, as well as friend, Larry Landon. Cost-share funds from SCS were used to defray 50 percent of the expense for the trees and shrubs.

"They were about a foot high," Dwight recalled, "and I said at the time I would never live long enough to see them grow enough to do much good. But I was wrong! I can't believe how those trees have grown! This last winter, there were drifts of snow five feet deep on the back side of the windbreak. The trees kept a lot of snow away from the yards and buildings."

Most of the original trees survived, thanks in part to rains which seemed to fall at "just the right time." They were watered if the weather was dry, but Dwight

didn't remember too many instances when that was necessary.

He also commented that while the recommendation was to keep the soil around the trees tilled, he chose another approach. He seeded the area with a mixture of orchard grass, rye grass and timothy, which has flourished over the years. It is kept neatly mowed, adding to the attractive appearance of the windbreak area.

"I've appreciated not only the practical uses of the windbreak," Dwight said, "but also enjoy



walking through it and observing the changes taking place. I see the little field mice running around once in a while, but don't notice too many other small 'critters'. I am sure they are there, and the birds . . . although when I see the sparrows I want to say 'get them out of here!'"

During the Christmas season, it has become a tradition to decorate several of the trees which are visible from the road. But Dwight said, with a sad note in his voice, that he is not certain that will continue. His wife, Doyné, who began this custom, passed away last holiday time.

Dwight noted that his son, Craig, an Oral Pathologist serving with the Army at Walter Reed Hospital in Washington, DC, enjoys the windbreak. "When he is home on leave, he likes to walk through it and take photographs," Dwight said, "and he takes really good pictures."

Sons Bob and Jim are involved in farming, tending their own land as well as that of their father, who now professes to be "retired." Bob particularly must be pleased that his initial suggestion about the windbreak led to such positive results.



"In time, the windbreak will be of even greater benefit," Dwight mused, "for those Ponderosa pines are only half grown. Give them another ten years, and they will be truly impressive."

Russ Kurth, District Conservationist, commented: "The Willards have a beautiful windbreak which is a fine example of what can be accomplished. When you plant a small tree and invest time and energy caring for it, it is amazing to see what happens."

"Dwight and Doyné planted their windbreak 10 years ago, and the benefits of their investment are beginning to be reaped. Windbreaks reduce wind erosion,

conserve energy, reduce heating bills and beautify farmsteads. Trees serve as a sound barrier and muffle road noise. Trees and shrubs provide food and cover for wildlife. Improved weight gains can be expected when livestock are protected from winter winds and snow."

"Preferred planting time is after winter thaw and before May 15. There is still time to plan and/or plant."

"Windbreak funds are still available from the Harrison County Soil & Water Conservation District. Those interested may call 644-2210 or stop at 715 North 2nd Avenue, Logan, for assistance."

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"Those who have torches will pass them on"... (Plato)

Doctors Victor and Marsha Vaile of Florida in 1992 entered into a contract which specified that their land in section 22 of Taylor Township be enrolled in the Wetland Reserve Program (WRP). This program offers landowners financial incentives to restore croplands and other eligible lands to wetlands.

Later Tim Sproul, Director of the Harrison County Conservation Board, learned that the Vailes were considering donating their land to a National Resources Agency.

The land was evaluated, and proposals fulfilling their wishes were made. But in the interim, Tim said he was hearing comments from those whose land adjoined the wetland area. Some had concerns about water being held on the property and blocking drainage ditches. Static pressure would be created, they felt, slowing down the drainage from above.

Tim discussed the situation with the members of his board, presenting all facts and opinions, pro and con.

"It was with great reluctance that I recommended to the board that we not proceed with negotiations with the Vailes to acquire the property. We did not want to negate what has always been a positive relationship with the public, or be responsible for any controversy over the matter. I also knew that since the land had been accepted into WRP, it would be a wetland, whether under our supervision or not."

Tim did, however, inform the Department of Natural Resources (DNR) of the situation, sending them a detailed report. But he later learned that when DNR spoke to the Vailes, they had decided they no longer wished to donate the property, but instead offer it for sale. DNR was not interested in purchasing the land.

So the matter remained at status quo, although the Vailes were required to fulfill their WRP contract. As time went on, none of the problems anticipated by the neighbors had occurred, and this became generally accepted



A view of one area of the wetland on the former Vaile property, now owned by the Harrison County Conservation Board.

knowledge.

So in 1996, four years after the original WRP was signed, Tim learned that although the Vailes, through a farm manager were still offering the property for sale, "nothing had happened".

"I had always had the project in the back of my mind," Tim said, "for I knew this could be a premier wildlife habitat area. So I presented to the board the fact that the concerns of those formerly opposed were no more. They agreed to pursue an effort to purchase the land, if funding could be found without using tax dollars. As Habitat Coordinator for Pheasants Forever I knew that the local chapter was looking for a project to fund. The money raised by the chapter was to be spent back on the land in the area in which it was raised. This was intended not only for pheasants, but all wildlife."

"I also knew that we could apply for moneys generated by sale of the Wildlife Habitat Stamps. Hunters purchase these stamps for \$5.00, and half of the revenue goes to DNR, with the other half available to County Conservation Boards on a

competitive grant basis."

In brief (although the process was not) once all the grants were written and approved, the County Conservation Board received 75% of the funds needed from the Wildlife Habitat Stamp Fund, and the other 25% from the State Pheasants Forever Council and the local chapter of Boyer Valley Pheasants Forever.

"It just all came together at once," Tim said, with a pleased smile. "We met the purchase price, which had been decided after negotiating with the Vailes, and in late October of last year, the property became officially owned by the Harrison County Conservation Board. I have to admit it was a very gratifying moment."

There are 280 acres in the tract, approximately 60 acres of which is designated as classical wetlands. The remaining acres are seeded to big bluestem, Indian and

switchgrass, and are transitional wetlands. There are two irrigation wells, used to seasonally pump water into the basins to benefit migratory waterfowl in the spring and fall.

The area is open to the public, and hunting is allowed during established seasons. A main parking lot and controlled parking area has been installed. A large sign designates the entrance gate.

Future plans include adding a series of trails for hiking, or just "meandering" to enjoy the scenery and the tall grass prairie. The trails will also allow access to the food plots, and serve as fire zone divisions when it is necessary to do controlled "burns" to promote prairie growth.

The project has involved other entities, such as the Fish and Wildlife Service, who will build dikes and assist in modifying the basins to enhance the wetlands. Adjoining landowners will be

partners in the operation, establishing wildlife plots. One such, who volunteered to do this, is Dean McIntosh of Missouri Valley.

"This has taught me so much," Tim mused. "It was really hard for me to tell the Board we should not pursue this in the beginning. But I have learned that it takes time and patience to see something come about. We used no tax dollars, and look at the partnerships we have established in the process. So now we have 280 acres out there on the flat and black which will only get better and better as time goes on."

Among the benefits Tim enumerated was providing nesting cover for migrating wildfowl, especially in the spring when pair bonding takes place. He noted that geese mate for life, but fickle ducks do not. The mating process occurs each year, however, so waterfowl need a resting place for nature to take its course.

"What we have in this oasis surrounded by corn and beans is a diverse wetland-upland, which will benefit many species of wildlife," Tim stated. "The furbearers will come -- the raccoons, the opossums and others. Pheasants, ducks, geese and countless species of songbirds will find rest and homes in the habitat provided. And we also will offer people the opportunity to see an example of the tallgrass prairie which once covered all of Iowa."

After gazing into the distance and reflecting for a moment, Tim said, "I hope this area will serve as an example of what should be done with marginal farmland. As Plato said, 'Those who have torches will pass them on.' The torch of the Harrison County Conservation Board will be areas like Vailes which we will pass on for future generations to enjoy."

by Lou Waite

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Renewed interest in establishing or revitalizing watersheds



Needs assessment group says watersheds "priority"

by Gayland Hall, SC

Recent meetings of interested landowners and/or EQIP assessment groups have shown there is a renewed realization that watersheds are an important factor in controlling erosion and water quality.

The definition of a watershed is simple if remembering the theory that all water runs downhill, or seeks the lowest level.

On land, water which does not evaporate or soak into the soil usually drains into ditches, streams, marshes or lakes. The land area from which the water drains to a given point is a watershed. Since smaller streams flow into still larger streams, all the land through which the water eventually drains is included in the watershed area.

Harrison County has one of Iowa's first watersheds under Public Law 566 (PL566).

Harmony Watershed, located primarily southeast of Logan, was completed in 1956-57 and dedicated in 1958. The watershed structures and upland treatments are serving as they were designed to do, even after 40 years have passed.

But in recent years, USDA has decreased funding for PL566, and although the need for maintenance of the infrastructure in the old watersheds is great, need for newer watersheds is equally urgent.

The new Environmental Quality Incentives Program (EQIP), which was established in the 1996 Farm Bill, provides funding for priority areas.

Local Harrison County work groups chose watershed projects as the highest priority, followed by erosion control, when conservation concerns were ranked.

This local work group then selected a 3500-acre area near Woodbine as the first project they would submit for funding. An informational meeting was held in

February, with interested landowners and operators in the proposed watershed attending. A proposal of conservation needs is now in the process of being developed.

Another watershed project was begun in October of last year, in the Willow Creek drainage area. A local committee was formed, and is now analyzing upland data and conducting a survey of landowner's opinions and concerns.

This committee was formed because the town of Missouri Valley was partially flooded in 1993 when Willow Creek overflowed its banks. Several thousand acres of cropland were flooded twice in June of 1996.

Willow Creek originates in Crawford and Monona Counties and enters the Boyer River south of Missouri Valley. This 90,000-acre drainage area will be

subdivided into smaller high priority projects.

A series of the smaller projects will hopefully then be funded and conservation work completed in a short period of time.

In a few years the entire drainage area could be under control. This is the goal and purpose of those involved.

Iowa Watersheds, a statewide organization, is in its second year

of existence. At its second annual meeting in April, soil erosion, water quality and opportunities for funding were discussed.

A bus tour of watershed projects allowed those attending to see what has been done and what needs to be done to improve natural resources.

For further information, contact Julie Schmidt, Sec. at 2819 Country Club Drive, Atlantic, Iowa 50022, Ph. 712-243-1552.



Upland treatment, such as this being used in a watershed near Pisgah, is very important to a successful watershed project. Contoured strip-cropping is shown being used to prevent erosion on these steeper side-slopes of highly erodible Loess soil. (Mike Eisele Photo)



This structure in Harmony Watershed near Logan is still serving to stabilize road L 34. The gully in the background was once larger and deeper.

Now it is controlled, and resulting siltation has reclaimed farmland formerly taken out of production by the gully's encroachment.

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 Maryn Von Weihe, Carson Township—Commissioner
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Clifford Stille, Macedonia Township—Associate
 Bryce Gehrman, Carson Township—Assistant
 Norma Bolton, Belknap Township—Assistant
 Karen Hotze, Grove Township—Assistant
 Jeff Krueger, Layton Township—Assistant

NRCS PERSONNEL

Greg Mathis—District Conservationist
 Leslie Cleaveland—Soil Conservation Aide
 Kevin Gee—Soil Conservation Aide
 Vic McCall—Soil Conservation Aide
 Bruce Damgaard—Volunteer

STATE PERSONNEL

Becky Lockwood—Secretary, SWCD Treas.
 Clair Acker—Soil Cons. Technician

COUNTY PERSONNEL

Michelle Zimmerman—Resource Planner

1M AND 3M FUNDS ARE THE FINANCIAL ASSISTANCE FURNISHED BY THE DIVISION OF SOIL CONSERVATION, STATE OF IOWA.

FINANCIAL REPORT

1M BUDGET	Allocation, July 1, '96 - June 30, '97	\$ 2,500.00
	Supplemental Allocation October 18, 1996	960.00
	Commissioners' Travel	\$ 1,797.76
	Office Supplies, Expenses, Dues	961.87
	Total expended as of 1-30-97	\$ 2,759.63
	Balance on hand January 30, 1997	\$ 700.37
3M BUDGET 96-97	Allocation 7-01-96	\$ 47,875.00
	Supplemental Allocations	76,471.00
	Total expended for terraces	\$ 66,618.00
	Unobligated balance on hand January 30, 1997	\$ 57,728.00
3M BUDGET 95-96	Allocation 7-01-95	\$ 47,554.00
	Supplemental Allocations	112,840.00
	Total expended for terraces	\$ 43,148.00
	Total recalled to state	6,661.07

3M BUDGET 94-95	Unobligated balance on hand January 30, 1997	\$ 0.00
	Allocation 7-01-94	\$ 43,850.00
	Supplemental Allocations	70,143.00
	Total expended for terraces	\$ 113,993.00
REAP PRACTICES '96	Unobligated balance on hand January 30, 1997	\$ 0.00
	Allocation 9-01-95	\$ 11,538.00
	Supplemental Allocations	760.07
	Total expended for practices	\$ 12,298.07
REAP FORESTRY/ NATIVE GRASSES '96	Unobligated balance on hand January 30, 1997	\$ 0.00
	Allocation 9-01-95	\$ 2,693.00
	Total expended for practices	\$ 2,692.51
	Total recalled by state	.49
ORGANIC NUTRIENT MGMT PROGRAM	Unobligated balance on hand January 30, 1997	\$ 0.00
	Allocation 8-26-96	\$ 7,500.00
	Total expended for practices	\$ 0.00
	Total recalled by state	7,500.00
NO-INTEREST LOAN PROGRAM	Unobligated balance on hand January 30, 1997	\$ 0.00
	Allocation 4/22/96	\$ 16,837.00
	Terraces Completed	13,954.00
	Obligated balance on hand January 30, 1997	\$ 2,883.00

The East Pottawattamie Soil & Water Conservation District thanks the Department of Soil Conservation and the Iowa Legislature for making these funds available. We always attempt to use the money most effectively, and hope you agree we have done so again this year.

