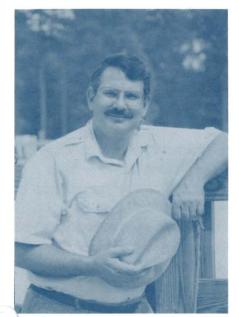
# the Practical Farmer

Practical Farmers of Iowa Newsletter

Vol. 7, #3 Fall 1992

### ALLAN NATION TO SPEAK AT PFI ANNUAL WINTER MEETING

Have you marked your calendar? On Thursday, January 7 Practical Farmers of Iowa will hold its annual winter meeting at the Starlite Village in Ames. The featured speaker is H. Allan Nation, editor of *The Stockman Grass Farmer* and proponent of grassland farming and intensive grazing management. Workshops will feature reports from PFI cooperators on their 1992 trials and demonstrations as well as other topics of interest. The fourth Sustainable Agriculture Achievement Award will be presented.



Allan Nation, editor of The Stockman Grass Farmer, will speak at the Jan. 7 meeting in Ames on Grass Farming and Rural Communities.

Tom Frantzen, PFI president, will get the program under way at 8:30 am. There is no preregistration for the meeting. The cost of attendance is \$10 for nonmembers (the price of membership), while current members can attend free. Luncheon at the Starlite is an additional charge for everyone. The Starlite Village Best Western is on 13th Street in Ames, just off I-35.

### **Allan Nation**

Allan Nation has been the editor of *The Stockman Grass* 

(Continued on page 2.)

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Farmer since 1977. The son of a commercial cattle rancher, Nation has travelled the world studying and photographing grassland farming systems. He is a frequent speaker on grassland farming topics and averages over 50 presentations a year in the United States, Canada, and Mexico. He is author of the book Pasture Profits with Stocker Cattle and will have a book on grass-based dairying out in 1993.

Nation's address to PFI is titled *Grass Farming* and *Rural Communities*. He will lead an additional discussion session at 5 pm, after the PFI business meeting.

### Sustainable Agriculture Achievement Award

Larry Kallem will receive the Achievement award

at the PFI winter meeting. He is one of the founders of Practical Farmers of Iowa and serves as the organization's executive vice president. Kallem is executive director of the Iowa Institute of Cooperation, a statewide trade association for producer and consumer coops. His experience with organizations has been invaluable to PFI since the group formed in 1985. He helped Practical Farmers of Iowa incorporate as a nonprofit organization in 1987, and he has long encouraged PFI's collaboration with Iowa State University and interaction with other farm organizations in the state. Larry continues to provide support and counsel to PFI as the organization addresses the changing needs of agriculture. Previous

recipients of the Sustainable Agriculture Achievement Award are ISU soil scientist Alfred Blackmer, former head of the ISU Department of Agronomy John Pesek, and Jerry DeWitt, director of agriculture for Iowa State University Extension.

### **PFI Business Meeting**

Two districts — northeast and north-central — will elect a representative to the PFI board. Every district will hold a short caucus following the president's report, the financial report, and general discussion.

### Workshops

Last year comments were favorable toward the workshop meeting format. Workshops allow a broad range of presentations from which to "pick and choose." There should be something for everyone this year. Here are descriptions of the workshops.

# Assessing Priorities to Make Business, Marriage and Family Work: Sarah Smith and other

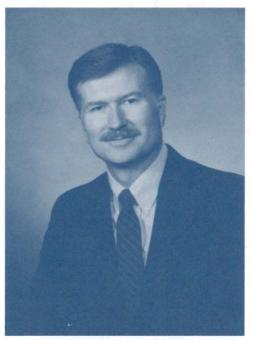
PFI members.

Sarah Smith and husband Leo are PFI members who farm near Red Oak. Sarah is responsible for Christmas tree production and sales on the farm, and she runs a custom frame shop from her home. She will offer a framework for an open discussion of the problems and rewards of living on the farm where you work.

### **Getting Started in Farming:** Gene Smith, Larry Neppl, Doug Alert.

A large number of Iowa farmers will reach retirement age in the next decade. How can young people take advantage of this opening without having access to major amounts of capital? Gene Smith is

a PFI member and banker with the Sloan State Bank. Doug Alert is a PFI member who has farmed full time on his own since 1986. Larry Neppl works with farmers as president of Iowa Farms Associates, Inc., a farm management firm headquartered in Fort Dodge.



Larry Kallem will receive the Sustainable Agriculture Achievement Award at the PFI winter meeting.

# **Going Over the Bank Balance Sheet**: Gene Smith, Vic Madsen.

This session will tell you everything you wanted to know about your balance sheet but were afraid to ask in the banker's office. What kind of liquidity ratios does a banker look for? What is "working capital?" These and other questions will be discussed using balance sheet examples typical for PFI farmers. Gene Smith is a PFI member and banker with the Sloan State Bank. Vic Madsen and his neighbors started a "low-cost producer club" to keep track of expenses.