The District also has a revolving fund made up of contributions from those who want to assist in conserving our soil. These funds are used for conservation education activities, dues to State and National Association of Conservation Districts and a few incidental expenses.

POTTAWATTAMIE COUNTY LOCAL OPTION SALES TAX FUND

Balance as of January 1, 1996	\$ 35,683.96
1996 Quarterly Payments	\$ 55,563.20
Total expended for practices	\$ 3,048.43
Balance as of January 30, 1996	\$ 131,842.96

We would like to thank the Pottawattamie County Board of Supervisors for their far-sighted support of soil conservation. The dollars they have invested in soil conservation these passed years will pay off in benefits to county improvements and in protecting productivity of our soils.



High residue; it's here to stay

by Greg Mathis, DC

The effects of the 1985 Food Security Act have been cursed and discussed by farmers, landowners and government officials to the point of exhaustion.

Some people driving through the country may focus on the lack of terraces on some hills, or rows planted straight up and down the hill.

They may express disgust at what seems to be the lack of conservation awareness by the people who directly control what happens in the fields.

I wish the same people had driven those same roads seven years ago. It's hard to see the "before and after" change when it occurs over a long period of time.

Although we have built hundreds of miles of terraces in East Pottawattamie county, I think the biggest change has been in tillage habits and the increased amounts of residue with which operators have become accustomed to working.

According to the Conservation Technology Information Center (CTIC) survey taken each spring in East Pottawattamie, residue amounts have taken a significant shift in the last five years.

The percent of fields on the survey route with low (less than 15%) residue decreased from 25% to 9%. Also, the percent of fields having medium (greater than 30%) residue decreased from 36 percent to 15%. During the same period, the percent of fields having high (greater than 60%) residue increased from 6% to 46 percent.

These higher levels of residue present their own array of problems, particularly with planting and weed control. However, most all farmers will admit that the depth and number of rills which delayed their planting or other field progress in the past have decreased drastically.

These new levels of residue amounts are now becoming a preferred and acceptable part of most farming operations.

Will something else come along to bring about more changes? My guess is that if it enhances conservation efforts, the answer is a positive "yes!"

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A place to call "home"

by Chris Williams,
Pott County Naturalist

All of us enjoy the rich amenities afforded to us through our homes. Whether it is a 3d floor apartment, or a several-hundred-acre-farm, our homes provide us with basic needs we often take for granted.

One such need is space. It may not seem vital until you are lacking it. It's not just humans that need space -- all living things need it. Trees, birds, wildflowers, mammals, everything needs space. In many ways, we are fortunate to have the capability to increase space in a backyard, apartment deck or rural acreage in such a way that it can benefit other living things. It's amazing how simple it is!

The simple acts of planting a tree, shrub or wildflower garden are all examples of practices which improve and increase space. Every leaf, branch or other part of that plant creates more surface area or space, providing just a little more room for another living thing to survive. If these simple projects are done on a larger scale -- for example evergreen windbreaks or terraces planted to native grasses and wildflowers -- the benefits of space can be greatly increased and enhanced.

Space has always been vital. Without it humans and many other living things are more susceptible to disease, pollution, overcrowding and the lack of other necessary resources, ie food, water and shelter. When we increase space and improve its quality, we provide more habitat for numerous species.

Some species of plants and animals are not highly adaptable and are unable to tolerate loss of space. These species usually become rare and even endangered. Providing even a small area for improving space and habitat may help an endangered species survive, even if in the heart of a city. A small wildflower garden may provide just enough nectar, shelter and space for an endangered butterfly species to survive.

Biologists have determined that not only is space vital, but the quality of the habitat is important as well. Common forms of wildlife can survive with less space if the quality of the space is high. A cottontail rabbit found in the yard will only need 1 to 5 acres to survive if there is good habitat. With poor habitat, it may need up to 15 acres to live. A chipmunk may only need 2/5 of an acre of good habitat, but 2 to 3 acres if the habitat is poor. A cunning fox may only need 142 acres with good habitat, but a 3 to 10 mile diameter, or 6400 acres, if the quality of the space is poor.

Anyone who is planning to do some extra planting, landscaping or other yard improvement this spring is asked to keep in mind how wildlife needs space, and of the many ways it can be improved. Not only will it increase enjoyment in and beauty of the yard and home, but will also give the wildlife a place to call "home".



District Conservation awards presented at annual meeting

Deserving conservationists were honored at the East Pottawattamie Soil and Water Conservation District Annual Meeting and Awards Program, held Saturday, March 1.

The Iowa Association of Conservation Awards Program (ISCAP) is co-sponsored by the Iowa State Conservation Committee and the Iowa Association of Soil and Water Conservation District Commissioners. It is intended to encourage better land use programs and environment control on farms in Iowa through recognition of those who have been outstanding in that effort.

District awards were in three divisions this year. Those divisions were:

Landlord-Tenant:

Mary Lou Watson, Shelby (owner); Dave Lefebvre, Minden (operator).

Family Operated

Carol Wilson, Oakland.

Cooperator

Richard Volz, Council Bluffs.

Other awards and honorariums were:

Conservation Farm Award

Lawrence Hollis and Norma Frain, Carson.

Winners in this category receive an attractive sign to display at their farm. To qualify, they must have 80 percent or more of the farm treated to soil loss tolerance of five tons per acre or less.

Izaak Walton League Windbreak Award

Windbreak existing for over five years - Wilbur and Iona Hubbard, Walnut.

Windbreak of under five years - Ken and Fonda Hering, Oakland.

Take Pride in American Award

Cliffe Stille, Macedonia.

This award is sponsored by the National Association of Conservation Districts, USDA, and the Goodyear Tire & Rubber Company. Its objective is to recognize those who contribute to greater public awareness of soil and water stewardship practices through educational or community involvement activities. Stille was saluted for his many years of leadership as a conservation spokesman, and applying conservation "above and beyond" his FSA plan.

Ed Kleen Memorial Award

Gary Pattee, Avoca.

This award honors a former district commissioner who tragically lost his life in an automobile accident. Ed was one of the outstanding conservationists in the county, and involved in many community activities. This memorial award, established by Ed's wife Beth, is presented each year to someone who displays "all around" conservation and leadership. The honoree's name is added to those of all former award winners engraved on a plaque displayed in the Natural Resources Conservation Service office.

Commercial Recognition Award

Oakland Shademakers, Oakland.

Each year a business, financial institution or community group is recognized for efforts in promoting soil conservation awareness. This year's award was given for the honored group's work in and support of the new city landscaping.

Volunteer Recognition Award

Bruce Damgaard, Carson.

The award is presented to an individual who has worked with the NRCS staff and district in making use of natural resources. Damgaard was chosen because of his leadership in establishing dry fire hydrants in farm ponds within East Pottawattamie county.

Every winner is to be commended and congratulated for their outstanding efforts!

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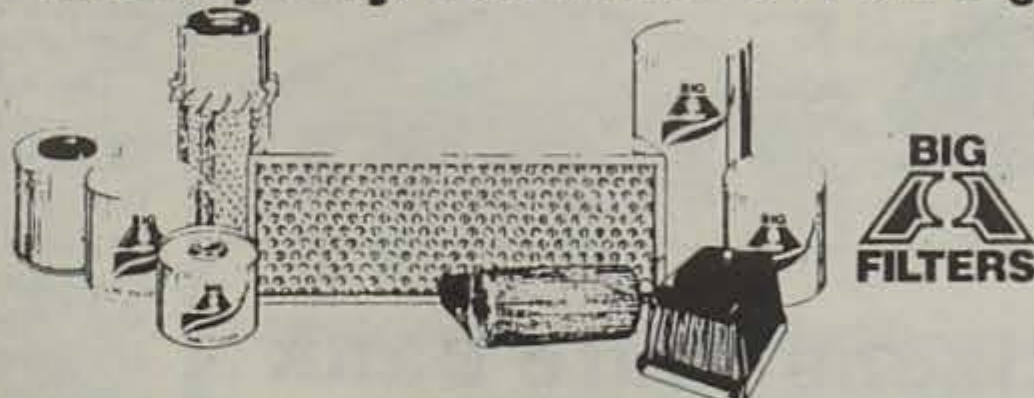
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Stan Buman enters private enterprise



Left to right, Bruce Heyne, Commissioner; Jay Munson, Assistant County Engineer, and County Engineer Jerry Hare bid farewell to Stan Buman, at the right.

A "farewell" reception was held February 14 at the East Pottawattamie Natural Resources Conservation Service (NRCS) office. The event was to honor Stan Buman, who had served there as District Conservationist since September, 1990.

Buman stated that while he had "enjoyed" his tenure, and "appreciated very much" the work of the staff and district commissioners, he had decided to join his brother, Tom, in a private business enterprise.

A native of Harlan, Stan grew

up on a farm and early in life developed an interest in conservation and a concern for wildlife.

"I feel I got that from my grandfather," Stan confided, "even though I never knew him. I think these things are sometimes in the blood! They are inherited!"

Stan also recalls his father pointing out the wildlife encountered during vacations and other outings, and providing information about habits and habitats of birds and animals, "like father, like son".

He received a degree in Agronomy from Iowa State University, and was employed with NRCS in Greenfield, and Emmetsburg prior to coming to Oakland.

In the future, Stan will reside in Carroll, and maintain a business office in his home.

"I fully intend to keep in touch with what is happening in the East Pottawattamie district," he said. "I will still be working with farmers and environmentalists in my new business venture, and I will always continue my interest in wildlife."

That interest is evidenced in the results of Stan's major hobby, wildlife photography, as well as scenic vistas he captures on film. A display of his work during the reception drew favorable comment, as well as some "unanticipated" purchases.

But among the memories Stan will retain is of a staff and board of commissioners he described as "innovative and progressive".

"I think I appreciated that fact more than any other," he said emphatically.

Darrell Stamp, Chairman of the district board of commissioners said:

"Stan has done a good job, and has been very objective toward both sides. He didn't want a board which would automatically say 'yes' to everything, and we have not been like that. It has worked very well, even when we played tricks upon him! He always took these good naturedly, and added to the humor of the situation."

Stamp described Stan as hard working, dedicated, very competent and excellent at research. "We have been fortunate to have him," Stamp affirmed, "and are sorry to see him go. But we certainly wish him good luck in his new venture, and the best for the future."

A staff member commented that Stan had gained valuable insight during his experiences with the district. It was also said that he gained the respect of those with whom he worked, as well as the

What's up in soil conservation



Sustainable Agriculture defined

by Don Baker
E. Pott County
Extension Education
Director

Sustainable agriculture is a modern concept using some of the best practices from the past, adapted to today's conditions. Jerry DeWitt, Iowa State University Extension coordinator of sustainable agricultural programs compares sustainable agriculture to a three-legged stool. One leg is profitability. If agriculture is not profitable, it will not sustain itself. Another leg is social and community responsibility, and the third is environmental preservation.

DeWitt has said that sustainable agriculture does not necessarily mean organic production. He said that pesticides can still be used.

High yielding, good quality seed is the starting point of a good crop. Genetically altered seed may be used in a sustainable system. Good seed must be matched to proper fertility. Use of soil survey information and setting of realistic yield goals are important steps. Sustainable systems will utilize a soil test, using only optimum amounts of

farmers/landowners and others he served.

"We'll miss him, but certainly wish him well with his future endeavors," she said.

fertilizers, applied in such a manner as to eliminate water pollution and waste. Animal manures and legumes will be credited to the nutrient requirement when used.

Pests must be managed to reduce crop loss. Crop rotations, resistant varieties and tillage will reduce the dependence on chemical pesticides. Precision farming, using global positioning systems, can help fine-tune the system.

Data collection and record keeping will provide the farmer with an accurate picture of the farm operation. On-farm research will help determine what works best in each situation.

DeWitt says that Iowa State University Extension County offices have several sources of further information on sustainable agriculture.

Group to define resource needs

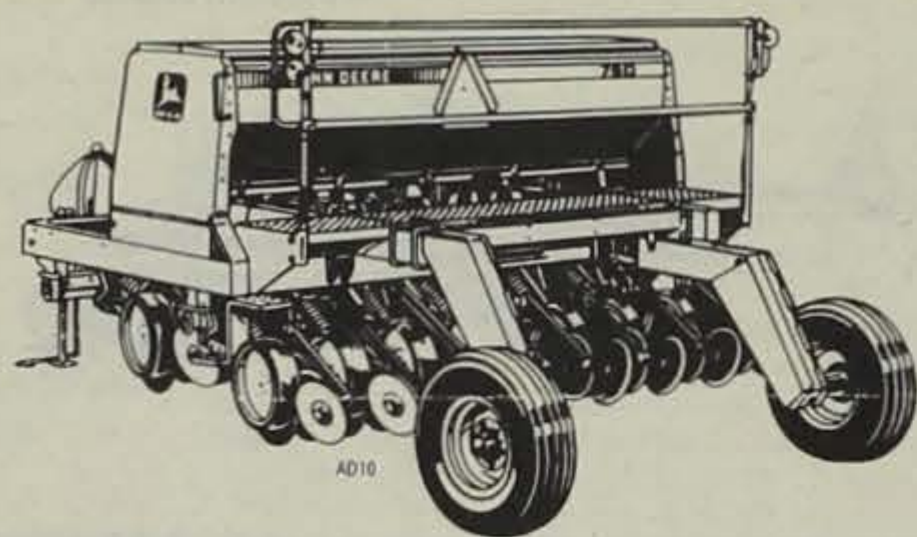
A meeting sponsored by the East Pottawattamie County Soil and Water Conservation District and the Farm Service Agency had over forty people in attendance. It was held Friday, January 31 at the Oakland Community Building.

The purpose of the meeting was to gather information to help determine priority areas for future funding of natural resource projects.

"Local input was needed to help determine where we want to put future federal cost-share money," explained Darrell Stamp, Chairman of the SWCD board of commissioners.

That input came from people representing a vast assortment of backgrounds in the community. Included were bankers, city mayors, the county board of supervisors, ag chemical dealers and representatives, fire departments, telephone companies, county officials, farm member organizations, livestock and commodity organizations, the ISU Extension, federal agencies and farmers.

The core group will meet to set the priority areas. This information will be provided to all of the participants. Anyone wanting more information on this procedure is requested to call the FSA or NRCS offices in Oakland.



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Poster and Essay Contest winners

The Soil and Water Conservation District in East Pottawattamie County strives to maintain a program of working with the area schools to supplement their curriculum in conservation. Our goal is to give conservation presentations, in cooperation with the teachers, and then provide a poster activity for the students as a summary.

The judging criteria consists of 50% for effectiveness of message as it pertains to the theme. This year's theme was "Backyard Stewardship." Twenty-five percent consideration is given to the artistic ability and neatness. The other 25% is based on originality.

Schools participating this year included AvoHa-Shelby-Tennant, Riverside Middle and South Elementary and Walnut Community School. Students in specific classes this quarter were asked to participate with a poster expressing their ideas of "Backyard Stewardship".

This contest was announced in the local newspapers, allowing other fifth and sixth graders to participate if they wished.

The winners, their schools and their parents are as follows:

Sixth Grade

1st place - Emily Kesten, Riverside Middle School, Rick and Becky Lockwood.

2nd place - Stephanie Scott, AHST School, Bob and Lorraine Scott.

3rd place - Bonnie Porter, Walnut Community, Roberta Porter.

Honorable mention - Ali Stowe, AHST, Jim and Becky Stowe; Kysa Kohlscheen, AHST, Rita and Babe Kohlscheen

Fifth Grade

1st place - Kaleigh Todd, Riverside South, Alan and Julie Todd.

2nd place - Christopher LeMaster, Riverside South, Robert and Lisa Leftridge.

3rd place - Simon Nielsen, AHST, Gary and Leslie Nielsen.

Honorable mention - Joni Bass, Riverside South, Jon and Debbie Bass; Kelly Holdaway, Riverside South, Judy and Kendall Bentley.

Essay Contest winners announced

The East Pottawattamie SWCD decided to revive the essay contest, which promotes soil and water conservation to

high school students. The purpose of the contest is to encourage the students to gain knowledge and express opinions on current environmental issues. Examples of these issues are nonpoint pollution, wetlands, wildlife habitat areas, etc.

This year's theme was "Backyard Stewardship". In their essays, the students were to bring out that one of the best places to practice individual stewardship toward natural resources is in one's own backyard.

Good, individual stewardship practices reach far beyond the backyard, extending to the neighborhood, the region, the continent and even the world.

Fifty percent of the contest criteria consists of judging the effectiveness of the message as it pertains to the theme. Twenty-five percent is given to originality, and the other 25% is based on content.

Participants were high school students from AvoHa-Shelby-Tennant and Riverside. The cash awards and certificates were derived from contributions made for that purpose. First place received \$25.00, second \$15.00 and third \$10.00. Awarded were the following:

First - Jenny Welch, Riverside.

Second - Kelley Westad, Riverside.

Third - Megan Hansen, AvoHa.

The district extends congratulations to the winners, appreciation to all those participating, and anticipates offering the essay contest again next year.

Thanks to the district "boosters"

We would like to thank and acknowledge each and every one who has contributed to our district's efforts, either through time, money or other means. Monetary donations are used to fund educational and soil stewardship materials for schools, soil stewardship materials for churches, scholarship funding, and office expenses not eligible for reimbursement by the state.

Thanks again to the following, who made a contribution to the district last year:

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Hazel Harvey
Phyllis Harvey
Dean W. Hunt



Provide wildlife shelter in advance

by Carl Priebe
Wildlife Biologist

Blistering heat, deep drifts of snow, pouring rain and 60-below wind chills are all part of our annual weather fluctuations. It is truly remarkable that our resident wildlife, both large and small, are able to endure such weather extremes and still, in many cases, flourish.

Quite often little consideration is given to either the ease or the hardships of survival for wildlife. Yet, during the extremes, there are usually offers for help. However noble those gestures, stress times are not the best times to become generous. Late in the game, those efforts are usually unsuccessful.

Winter food plots must be planted in the spring in preparation for what winter may bring. It is too late to sprinkle grain in the fields when deep snow exposes vulnerability. Long term grassy cover must be in place for successful nesting and protection for grassland birds before all the grassy road ditches and waterways become flooded and the rain continues. When wind chill temperatures plummet far below zero, it is too late to plant shelterbelts or

fields of tall, native grasses, such as switchgrass, as windbreaks and cover from the weather.

Think about the weather to come in 1997, like heavy spring rains, heat advisories, blizzard conditions and sub-zero wind chills. Do you have the necessary habitat in your backyard or on your farm to keep your favorite types of wildlife alive and in good condition? If not, now is the time to start planning. Some changes will be effective immediately. Some may take a little time to develop.

If you need help with planning or in generating solutions, feel free to contact your DNR Wildlife Biologist or the NRCS staff.

In Iowa, we know weather extremes are always right around the corner.

What does wildlife habitat really mean?

The term "wildlife habitat" simply means a good place in which wildlife can live.

Good habitat has three essential ingredients: food, shelter and water. These must be within normal daily range of various species. Bobwhite Quail will travel 1/8 to 1/4 mile per day. Cottontail rabbits will range over about 3 acres.

Ron Johnson
Jeryl Jones
Ervin J. J. Koos
Terry McClain
Edwin Nihsen
Pilling Partnership
R & C Hotze Farm
Claire Vance
Marlyn Von Weihe

Anyone wishing to make a contribution to our cause (and they are much appreciated) may stop at the office or mail it to East Pottawattamie SWCD, P.O. Box 217, 321 Oakland Ave., Oakland, IA 51560

More H₂O

by Michelle D. Zimmerman

Water!

It's vital to all of us. We depend on its good quality and quantity for drinking, use in industry and growing crops.

It is also vital to sustaining the natural systems on and under the surface of the earth. Groundwater is not new water; it is recycled water.

What is groundwater?

Groundwater is that which fills the cracks and spaces in rocks and soil underneath the surface of the earth. Most groundwater is naturally pure. In many cases, groundwater is untouched for many years before it is used. Most of the world's total supply of drinkable water is groundwater.

Even though there is a tendency to use water as if our supplies are limitless, the truth is that there is a limit to this precious natural resource. The amount of water available for drinking, cooking and a million of other uses remains the same as it was when the earth was formed. Yet today, we have more people demanding more goods and services which use water. It just makes good sense to take better care of our water supplies.

Did you know that what you pour down the drain, put on the ground and toss in the trash can pollute water? Agricultural and urban runoff, as well as residential waste are sources of non-point pollution which threatens our drinking water sources.

This year marks the 10th anniversary of Iowa's Groundwater Protection Act. To help celebrate this, 1997 has been called "The Year of the Water".

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William (Bill) Vorthmann, one of the operators of USDA-ARS



Tom Bottoms, Soil Conservation Technician with the West Pottawattamie NRCS, and Bill Vorthmann, one of the operators of the experimental farm.

Second in a series of articles concerning the USDA-ARS Deep Loess Research Station near Treynor.

Tom Bottoms, SCT
Lou Waite, AIS

William (Bill) Vorthmann is operator of two of the field-size watersheds, W-3 and W-4, which are part of the above-named research project. The study fields are located in Section 14 of Keg Creek Township, on lands purchased and leased by the Committee for Agricultural Development (CAD), a corporation associated with Iowa State University.

When the project began in 1964, Bill's father, Richard, "backgrounded" cattle on W-3, which was then continuous pasture, divided into three paddocks. Level bench (grassed-back) terraces were constructed on W-4, and the

intervals between were plowed each spring in preparation for continuous corn cropping. Bill became operator in 1971 and continued the "modus operandi". But in 1972, what Bill described as a "complete change" took place.

"In watershed four, the terraces were reconstructed," Bill recalled. "They were laid out in a parallel pattern, with double spacing and inlets for drainage. This was an experimental layout, and to my knowledge the only one existing in this country at that time. That same year, we began using a Buffalo planter and cultivator for a ridge-till system on both watersheds. We used a burn-down to kill the brome pasture on W-3 in the spring, then a slot planter to plant corn into the dead residue. Watershed three remains in continuous corn today, although there has been a change in fertilizer and herbicide management."

The use of nitrogen, for example, has been "skewed downward" from 150 pounds to 120 pounds per acre, per year. And while both liquid and anhydrous have been used, the latter is preferred. "We feel it is more effective," Bill said, "and less expensive per pound. But an advantage of using liquid is that you can apply herbicides along with it and save trips across the field. We haven't seen a difference in the yields with either method, however."

Larry Kramer, ARS Agricultural Engineer based at the research station, pointed out that an economic analysis concerning this issue was not made, since that has not been the focus of the research. But sampling done in early spring, late spring and at the end of the growing season the last few years had indicated an "excessive" nitrogen content in the soil after harvest. The higher fertilizer rate on continuous corn apparently resulted in the "build-up of a substantial reserve" of nitrogen in the soil profile, he said, extending down through the rooting zone. A study of this trend therefore led to reduction in the amount of N applied, and it was stated that further reductions may be warranted.

As was related in the first article about the project, the land is owned by CAD, which leases the land to ARS. The operators involved have a crop-share lease arrangement with CAD. Because the entire watershed area exceeds the boundaries of what is owned by the corporation, adjoining properties have been subleased, so the entire watershed is being farmed.

Economics are not a research objective, however, for as Kramer pointed out, the research focus is on assessing or determining the effects various farm management practices have upon soil and water quality in the deep loess soils of the region.

For example, in W-4, a rotation strip intercropping system has been established. Four rows of corn, 4 rows of soybeans and an equitable strip width of wheat are planted in repeated intervals between terraces. The strips are wide enough to be managed independently, but narrow enough so that the crops, rotated annually, can influence microclimate and yield potential of adjacent crops.

The second season, corn is planted into the wheat stubble, beans into the corn stalks and wheat into the bean residue. A short-season variety of beans is used, so that the wheat will be planted on time. The third year, the sequence is once again shifted, so that in three years all three crops have been rotated. Thirty acres are involved in this experimental practice.

Bill and Larry agreed that crops planted in the outside rows and more exposed to sunlight produced better yields. They also discovered that the yield of beans planted next to corn was reduced, but planted next to wheat, the bean yield was better. Bill noted that although wheat was used in the experiment, oats might be a better choice. "We tried to interseed an annual legume into the wheat in the spring," he

said, "but it wasn't successful. The wheat took so much moisture that the legume died. Legumes seeded into oats would be better, since spring-planted oats would better allow an annual legume to be established."

"This strip intercropping experiment was instigated by Rick Cruse, Agronomist at Iowa State University, who received a grant to place that system within the watershed", Kramer stated. "His purpose was to explore the implementation and management of what is a rather exotic system, which is being studied in other areas, but not western Iowa. He wanted to see how it would work here. Strip intercropping offers unique opportunities to manage soil and water resources within a high yielding crop production system".

Bill commented that he felt planting six or eight 30-inch rows might be more effective than four 38-inch rows, following the same rotational pattern, since wider rows would facilitate field operations. "It will be interesting to assess the final outcome," he said.

A rainfall simulator was used in the project, to measure the effectivity of narrow strip intercropping upon erosion control. Three management factors helped reduce erosion potential. 1) Because strip position must be fixed from year to year, no-till or ridge-till is best suited for strip intercropping systems. With these systems, planting position is easily identified each year, based on last year's residue or row location. 2) Contour planting on highly erodible land further reduces soil erosion losses. 3) Small grain or forage strips serve as an efficient vegetative filter for sediment removal from runoff from upslope cropped strips.

It was found that the strip intercropping system leaves a large

Continued on page 11

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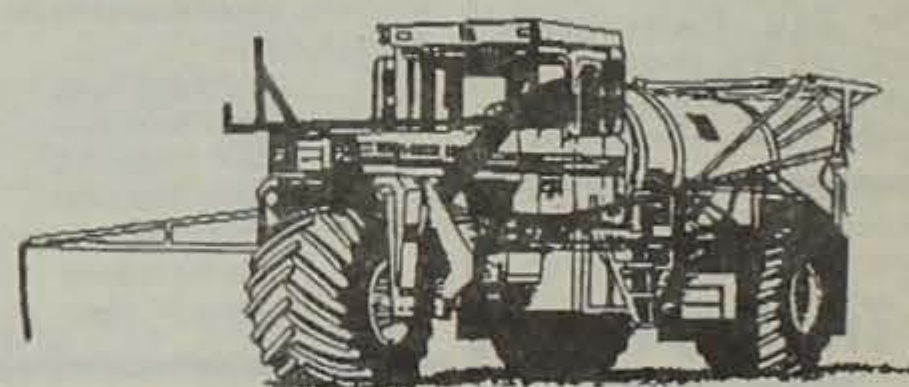
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Deep Loess Research farm, also raises Pinzgauer cattle



Research Station Supervisor
Larry A. Kramer

The Vorthmann's raise Pinzgauer cattle, a unique breed developed in Austria. For those unfamiliar with their appearance, they are red with white backs, of medium frame. Bill said he chose the breed because they are docile, good mothers, good milkers, and the meat is more tender and flavorful. He has 30 cows and two herd bulls and feeds out the calves for sale annually.