# **Making Trees Work On the Farm**: Drs. Joe Colletti and Richard Schultz (ISU Forestry), Tom Frantzen.

Colletti and Schultz have been using trees in new ways, for instance planting fast-growing "biomass" trees in strips with row crops. This year they began working with some PFI cooperators to explore uses of trees on the farm. Tom Frantzen has lined grazing cells with trees. They will answer your questions and present some new ideas for using trees on the farm.

# Starters, Inoculants, Potassium and Phosphorus: PFI Cooperators, Rick Exner.

The dry spring caused symptoms of potassium deficiency in ridge-till and no-till corn this year. Under the circumstances, a little fertilizer close to the seed made a big difference to the crop early in the season. Was that difference carried through to harvest? Cooperators will report on their trials.

# **Intensive Grazing Management**: PFI Cooperators.

This year PFI began a two-year grazing study with support from the Leopold Center for Sustainable Agriculture. Participants will report on what they are doing in the project and how they managed in 1992.

# **Nitrogen and Manure**: Dr. Antonio Mallarino, Dr. Stewart Melvin, PFI Cooperators.

Does the late spring soil nitrate test for corn work after manure? Antonio Mallarino has been researching the question with PFI farmers. Stu Melvin is head of the Animal Waste Management Issue Team of the Leopold Center, and he has wide experience with

### **JANUARY 7 MEETING SCHEDULE**

- **8:00 to 8:30 am** Registration. (Come early and see the displays.)
- **8:30** Welcome and Introductions: Tom Frantzen, PFI president.
- **8:45** Allan Nation: Grass Farming and Rural Communities.
- **9:30** Sustainable Agriculture Achievement Award presentation Richard Thompson.
- 9:45 Refreshment Break.
- 10:00 Workshop Session 1.
- 11:00 Workshop Session 2.
- 12:00 Noon Buffet.
- 1:30 Workshop Session 3.
- 2:30 Workshop Session 4.
- 3:30 Refreshment Break.
- 3:45 PFI Business Meeting (everyone welcome).
- 4:45 Allan Nation: Grazing Discussion Session

manure management. PFI cooperators will report on their nitrogen and manure trials and the ISU researchers will add their comments.

# Weed Management and Cover Crops: PFI Cooperators.

The past year was a special situation for weed management because of the dry spring and wet summer. What worked — pre, post, rotary? Why? Did cover crops control weeds? PFI cooperators will report on their weed management and cover crop trials.

# **Narrow Strip Intercropping**: Dr. Richard Cruse, PFI Cooperators.

More than a dozen PFI members are now evaluating this cropping system which promises to benefit both yields and conservation. Cruse directs research on the strips for the Leopold Center. His team includes entomologists, economists, and animal ecologists.

This session promises to be a lively discussion of the pros and cons and the state of the art.

**Growing a Farming System**: Dr. Doug Karlen, Richard Thompson, Mike Reicherts.

How do you design your farming system, and how do systems change over time? Doug Karlen directs the National Soil Tilth Laboratory study of the Thompson farm and a neighboring operation (reported on page 15). Information is emerging about the differences in soil, wildlife, and crop growth that result from two styles of management. Mike Reicherts has been thinking in broad terms about farm systems through his involvement in a Holistic Resource Management group.

Examples of Cooperation — Walking the Journey and Training-the-Trainers: Richard Thompson, Dr. Jerry DeWitt, Rich Pirog, Dr. Jim Tjepkema.

This will be an informal discussion of cooperation between the university, farmers, and other groups on sustainable agriculture. The focus will be two examples: 1) ISU Extension recently produced Walking the Journey, a video about PFI and Rodale cooperators Richard and Sharon Thompson. (See page 7.) That video will be shown. 2) PFI and Rodale recently cooperated with the Leopold Center for Sustainable Agriculture and ISU Extension on the first "Train-the-Trainers" program for farmers and other ag professionals. Participants will discuss the future of such programs and ways to get different groups working together. Jerry DeWitt is ISU Extension Director of Agriculture, Rich Pirog is education coordinator for the Leopold Center. Jim Tjepkema is coordinator for the Rodale Midwest On-farm Network.

**Spirituality and Agriculture:** Phil Huenke, Jamie Reicherts, Richard Ament.

Phil Huenke farms in Wisconsin. Jamie Reicherts farms near Alta Vista with husband Mike. Richard Ament is pastor of St. Michael's Church, in Norway, Iowa. They will lead a discussion of the social and spiritual values that energize rural communities and guide daily life on the farm.