Sarah shows 4-H calves each year at the county fair, and Bill chuckled when he said "She always wins the Pinzgauer classes because there is no other local competition for this breed."

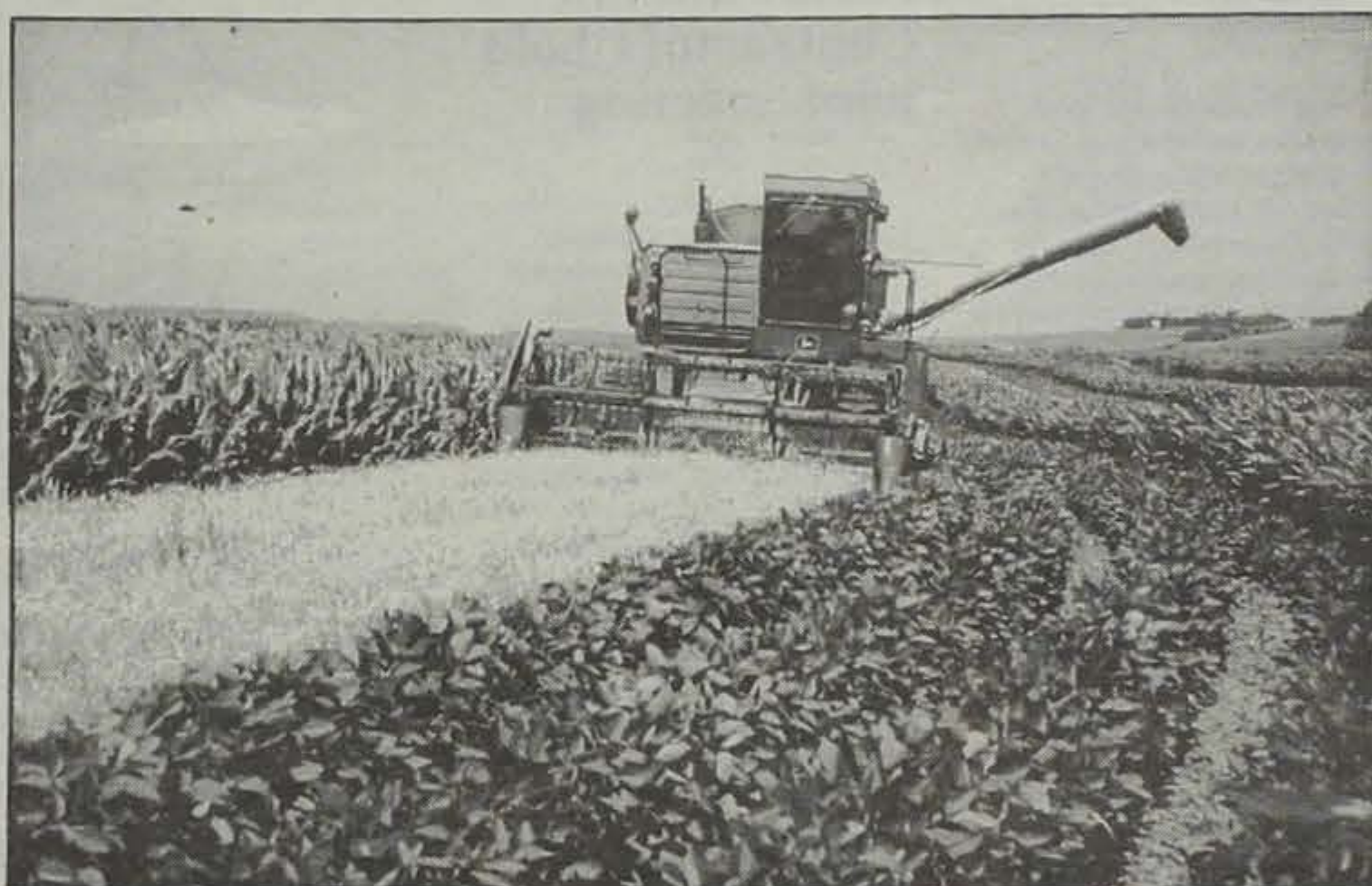
The Vorthmanns attend St. Paul Lutheran Church in Treynor, and have served on the church council. Both are active in Sunday School and choir, and Ann plays piano and organ for the services. They are members of Farm Bureau and the U.S. Pinzgauer Cattle Association.

Bill used to pilot his own plane, and said that one of the earliest airplanes in Iowa was taxied down a pasture runway and flown off the hill which is now the research watershed building site.

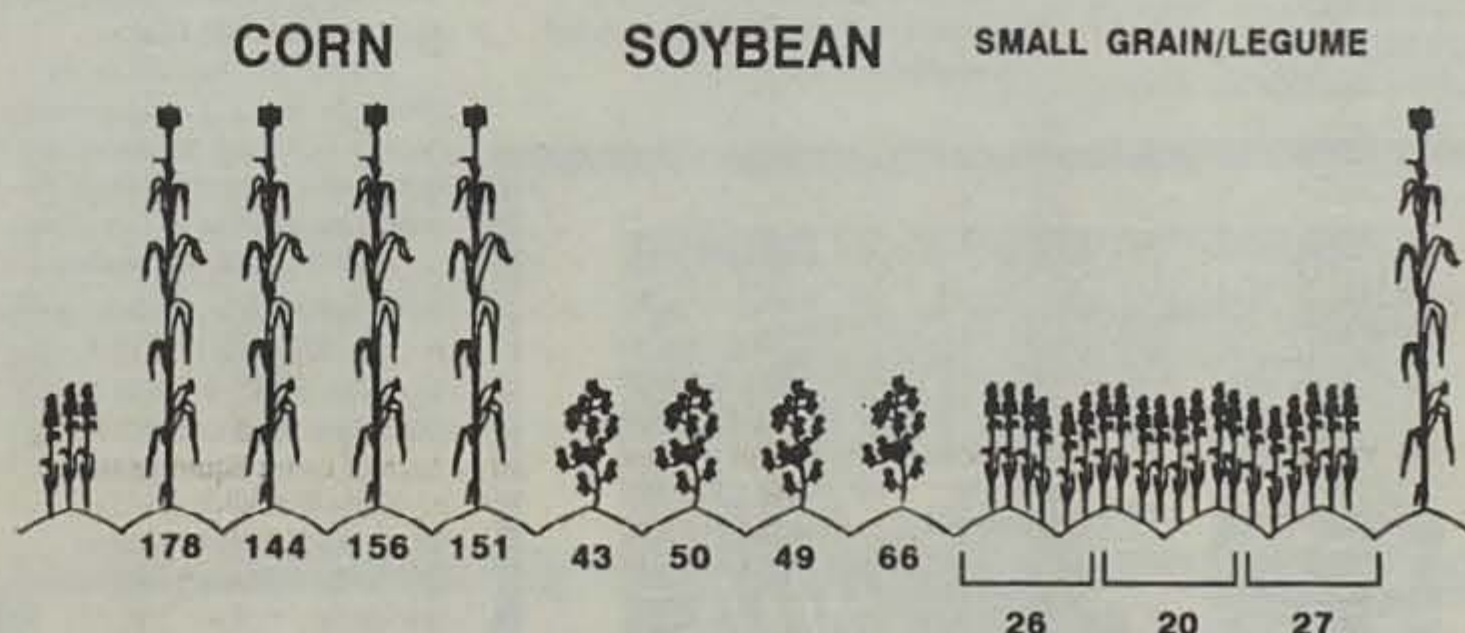
"It was then the Klein farm," I believe," Bill mused, "and I think that airplane is now in an aviation museum somewhere in Iowa."

As to the future, Bill said that in time a Global Positioning System (GPS) with a yield monitor will be placed on every combine. GPS will allow for more precise information within the watershed field areas, and will facilitate identification of management problems and determination of remedial actions. "It's still in the infancy stage," Bill reflected, "but when it happens the information gained will move farm management to a higher level. I'm looking forward to that."

Larry said, "From a research perspective, we are fortunate to have had the Vorthmann family farming these watersheds all these years. We rarely change farming



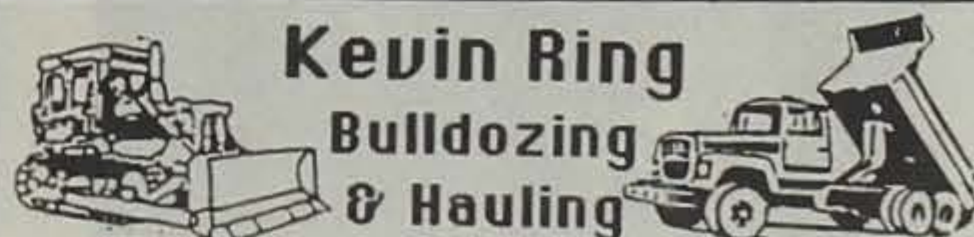
Rows of corn, small grain (being harvested) and soybeans are visible in this photo of one of the fields used in the stripcropping experiment.



Graph depicts one of the rotational grazing patterns used in strip intercropping system. (See article)

practices, so we can evaluate long-term management effects on soil and water quality during a range of annual climate variability."

Tom Bottoms added, "Information about soil loss obtained from this farm has been used for some of the data in the Revised Universal Soil Loss Equation. This makes experimental data, relevant to our loess hills, about as close to home as is technically feasible."

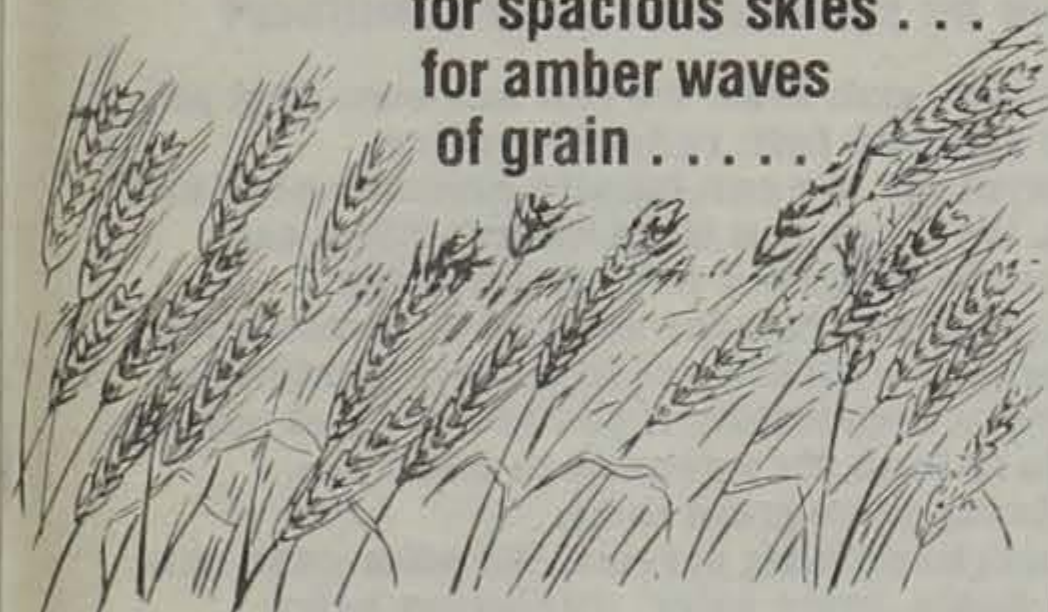


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Cost share for summer terraces

West Pottawattamie local option sales tax funds can be used for summer construction of terraces. This tax money will be used to guarantee cost-share for those arranging to have land available for summer construction.

The time frame for summer construction is between June 1 and September 15. These are the dates in which contractors have to begin earthwork.

Individuals interested are asked to sign an application at the NRCS/SWCD office. For further information, they may call 712-328-2489.

The West Pottawattamie Soil and Water Conservation District commissioners stated they hope the guarantee of up to \$40,000 cost-share allotted for summer construction will help producers decide to set land aside in oats or other short-term crops. This will provide a place for contractors to work during the summer months.

East, West Pottawattamie Contractors hold joint meeting

The East and West Pottawattamie SWCD's held a joint meeting for the contractors of the area on February 24 in Minden. The meeting, sponsored by the district, gives contractors and staff members the opportunity to discuss concerns and successes.

Representatives from AT&T and Northern Natural Gas gave presentations about notification of construction locations to avoid any accidents or damage. Other topics discussed were successful marketing, alternative structures, terrace design and county cost-sharing funds.

Lunch, provided through the auspices of machinery and equipment dealers, was served following the close of the meeting.

The district wishes to thank the sponsors for their continued support, and the contractors who attended.



Envirothon marks second year as youth education program

The Iowa Envirothon marked its second year as an educational program for high school students. The Envirothon is a problem-solving, natural resource education program available for students who are interested in the environment. Students are challenged about aquatics, forestry, soils and wildlife issues.

Due to the interest in the program, four regional events were held in February, to determine the teams which would advance to the state competition in late April.

The regional Envirothon for our counties was held on February 6 at the National Guard Armory in Corning. There were 16 teams participating, the most at any regional site. Each team was comprised of five members, who worked as a unit to answer questions regarding natural resources.

The regional event took place indoors, due to the inclement weather. The state competition, however, is held out of doors, rain

or shine. Regional competition consisted of basic knowledge questions, identification, and use of simple equipment and procedures.

Sixteen teams will compete at the state level in April. The top two teams from each regional automatically advance to national. The other eight teams may be invited, depending upon their score as compared to the scores of the teams taking part in the other regionals.

The first and second place teams from the southwest regional were West Central and Orient-Macksburg, both of Adair County. In addition, East Union (Union County), Corning (Adams County) and Winterset (Madison County) will also be invited to the state competition, based on their overall scores.



Gubbels attends watershed conference

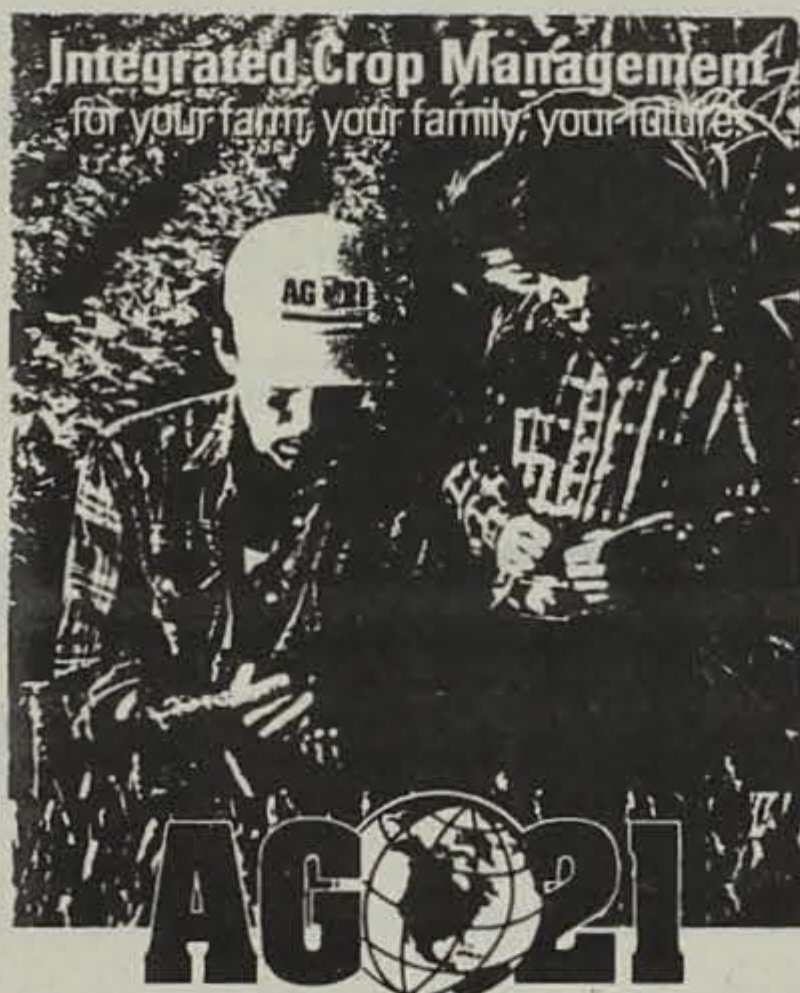
Julia Gubbels, Resource Planner from the West Pottawattamie SWCD, attended the Building Local Partnerships - Water Quality, Watershed and You Conference. The event was held January 23 - 24 in Schemen Center, Iowa State University campus.

The goals of the conference were to increase the public's understanding of agricultural and urban nonpoint pollution; learn how to develop successful watershed projects; network to form new partnerships; and take part in the celebration of "Iowa Water -- A Decade of Progress."

Speakers for the concurrent sessions and workshops included resource personnel, farmers and educators. Topics included water quality standards, organic farming, water quality monitoring, manure nutrient management, balancing ag chemicals with water quality and grassland management.

Roundtable discussions were conducted on the last day of the conference. Topics included building rural and urban communications, wetlands, riparian areas and nutrient management.

These days, a good farmer is more than blood, sweat and (sometimes) tears... it takes a good business sense! Conservation is good business and good sense. Why not use it?



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Backyard Stewardship



All should be stewards of the soil

A challenge to be met

Creating a sustainable environment is a task which challenges all of us. It sometimes seems an overwhelming set of problems. We can become discouraged and wonder if we can make a difference.

People talk about the little things individuals can do to make a difference. Those things can be good or bad for the environment. When a person knows the difference, and when most of what they do is positive instead of negative, the effect is positive.

Just as each of us has a responsibility for stewardship, we all have a ready-made place which needs our help -- the place where we live and work. This can be an urban area or a farmstead in a rural area. If each of us takes care of our immediate surroundings, then all environments will be more healthy and sustainable. The challenge becomes one of "backyard stewardship."

Each individual, each family

and each community can practice backyard stewardship by caring for the environment which they touch. This may include a window box on the patio of a high-rise apartment building, an eighth of an acre, fenced suburban backyard or the large, open spaces of the rural community.

When each individual's small place is healthy, productive and sustainable, then health extends to the neighborhood, the region, etc. While it is difficult to affect the whole world, individuals can make their own place an example of good stewardship and use their actions to inspire others. If that succeeds, then that one person has not only benefited the environment, but has also helped instill responsible stewardship values in others.

Backyard stewardship is a practical, effective method of putting positive images and values into action.

Grassland management focus of specialized training

by Henry Tordoff
Soil Conservationist

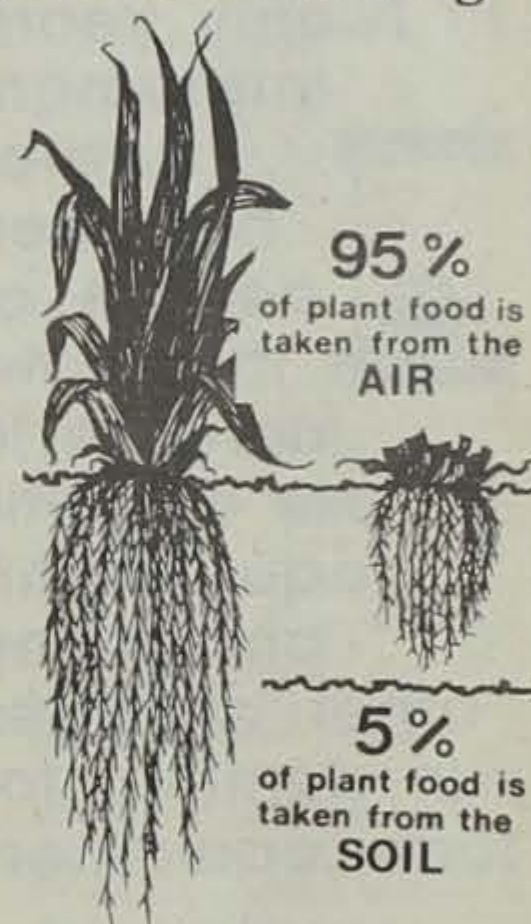
Forty-four USDA Natural Resources Conservation Service employees received specialized training in grassland management recently at meetings in both Creston and Stanton. NRCS believes that getting employees up-to-date on the latest technology is important today, because they currently provide technical assistance on grassland management to farmers and ranchers in this area.

Today, farmers are becoming interested in this project because of the land which is being released from the Conservation Reserve Program (CRP). Many also have low-producing pastures with erosion problems. They are realizing that a pasture which is managed properly can produce a lot more forage, plus most erosion problems are eliminated.

Most NRCS employees now have the ability to help farmers with developing a grassland management plan based upon the soils and other resources. A good grassland management plan involves several things, including the type and species of grasses and legumes best suited for the soil. Then of course, to be considered are the numbers and kinds of livestock and how long they are allowed to be in each field.

Plants are all different in regard to their growth habits, their suitability to the soils and the time of the year in which they will provide the most forage. The plan usually shows which grasses to use, how many animals can be grazed on each field, and when to move them to the next.

All these management systems, however, depend upon the weather and need to be adjusted daily by the manager, depending upon the volume and quality of the forage available. Some managers use warm season grasses, such as switchgrass and big bluestem, in the hot summer months, and use cool season grasses, such as smooth bromegrass, in the spring and fall. Warm season grasses will provide excellent forage if managed properly, and not grazed too short. Stockpiling grass for

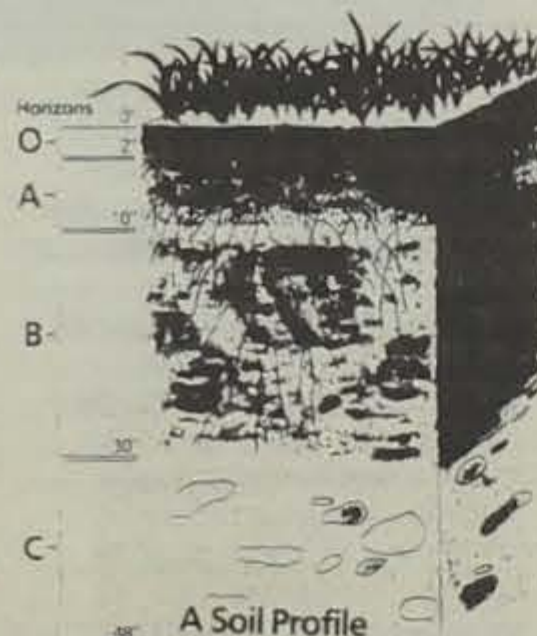


use in the late fall and early winter is also being done by some managers.

Instructors for the grassland training included Brian Peterson, Grassland Conservationist; Scott Shuey, Veterinarian; and Rick Sprague, DC, all from Corning.

In some counties, financial cost sharing is available, but must be applied for prior to setting up a grazing system, and a plan approved by the NRCS is required.

Farmers interested in receiving help with grassland management should call their local NRCS office.



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In twenty years, implement dealer has seen demise of the plow, increase in use of no-till equipment, and many other changes in demand for farm equipment



Roger Sorensen and one of the Kinze no-till planters which have become more popular

Ed Seidel, SC
Lou Waite AIS

Roger Sorensen grew up on a farm in Shelby County, but chose not to follow that occupation once he reached adulthood. After being employed as an oil distributor for some time, he decided twenty years ago to establish Sorensen Equipment Company in Harlan.

Last year, the company was honored as the top volume dealer in north America by Kinze Manufacturing of Williamsburg, Iowa. Kinze is one of the major lines of farm implements and machinery which Roger sells. He also distributes Ford, Krause and New Holland equipment.

Through the years, Roger said he has seen a decided change in the demand for certain equipment. Due to the increased interest in a no-till residue management system, approximately 85 percent of the planters he sells are set up for that purpose.

"Perhaps the biggest change through the years has been that when this business began, we sold

20 or more new discs each year, and we were still selling plows. Today, we might sell one new disc, and no plows, although there is a scattered demand for used equipment of this type."

Roger noted that when no-till first came into the farming picture, the no-till drill was the most popular implement. "But with the new Roundup Ready soybeans, a planter will save \$8.00 per acre over a drill," he informed, "and farmers are becoming aware of that fact."

Two-row planters are still sold, but a Kinze 36-row is also available. "Farmers want the larger implements today, and you know the law of supply and demand," Roger said, with a wry grin. Then he added a bit ruefully, "I am pretty well sold out of new planters already this year. That's perhaps too soon, but sometimes you can't outguess the odds."

An advantage to the farmer is that modern implements used to plant corn in 30-inch rows have extra row units, to split the rows

and facilitate the planting of 15-inch row soybeans. "This way, one bigger machine, such as the Kinze planter, replaces the two machines used before," Roger pointed out.

He also commented that he had seen a decrease in the demand for haying equipment in recent years.

"The priority seems to be on raising corn and soybeans", he said.

Asked his opinion on future trends, Roger said that most farmers who do complete no-till are showing some interest in going back to making "one or two passes" through the fields

periodically to "stir up the ground". This would alleviate compaction and other changes in the soil structure which have become apparent since no-till came into use.

"So we may have more demands for a one-pass tool, such as the Krause Landsman," Roger surmised. "A one-trip tillage implement may be the wave of the future. We in this business need to remain aware of such trends, and we try to do that."

Roger's wife, Bev, whom he described as his "right hand", is office manager and bookkeeper. Two sons, Corey and Barry of Harlan, are affiliated with the dealership; son Todd lives in Dallas and daughter Tammy resides in Atlantic. The Sorensens have one grandchild.

"I want to make it clear that whatever successes we have had have been due to teamwork," Roger said seriously. "Without the family support, the cooperation of a great group of employees and patronage of our customers, it wouldn't be possible."

In conclusion, he commended the farmers who are dedicated to conservation of natural resources, and noted the progress which is a result of their efforts.

"I would appreciate that even if I wasn't in this business," Roger said.

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Shelby County IRVM-SCCB guidelines for prescribed burning

by Darby J. Sanders, Director
Shelby County Conservation
Board

With spring fast approaching, it will soon be time for Roadside and Conservation personnel to begin the process of burning County Conservation Board areas and selected secondary road ditches throughout Shelby County.