### PFI 1992 FIELD DAYS

Scheduled PFI field days for 1992 are now history. These field days are one way PFI provides information to other farmers about profitable, environmentally sound farming practices. This year's field days again showcased a wide variety of these practices. While several PFI field days had more people attending this year than last, total attendance at advertised field days was down from last year. That trend that has been reported in other states as well. However, PFI cooperators held more tours for private parties and targeted groups in 1992, increasing total attendance to a record 1,900.

Follow-up surveys were sent to people attending PFI field days to assess the strengths and weaknesses of this method of educating others. Attendees were asked a variety of questions, such as how far they traveled, how they learned about the field day, how important various reasons were for attending, and how the field day could have been improved. The results will help PFI plan next year's field days to make sure these events continue to be useful to others.

# PFI Participates in Field Day at Iowa 4-H Center

Soil, Water, and Wildlife: A Land Management Field Day was a unique educational event hosted by Iowa State University Extension on September 8, 1992 at the Iowa 4-H Center near Madrid. Some of the sustainable agriculture practices being implemented at the 4-H Center as part of the PFI education pro-

gram were showcased at the field day, which drew over 250 people.



## FIELD DAYS, 1992



Circling up for the start of Mike and Jamie Reicherts' field day, near Alta Vista.



John Cowles, Bloomfield, and some cows demonstrate how to move fence in intensive grazing management.



5U researchers Rick Cruse (r) and Dick Schultz (l) nelped out at the Tom and Irene Frantzen field day, near Alta Vista. In background are grazing paddocks lined with poplars and an "eggmobile" moveable pen.



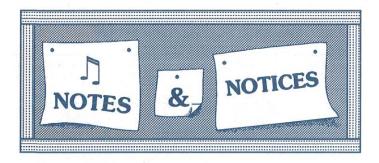
Dave Oien takes the temperature of his composting cattle manure at the field day near Durant.



Gary Huber discusses the fine points of ridge tillage with a group at the field day held at the 4-H Center near Madrid.



Richard Thompson, Boone, ridges corn at the June 15 field day. The demonstration included changing the cultivator for first cultivation of soybeans.



### Fall Renewal Time for Members

Fall is the season for renewing your membership in Practical Farmers of Iowa. Members now have the option of renewing for one year at \$10 or for three years at \$25. PFI President Tom Frantzen will soon send a letter to members requesting their renewal and describing objectives and projects for the next year.

One such project is the publication of a PFI membership directory. This will strengthen farmer-to-farmer links and other sorts of communication. Please indicate your willingness to participate in the directory on the Membership Agreement and Information Form. All members will receive this form, whether or not they need to renew. It also provides space to indicate interest in projects like the PFI youth mentoring program. If your address has changed to the 911 system, you can let us know about it on this form!

### 

This position provides program leadership in sustainable agriculture, including organic agriculture in crop and livestock systems, production, management, and marketing. Client groups will include crop and livestock producers, commodity and farm organizations, agricultural business service providers, community colleges, high school agriculture instructors, sustainable/organic organizations, and county USDA personnel.

Requirements include a Bachelors degree in agronomy, animal science, or related field and five years professional experience. For additional information, contact Bruce Stoll, Human Resources Department, 109 Curtiss Hall, Iowa State University, 50011 (515-294-3283) - refer to position FS-OA1. Applica-

tion deadline is November 23 or until the position is filled. The proposed start date is January 1, 1993.

# ☐ Sustainable Ag Conference in Northeast Iowa

Sustainable Agriculture — Vision for the Future is the focus of a one-day conference to be held January 8, at Northeast Iowa Community College, in Calmar. The conference begins at 9:45 and ends at 3:00 pm. Speakers include: Paul Johnson, farmer and state legislator during the drafting of Iowa's 1987 Groundwater Protection Act; Frederick Kirschenmann, North Dakota farmer and author; and Michael Duffy, Associate Director of the Leopold Center for Sustainable Agriculture at Iowa State University.

The conference will feature concurrent workshops on such topics as sustainable pig production, intensive grazing systems management, manure management, integrated crop management on northeast Iowa farms, improving farm timber stands for profit, and conservation tillage.

Preregistration is necessary. The cost is \$8 (\$10 after Dec. 21); lunch and refreshments are included. Send a check payable to Northeast Iowa Community College along with your name and address to Box 400, Calmar, IA 52132. For more information contact Connie Hvitved at NEICC, 1 (800) 728-2256.

### Apprenticeship Wanted

Former Iowan seeks farm work starting next summer. Especially interested in pigs on pasture, intensive grazing, seasonal dairying. "I read everything I can find, but it's no substitute for hands-on learning." Single father of two, 5 and 7 years old. Nonsmoker, nondrinker. Can supply character references from church and current employer. Please contact: Gary Anderson, 5206 SE 136th, Portland, OR 97236.