Prescribed burning is selective, and if used correctly, will

- * Improve wildlife habitat
- * Boost pasture productivity
- * Enhance native plant communities

* Reduce weed populations.
When properly managed, fire can rejuvenate open areas, creating healthy grasslands. Fire also helps many types of wildlife species, including

- * Upland bird populations
- * Songbird populations
- * Many types of waterfowl.

Burning stimulates grass growth that many types of animals need for nesting and cover. It also impedes growth of all types of woody plants. Burning pastures hastens green-ups in the spring and improves forage range quality and palatability for livestock.

Habitats which benefit from fire:

Prairies: Prairies can't survive without periodic fires. The flames kill encroaching woody plant cover and rejuvenate native grasses and forbs.

Pastureland: Fire helps control brush and unwanted woody plant cover and it prepares the site for planting grasses consumed by livestock.

Forest openings: Can be maintained with prescribed burns to benefit many types of wildlife species. Openings burned in early spring open up sooner than other areas.

If burning appears to be an option, a burn plan will be needed. Briefly, a burn plan is a short summary of what you are trying to accomplish with the burn, how you will go about it and how to evaluate the results. Some main components of the plan should include information about the site, the time of year that will work best, developing some sort of a firebreak, weather conditions, necessary equipment needed for the task and any permits or notifications you may need from local officials. More information can be obtained by contacting the Conservation personnel at 712-755-2628 or 712-764-8345.

Conservation staff will assist in developing a safe prescribed burning plan for the property involved. Burning road ditches can be a very effective way to control all types of weeds including many types of thistles. Conservation personnel can also assist in developing an overall land management plan for your farm.

A word of warning - Prescribed burning, like operating farm equipment or using chemicals to control vegetation, can be dangerous if improperly or carelessly done. Anyone doing the



Prescribed burning is shown being carried out, with the flames kept in control by local fire department volunteers.

burning is liable for any damages or suppression costs which occur as a result of their prescribed burn, including fire damage and problems created by smoke. With these words of caution, it must be born in mind that if appropriate measures are taken before, during and after the burn, the risks associated can be reduced to a reasonable level.

A portion of the Conservation Department's burn policy and some tips for successful results:

Biological considerations: Warm season grasses as a rule respond best to mid-April to mid-May burns. Cool season grasses do best with an early spring burn and are set back by a late spring burn. Cool season grasses respond better to fall burns than do warm season grasses.

Musk Thistle: If flowers have opened they should be burned on site.

Canada Thistle: May burning will cause an immediate reduction in thistles growing in cool season grasslands. May burning will cause an initial increase in C.Thistles in warm season grasslands followed by a noticeable decrease within 2 years. June burning shows immediate reduction in C.Thistles in warm season grasslands. When burning to control problem C.Thistle areas, 3 consecutive burns in 3 consecutive years may be needed followed by a burn as needed schedule. Do not burn C.Thistles before May. Early spring burns cause increased sprouting and reproduction.

Teasel: Late spring burning works well if there is enough dead material to carry fire through the stand.

Leafy Spurge: Burning in the spring can reduce the germination of Leafy Spurge seed. Burning should be done at least 3 times within a 5-year period in infested areas.

White and Yellow Sweet Clover: An April burn the first year, followed by a second year

May burn is most successful. A hot first year burn scarifies the seed and stimulates them to grow (a late fall burn will also have this effect.) Following up with a hot second year burn will kill the emerging shoots before they go to seed. A heavily infested area may need this process repeated after two years of non-burning.

Smooth Sumac: Where a fire will carry through the entire stand, burning in August will often kill mature plants. However, sprouts must then be cut. Timing is important. Late fall or winter fires do not control Sumac. Early spring fires can actually increase sprouting and encourage spread of Smooth Sumac.

Reed Canary Grass: Requires repeated late autumn or late spring burning for several years to control. Burning is most effective when other species are present.

Siberian Elm: A complete burn will control Elm.

Fescue: Burning in late spring is effective in controlling Fescue. If repeated burning does not control old stands, herbicide use is required.

Biological Considerations (animals): If a sensitive species is suspected to be in the proposed burn areas a wildlife specialist will be consulted prior to the burn. An entire area will never be burned one time. This allows for wildlife cover and prevents an entire ecotype from being destroyed. Ground nesting birds can be affected during the year of a burn but in the long run fire improves nesting habitat and increases bird populations.

Weather monitoring: Local weather reports will be referred to prior to each burn. Portable weather monitoring equipment will be at each burn site and temperature, humidity and wind speed will be measured immediately prior to each prescribed burn. Burning will not be permitted with temperatures in excess of 80 degrees F, wind speeds in excess of 15 MPH, and relative humidity levels below 25%.

Smoke hazards: The Smoke Management Screening Procedure (to be provided) will be referred to when smoke poses a dangerous situation.

Communication: Shelby County Dispatch will be notified as to where a prescribed burn will take place on the day of the burn. Good communication will be maintained at all times between burn crew members, with hand-held two-way radios provided. A dash-mounted high-powered 2-way radio and cellular phone will be immediately accessible in order to stay in contact with emergency personnel. Adjacent landowners will be notified prior to each major prescribed burn.

Firebreaks: Where there is not a natural firebreak, such as a road, plowed ground, etc., and the property adjacent to the burn contains ignitable fuel loads or the possibility of property damage exists, fire lines will be constructed. These can be one of the following: bare ground (plowed or disced), greenlines (mowing), wetlines (water or foam) blacklines (burning).

Protecting Susceptible Objects: Small scale firebreaks will be constructed to protect fence posts, telephone poles, junction boxes, signs and any other object which may be susceptible to fire or heat damage. Wet burlap sacks or sections of duct may be used instead of or in addition to firebreaks. Care should be taken to stay out from underneath power lines when there is a heavy smoke. Smoke has been known to carry an electric current.

Warning Signs: The following signs or conditions may create a dangerous burning environment and cause a prescribed burn to be canceled and rescheduled at a later date: 1) unusually low fuel moisture 2) large amounts of fine fuels on steep slopes 3) strong surface winds 4) sudden calms 5) high clouds moving fast or thunderheads which could mean downdrafts 6) dust devils and whirlwinds 7) passage of a frontal system.

Mop Up: After a prescribed fire has burned out, the perimeter of the burned area will be walked at least twice to make sure there are no hot spots which could flare up. The Shelby County Dispatch will be notified when crews leave the site of the prescribed burn.

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Shelby County 1997 State Cost-share policies

The Shelby County Soil and Water Conservation District Commissioners have finalized the policies for State Cost Share Funds.

Applications for 1997 began at 8:00 a.m. on January 2 at the Harlan NRCS office.

1) Sign-up will be divided into three lists: spring, summer and fall. Names will be chronologically approved as that season's funds become available. There are no assurances of any fall allocation.

2) A priority system was adopted and cost-share rates apply as follows:

HIGH PRIORITY

1. Terraces. Topsoiling is required on terraces and is included in the following rates:

Narrow base A - 50% of \$1.10 per foot, or 50% of the cost, if less.

Grass Backslope - 50% of \$1.30 per foot, or 50% of the cost if less.

Broadbase - 50% of \$.90 per foot, or 50% of the cost if less.

Estimated cost on tile, intakes and outlets: Payment based on 50% of the estimated cost, or 50% of the cost, if less.

6" tile, \$1.25 ft. (not to exceed 200' below terraces.

5" tile, \$1.00 ft. (not to exceed 200' below terraces.

8" tile, \$1.80 ft. (not to exceed 200' below terraces.

Intakes, \$150.00

Outlet, \$100.00

2. Water and Sediment Control Basin (638)

50% of \$.80 cu. yd. or 50% of the cost, if less, not to exceed \$3500.

3. Underground Outlet

(Tile) (as part of the terrace system)

Tiling will be cost shared at 50% of estimated cost or 50% of cost if less and only 200' per intake.

the waterway. Total waterway/tile cost-share at 50% not to exceed a maximum of \$3500.

3. Waterway Outlet

Outlets constructed to NRCS specifications will be cost-shared at 50% of the estimated cost or actual cost whichever is less, not to exceed a maximum of \$3500.

LOW PRIORITY

Practices:(all at 50% cost-share)
342 - Critical area planting; 362 - Diversion; 612 - Field Windbreak; 512 - Pasture and Hayland Planting



Goose islands in this wetland pond make it an attractive place for migrating waterfowl to rest for a time.

Wetland benefits cost little, gain much

No part of our landscape provides so many benefits at so little cost to the public as America's wetlands -- our swamps, marshes, bottomland, forestland and other types of water-dominated areas. Such benefits include:

Waterfowl breeding -- over 12 million ducks nest and breed annually in northern U.S. wetlands. This area, when combined with similar habitats in the Canadian prairies, accounts for 60-70 percent of the continent's breeding duck population.

Habitat for fowl and other birds -- Some 2.5 million of the 3 million mallards in the Mississippi Flyway and nearly 1200 percent of our 4 million wood ducks spend the winter in flooded bottomland forests and marshlands throughout the south.

Wildlife habitat -- Wetlands provide food and shelter for a great variety of fur bearing animals and other kinds of wildlife. Louisiana marshes alone yield an annual fur

harvest worth from \$10 to \$15 million.

Habitat for threatened and endangered species -- At least one-third of the nation's threatened or endangered species live in wetland areas.

Marine fish and shellfish production -- Roughly two-thirds of our shellfish and important commercial and sport species of marine fish rely on coastal marshes for spawning and nursery grounds.

Freshwater fish -- Many of the 4.5 million acres of open water areas found in our inland wetlands are ideal habitat for such sought-after species as bass, catfish, pike, bluegill, sunfish and crappie.

Timber protection -- Wetlands, especially bottomland forest, are rich sources of timber.

Flood control -- Wetlands temporarily store flood waters and thus reduce downstream losses of life and property. Since

destruction from floods in the U.S. runs from \$3 to \$4 billion each year, the damage-diminishing function of wetlands is vitally important.

Water quality -- Wetlands act as natural water purification mechanisms. They remove silt and filter out and absorb many pollutants such as waterborne chemicals and nutrients.

Saltwater intrusion control -- The flow of freshwater through wetlands creates groundwater pressure that prevents saltwater from invading public water supplies.

Shoreline stabilization -- By absorbing wave and storm energy and slowing water currents, wetland vegetation serves as a buffer against shoreline erosion.

Reduction of coastal storm damage -- Coastal marshes help blunt the force of major storms. Coastal mangrove wetlands are so valuable in reducing the height of storm waves (and resulting erosion and property damage) that the Federal Insurance Administration's regulations state that insured communities shall prohibit their alteration.

Recreational opportunities -- Wetlands offer unspoiled, open space for the aesthetic enjoyment of nature as well as activities such as hiking, fishing, hunting, photography and environmental education.

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Abandoned wells are open threat to health and safety

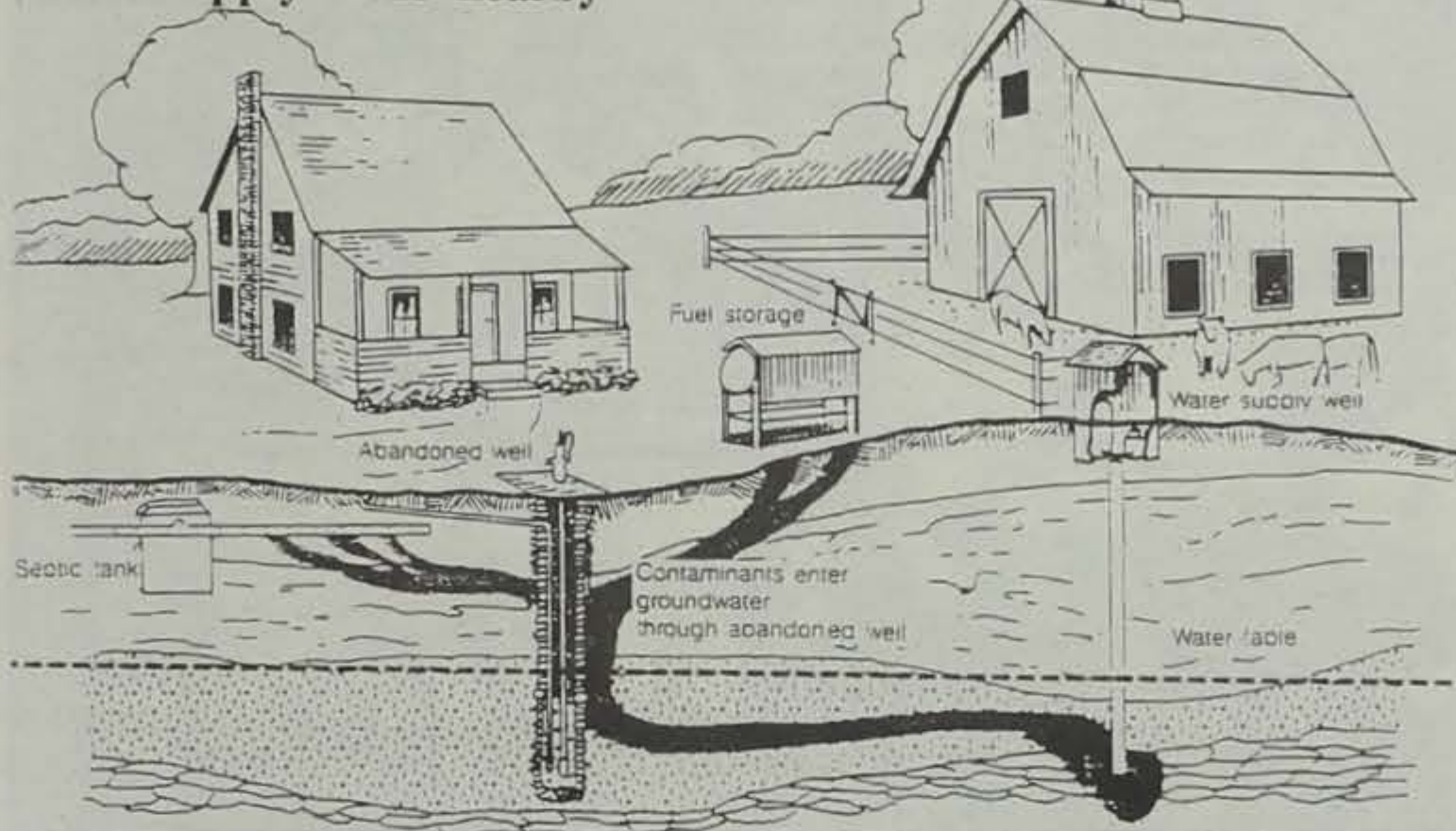
Hidden Hazards

Abandoned wells can be found almost anywhere -- on farms, industrial sites and in urban areas. Those marked by windmill towers and old hand pumps are easy to spot. But many lie hidden beneath weeds and patches of brush - an open trap waiting for unsuspecting children, hunters and animals.

No one knows how many abandoned wells there are in Iowa. A recent landowner survey conducted by county assessors indicated there may be 35,000 or more. While that may seem like a lot, census data suggest there probably are many more. In 1900, there were about 250,000 active

farmsteads in Iowa. Today, there are less than half that number. That means more than 112,000 farmsteads have been abandoned this century. Most of these had at least one well. Besides creating hazards to personal safety, abandoned wells leave our groundwater, the most widely-used source of drinking water in Iowa, wide open to contamination. When compared with the water in our lakes and streams, groundwater is clearly our best source of high quality water. This is because layers of soil and rock capping our underground supplies act like a natural filter which prevents silt, bacteria and even some kinds of chemical from migrating into them. But this protection is destroyed by open holes drilled

Pollutants which enter abandoned wells can contaminate water supply wells nearby



materials and methods can lead to settling, sudden collapse, and continued ground water contamination. Worse yet, once plugging materials are improperly installed in a well, a "second effort" at patching up the defective work is nearly impossible.

It's up to Us

It won't be easy to convince everyone to plug their abandoned wells. Proper well plugging takes time and money. The exact costs vary with well depth, diameter, and the geology of the area. Some will say well plugging is like pouring money down the drain. But the truth is that spending a few hundred dollars plugging an abandoned well near your home may prevent contamination of your drinking water. And, it might prevent a serious accident involving your family or friends.

through the protective soil and rock. In recent years, county sanitarians and well drillers have often reported contamination of private water systems caused by nearby abandoned wells with leaky casings and loose or missing caps.

Plugging is the Answer

Recognizing the threats to personal safety and groundwater quality posed by abandoned wells, the Iowa legislature included well plugging legislation in the 1987 Groundwater Protection Act. This law calls for all abandoned wells in Iowa to be plugged.

Get Your Money's Worth

At first glance, well plugging may seem to involve little more than dumping something into an open well. But, effective well plugging calls for experience with well construction materials and methods, and working knowledge of the geology of the well site. Furthermore, most plugging operations require special tools to remove old pumps and piping, pumps to properly install sealing materials inside the well, and excavating equipment to remove the top 4 feet of casing and compact soil over the well. For this reason, it is recommended that

most wells be plugged by a registered well contractor. Two exceptions are 1) wells greater than 18 inches in diameter, and less than 100 feet deep, which can be filled by dumping granular sealing materials into the top of the well, and 2) sandpoint wells, which can be extracted and allowed to collapse.

A poor job of well plugging is little better than an open well. Use of inappropriate plugging

For Further Information

For additional information on well plugging, ask your county extension office for a copy of publication Pm-1328, *Plugging Abandoned Wells*, or contact your county sanitarian or a well contractor in your area.

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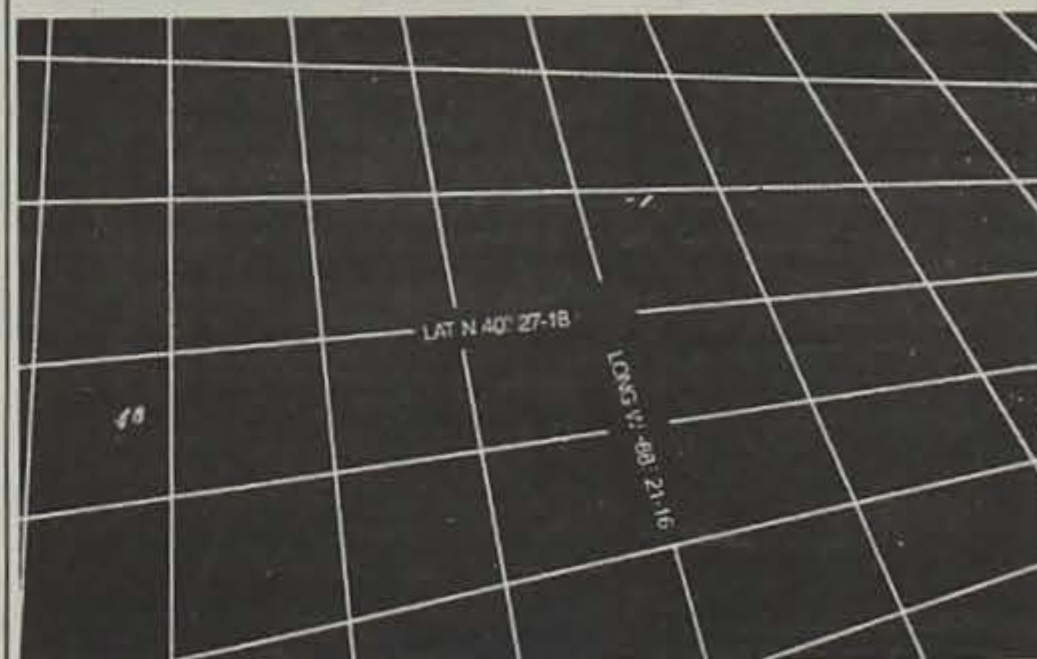
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Internet project has exceeded instructor's "wildest dreams"



Students who participated in the Internet project this year were:

(Don Groff Photo)

Front row left to right, Brittany Boyd, Samantha Morton, Alex Oliver, Brian Book, Seth Gorham, Derek Peterson, Stephany Michel, Kayla Hively, Kellie Pryor, Sarah Warmbier, Kellon Clark, Cody Watkins
 Second row, Mary Smith, Ashley Cox, Amanda Lenz, Justin Sullivan, David Burmeister, Mike Brown, Brittany Miller, Jim Sullivan, James Allmon, John Sullivan, Joe Smith, Brad Steppuhn
 Third row, Brent Dunlop, Andrew Retelsdorf, Ross Clark, Justin Ronk, Adam Dickinson, Sean Huertz, Brandon Johnsen, Katie Lefebber, Ashley Morrison, Mindy Heistand, Jill Royer, Kristina Weis, Heather Schramm, Katie Tremel, Chris Morrison
 Back row (not visible) Todd Waite and Russell Jackson; not present, Shawn Stolley.

by Lou Waite

An issue of this newsletter last year contained an article about a group of fifth and sixth grade students at Woodbine and their project to promote the Iowa Sesquicentennial. Their intent was to "spread the word" about the Loess Hills, a natural treasure in western Iowa, through the Internet.

Don Groff, science teacher, spent many hours "above and beyond", as did the students, contacting other schools in the USA and various foreign countries. As related in the previous article, the students learned to use computers and the Internet, as well as becoming more adept at communication skills. A "side benefit" perhaps was that the project allowed them to not only learn more about their own state, but other states and the world.

The students in that original group presented their project many times to interested organizations, agencies and legislative bodies. Their activities were covered extensively in both print and electronic media. As Groff stated, the entire undertaking "exceeded our wildest dreams!"

In fact, the project has become so successful that it is still ongoing with a new group of

students; entering new dimensions and gaining more attention from a wider perspective. Articles written by individual students under their own byline are being printed in leading state and national publications. More and more requests for personal appearances are being fulfilled.

But since conservation is the focus of this newsletter, one particular aspect of the project is of major interest.

One of the requests made in the initial contact was that soil sample results from each respondent be returned to Woodbine. Those results were then to be compared to the Loess soils of the region. A number of these were received and duly included in the project information file.

In the fall of 1996, Groff requested the assistance of Russ Kurth, District Conservationist at Logan. Kurth supplied information and the FAX number for every Natural Resources Conservation Service field office in Iowa.

"We FAX'd every one of the 100 offices," Groff said. (There are 99 Iowa counties, but Pottawattamie has two NRCS offices, East and West). "We received 33 soil samples before the weather turned cold, and the ground froze. Knowing it would be difficult or

impossible to receive more until spring, the kids decided to pursue another avenue of inquiry.

Russell Jackson, a sixth grade student, composed a letter to Regis D. Voss, Extension Agronomist at Iowa State University in Ames. Russell explained what we were trying to achieve, and asked for the pH average of each county in Iowa. (The pH logarithmic scale is the chemist's measure of acidity and alkalinity in the soil.)

Voss responded, commending the students upon what they had accomplished, and said since they had taken the time to do what they had done, he would be happy to take the time to help them.

"It was a very special letter, which the kids really appreciated," Groff said. "The Professor kept his promise by providing the pH table for every county except two." Groff said, "and we will have those soon."

As indicated in the

accompanying graph, the low pH is added to the high pH and the total divided to arrive at the average. For example, Buena Vista county has a low pH of 6.6, a high of 7.3 or an average of 6.95. Accompanying charts also list the predominant soil type of the region, which in Buena Vista County is Webster. This information is available to Internet users, accessed simply by pressing a "button" for the county desired. All data has been assimilated and entered into the computer by the students, Groff said, then added, "They are much better at it than I!"

The students have formulated their own "Hyper-studio." Entitled *Iowa Counties, Numbers and Names*, the roster includes all counties, even some which no longer exist. These are Bancroft, Buncombe, Cook, Crocker, Fox, Howard, Kishkekush, Risley, Slaughter, Wahkaw and Yell, all of which have been renamed or

abolished.

Included in the information is the number and name of the county, the year it was designated as such, and the origin of the name. It may be learned that Shelby County in 1853 was named for General Isaac Shelby, the first Governor of Kentucky. Harrison in the same year claimed Pres. Wm. Henry Harrison as namesake, and Pottawattamie County in 1837 was named for the Indian Tribe, which formerly possessed Iowa Territory.

These projects will be entered in the *Adventures in Super Computing* contest for elementary students, to be held at Iowa State University. Groff's students will also compete with separate entries on *Cattle Production in Iowa*; *Water Quality*; *Height and Weight of 5th and 6th grade students (including statistics received from a number of foreign countries)*; *Extinct and Nearly Extinct Animals*; *Women in Science (those in Iowa Colleges, etc.)*; *Loess Hills*; *Rainfall*; and *Drug Arrests*. Many of the projects compare Iowa statistics to those from other parts of the country. Once again, the students did all the research and data entry, devising their own program structure and format.

Groff, who in 1996 was named Iowa Outstanding Conservation Elementary Teacher of the Year, stressed that all credit should go to his students. "They have been highly commended every time they made a presentation. One judge's comment was that in most cases, questions had to be directed toward the instructor, but not with the Woodbine students. They could and did respond to every inquiry with knowledge and enthusiasm," he said proudly.

Groff related that following a presentation to one school in Cedar Falls via the Iowa Communication Network (ICN) the class was requested to provide it for 45 schools. ICN is a fiber optic system which he said would (hopefully) in the future link all the school districts in Iowa.

"I would dearly love to be able to have my kids teach students in Eastern Iowa," Groff said. "What an opportunity that would be."

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MAX report

by Russ Kurth, DC

What is MAX? It is a computer program which manages crop input data, generates cost worksheets and summary reports for participating farmers, and allows custom input costs to be used in all calculations. Various management options, such as tillage, pest control and fertilizer strategies can be compared to help assess which practices are both economically efficient and environmentally sound.

Harrison County MAX summary (DeSoto Watershed)

The 1996 crop year began as dry and windy. Most producers in the watershed planted their corn early. Then it started to rain, delaying the planting of soybeans until later than the producers liked.

DeSoto Lake Watershed consists entirely of Missouri River bottomland soil. These soils are nearly level, with a high water table. Permeability of water into the soil is very slow, as is water runoff. These conditions make excessive moisture a serious limitation to productivity levels.

Corn yields were good, ranging from 194 bushels to 87 bushels per acre. The lowest yields were in four fields planted to white corn, which were affected by excessive moisture in the early part of the growing season. Two of the fields were mulch-tilled; the other two ridge-tilled.

One third of the ridge-tilled fields were planted to white corn, and had low yields. This skewed the average yields and profitability factor.

Two fields of no-till white corn were planted approximately two weeks later than the ridge-tilled fields. These averaged 151 bushels per acre. Considering the 60-cents-per-bushel extra value of white corn over yellow corn, the no-till system showed the highest profitability at \$214 per acre. These

two fields ranked second and third in the county standings.

Most producers managed the nutrients very well, not applying excessive amounts of fertilizer. On twelve of the 34 cornfields, more nitrogen was applied than was used by the growing corn crop. Only 3 of these fields had more than 30 pounds of excess nitrogen applied, and that was because actual yields were lower than producers had set as a goal when soil tests were analyzed. All producers are crediting the extra nitrogen content of the soil, remaining from the previous year's crop of soybeans.

Sixteen fields had more phosphorous (P) applied than was assimilated by the crop. Three of these fields had more than 25 pounds of excess P applied; 25 had more potassium (K) applied than was used, and only two fields had more than 10 pounds of excess K. Considering the fact that most of the producers are applying their P and K every other year, the excess will be utilized by next year's soybean crop.

In other words, producers in DeSoto Watershed are applying only maintenance levels of phosphorous and potassium.

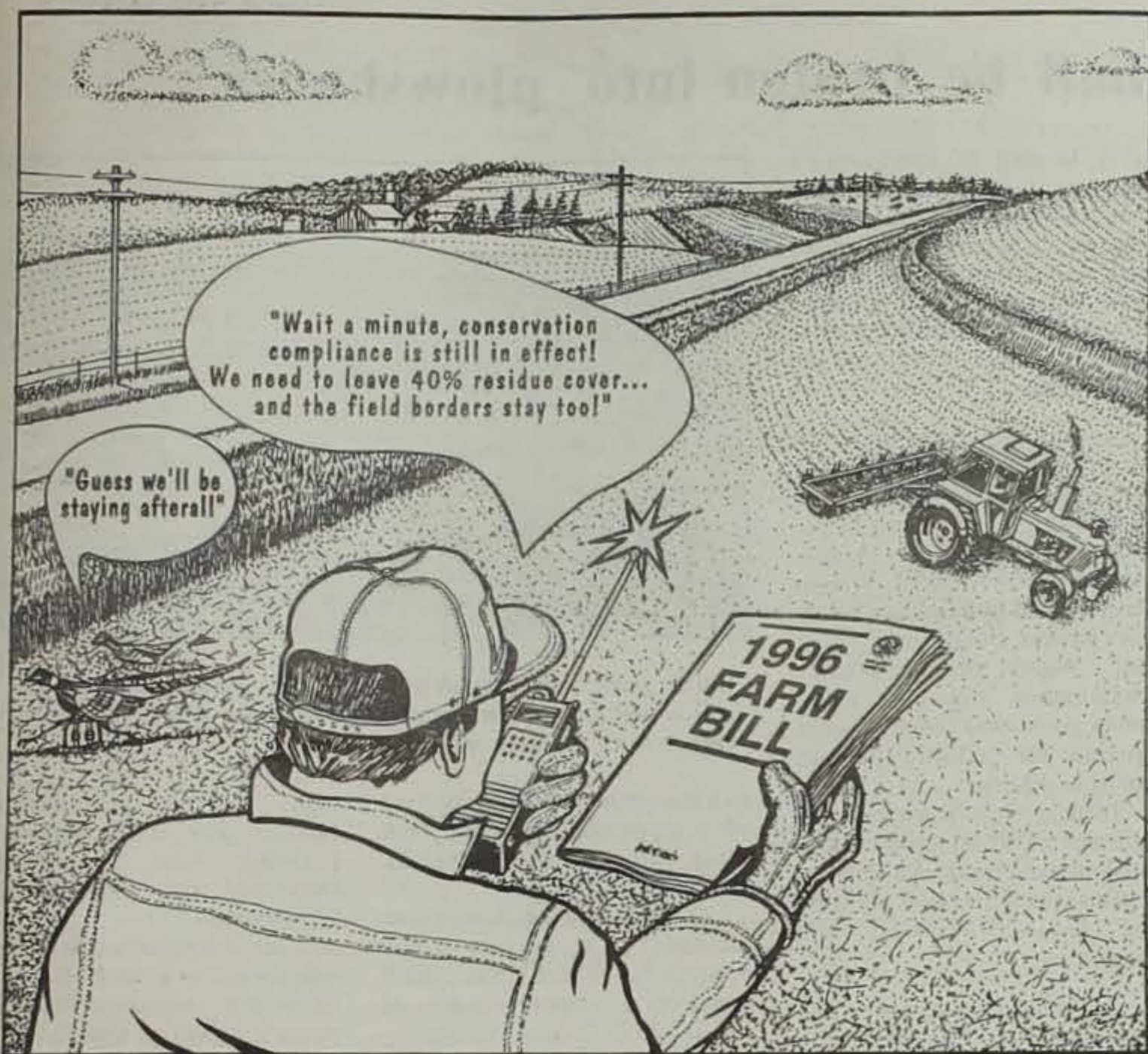
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Straight Talk on tillage terms

(Simple definitions offered as a guide to conservation jargon)

Shelby SWCD/NRCS

If all the soil conservation acronyms, scientific jargon, no-tills, zone-tills, ridge-tills and mulch-tills have you dazed and confused, don't feel bad. Here are some definitions to help you sort through the confusion.

Residue: If it flows through your equipment, it is residue. If it plugs something up, it's trash. Since surface residue is the single most important factor in controlling soil erosion, the goal of conservation tillage, therefore, is to figure out how to turn trash into residue.

USLE & RUSLE: The Universal Soil Loss Equation was developed in the 1950's to estimate soil erosion and how various tillage systems will affect it. The Revised Edition, which should be in your local NRCS offices, fine-tunes the equation to reflect what soil scientists have learned in the last 40 years. In most cases, differences between soil loss estimates using USLE and RUSLE will be too small to make any difference in HEL conservation plans.

T-value: This is the rate of soil loss at which soil can be farmed indefinitely without loss of productivity. Even reaching T, however, won't solve all environmental problems. For instance, it doesn't account for the effects of soil or chemical movement off the fields, which will be the key issue as debate over water quality heats up.

ACS: The concept of Alternative Conservation Systems is an option offered to farmers working out compliance plans. It settles for a "significant level" of erosion reduction rather than shooting for T-value. It was included in the law to provide more economical options for farmers on severe slopes.

Conservation Tillage: The most common definition is any

tillage system which maintains at least 30 percent residue cover on the soil surface after planting. A conservation compliance plan may require more than 30 percent, however. But because it is so vague, the term has been so badly abused that NRCS has abandoned it in favor of crop residue management (CRM).

Conventional Tillage: This term is often associated with moldboard plowing followed by several spring tillage trips. However, in most of the Midwest, conventional tillage has moved from moldboard plowing to the twisted shank chisel plow, followed by several spring tillage trips.

Mulch-till: Although this system is closest in appearance to conventional tillage, it is one of the newest terms. Mulch-till uses many of the same full-width tillage tools of conventional tillage, but seeks to leave enough crop residue on the surface to maintain a tolerable rate of soil erosion.

No-till: In its strictest sense, no-till is no tillage other than cutting a narrow seed furrow through untouched residue. Many no-tillers, however, do several forms of tillage, such as cultivation. True no-till is most effective and popular in the southern cornbelt on well-drained soils.

Ridge-till: A system of skimming off the tops of row ridges six to eight inches high that were built the previous summer. The skimmed ridge tops provide a clean, moist seedbed that warms up quickly. It was originated and is the most popular where soils are cold, wet and heavy.

Zone-till: Also called strip-till and modified no-till. The goal of zone-till is to clear and/or till a strip of soil four to eight inches wide ahead of the planter seed openers. This is accomplished with a wide variety of planter-mounted coulters and row cleaner combinations. Unlike ridge-till, this system uses no mechanical cultivation, relying entirely on chemical weed control.



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... and their swords shall be beaten into plowshares



This photo, taken in the early forties, shows one of the buildings which housed the technological equipment needed to launch Atlas missiles, if the need arose. At that time, it was felt such action might be imminent. (Photo, courtesy Tim Sproul)

by Lou Waite

During the cold war years, America feared that another world-wide conflict could erupt at any time. The residents of western Iowa, located so near Strategic Air Command's Offutt Air Force Base in Omaha, felt especially vulnerable.

They were somewhat reassured, however, by the presence of an Atlas "D" missile base, located near Missouri Valley. They knew that elaborate defense mechanisms were always on the alert.

Millions of dollars were spent keeping the base active and updated, but not one missile was ever launched from the site. With advancing technology and changing world conditions, the base became obsolete and was finally abandoned.

Actually, that the base was no longer needed was the good news. The bad news was that while the missiles were gone and the underground bunkers filled in the large, cement launch pads were still there. So were miles of paved

roadways, high wire fences and other miscellaneous installations.

Acres of good Iowa farmland were, for all intents and purposes, going to waste.

In November, 1971, the government conveyed the land to Iowa Western Community College, centered in Council Bluffs. The grant came with the requirement that the site be used for educational purposes.

Through the efforts of the college, Golden Hills Resource Conservation and Development District, the Harrison County Conservation Board and the Soil and Water Conservation District, the Department of Natural Resources, Missouri Valley Community School District, First National Bank of Missouri Valley, Harrison County Cooperative Extension and many individuals, that intent has been fulfilled.

Today, the old missile base is an agricultural learning center, and an outstanding example of land stewardship at its best.

It has been named *LaGrange Farm* after the township in which

it is located in southwestern Harrison County. The 288 acres combines gently rolling hills and valleys, along with steeper slopes and ridges. Cattle graze on the hills where once surveillance towers stood, and watering tanks and hay-feeders occupy the old launch pads.

Inside the front gate, a windbreak protects the caretaker's mobile home. Elsewhere two acres of shrubs and trees planted by the local Pheasants Forever chapter provide wildlife habitat. Walnut trees, planted by Missouri Valley sixth graders, flourish in a 3-acre plot. Warm season grasses (switchgrass, big blue stem, Indian grass, etc.) cover 12 acres suitable for wildlife habitat, haying or grazing.

There are fields where corn and soybeans are grown, using various rotations and residue management systems. Careful records are kept, and results assessed and documented.

One hundred acres of grassland is fenced and divided into paddocks, as part of a planned pasture management/grazing system. An agro-forestry project demonstrates how forestry products are harvested. Contour buffer strips are used for erosion control, showing how these can be an alternative to building terraces.

Over 3600 trees have been planted, including hardwoods, nuts, Christmas trees, firewood and nursery stock. Inventories are kept current, with each species monitored for growth rate, development and production quotient. The forestry project was funded by grants received from the forest service and Golden Hills RC&D.

An on-site training center has been established, where holistic resource management can be studied and implemented. Grazing and agro-forestry studies are carried out, as well as others related to the concept.

The main objective, according



Cattle graze the peaceful hillsides at the former missile base, which has now become a premier example of farm technology, rather than military might.

to a management team comprised of a representative from each group participating, is threefold, to:

- 1) Install, test and demonstrate methods of production which enhance but do not abuse natural resources
- 2) improve quality of life
- 3) benefit the environment.

It is indeed a tall task. The

many students, professionals, farmers and other visitors to LaGrange Farm, however, are impressed with what has been accomplished.

This is especially true of those who remember when the site had a far different purpose, and a far less-positive impact on their lives.

Favorite Recipes of NRCS personnel

Peaches 'n Cream

- (1)
3/4 cup flour
1 tsp. baking powder
1/2 tsp. salt
1 small pkg. vanilla pudding (non-instant)
2 Tbsp. soft butter
1 egg
1/2 cup milk
- (2)
1 15 to 20 oz. can peaches or equal amount fresh peaches
8 oz. pkg. cream cheese
1/2 cup sugar
3 Tbsp. reserved juice
1/2 tsp. cinnamon
1 Tbsp. sugar

Grease bottom and sides of 9-10" pie pan. Combine first list of ingredients in large bowl and beat 2 min. at medium speed. Pour into prepared pan. Drain peach slices, reserve juice. Put peaches on top of mixture already in pan.

Combine cream cheese, sugar and juice. Beat 2 min. Spoon over peach mixture to within 1" of pan edge.

Combine sugar and cinnamon, sprinkle over cream cheese mixture. Bake at 350 deg., 35-40 min.

The crust should be golden brown; filling will appear soft. Store in refrigerator. Other fruits may be used.

--Konda Slagle, Harrison

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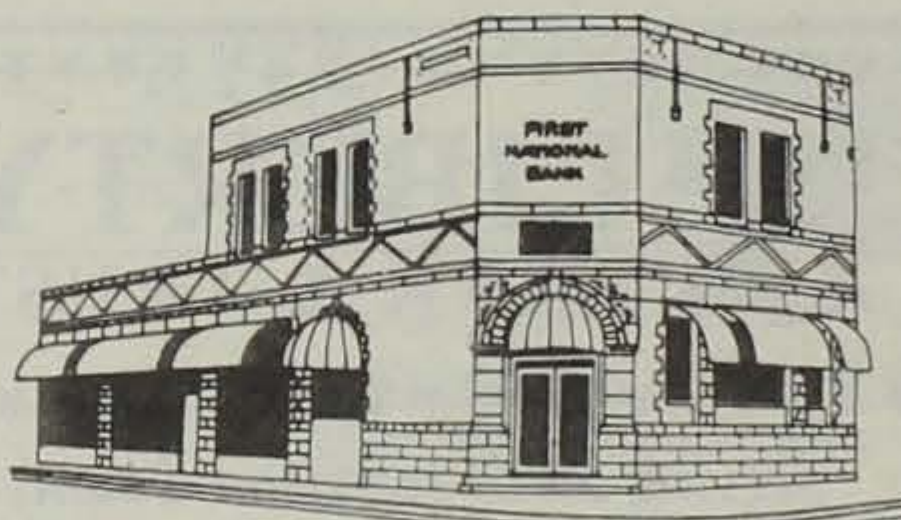
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