### Pasture Sought for Livestock

Young married couple with agriculture backgrounds would like to secure a rental or purchase

agreement for livestock production (using sustainable practices) on 10 to 25 acres of pasture in the central Iowa area. Water and utilities necessary; buildings not but a plus. Please call Bill at (515) 274-5064.

### Farm Renter Sought

Owner of a 500+ acre farm in south-central Iowa, with 400± crop acres of mostly Sharpsburg and Maxburg soils, wishes to contact a potential renter with interest in sustainable agriculture practices. Building site includes a large older home in very good condition. For more information call Gary Huber, the Extension/PFI education coordinator, at (515) 294-1923.

### Farm Manager Sought

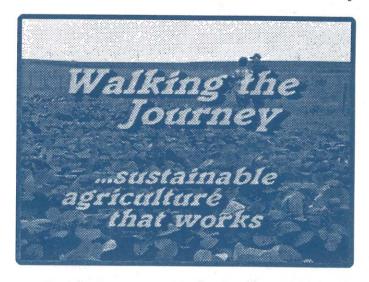
Century Farm seeks manager interested in practicing sustainable agriculture. Farm sits on the western edge of the loess hills one mile from the Little Sioux River, with 100 acres of bottomland and 160 acres of loess hills pastureland. It currently maintains 35 head of stock cows, farrow-and-finishes 400-600 pigs/year, rotates corn/soybeans/alfalfa/silage. If interested contact David Zahrt, RR 1, Box 53, Turin, IA 51059, (712) 353-6772.

# National Young Farmer Educational Institute in Des Moines

Discovering the New World of Agriculture is the theme of the 26th National Young Farmer Educational Institute to be held December 12-15, 1992 in Des Moines. Numerous seminars, panel discussions, tours, and social events will be offered. For more information contact Sue Vantiger, Registration Chairman, RR 1, Box 11, Mt. Union, IA 52644 (319) 865-5241.

### **NEW ISU VIDEO ON THOMPSON FARM**

Walking the Journey is a 22-minute video recently produced by Iowa State University Extension. The video is about PFI members Richard and Sharon Thompson and their Boone County farm. The Thompsons have been nationally recognized as pio-



neers in development of a sustainable approach to farming, and they have collaborated with researchers from around the Midwest to evaluate practices that are profitable and environmentally sound. Walking the Journey was written and narrated by Extension Communications Specialists Don Wishart and Roger Brown, respectively, with support from Extension Director of Agriculture Jerry DeWitt.

The video presents an overview of the farming system interspersed with observations from Dick relating to on-farm research, the cooperation with ISU that has developed over the years, and the philosophy of the Thompson's approach to farming. Much of the footage was taken a few years ago during production of a series of videotapes about practices in sustainable agriculture. Last spring, an ISU crew did additional shooting to "fill in gaps in the story" and taped the comments by Thompson.

Walking the Journey is a good introduction to concepts and practices, and it will be a useful tool for the classroom, community groups, and meetings of farmers interested in learning about one family's journey to sustainable farming. The tape is available for loan from PFI district directors as well as each county Extension office in the state. Copies may be purchased from the Thompsons or the Rodale Institute for \$19.95 (2035 190th St., Boone, IA, 50036, 515-432-1560). Copies will also be available for \$22 (includes shipping) from county Extension offices. Walking the Journey will be shown in the Examples of Cooperation workshop at the annual meeting.

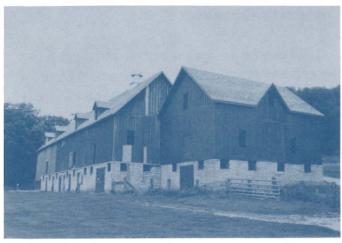
# UPDATE ON INSTITUTE FOR AGRICULTURAL BIODIVERSITY

Shan Thomas, Decorah

The Institute for Agricultural Biodiversity (IAB), formed in 1991 in Decorah, met with several PFI cooperators in early 1992 to discuss the need for onfarm preservation of genetic resources. This is a brief update of IAB's work to date.

Significant projects have been accomplished, yet the need to address the role of biological diversity in sustainable agriculture persists. As with any new organization, the first two years have had their ups and downs.

An Up: The restoration of the Luther College Barn is on schedule, with \$95,000 of the budget raised in the first 18 months. A dedication ceremony was held on Saturday, October 17th at 9:30 am in the barn, which is on the north end of Luther's campus, on College Drive. When completed, the site will be used as a public education and display facility to draw attention to genetic preservation issues. IAB has begun accepting donations of agricultural equipment and endangered breeds of livestock in the last few months. IAB welcomes any information on such donations from PFI members.



IAB work this summer was devoted to structural repair of the Ashmore-Jewell Barn, which is on the National Registry of Historic Places. The barns were built in four stages, from 1858 (or 1868) through 1910.

An Up: IAB obtained a research/breeding facility through a cooperative arrangement with the Iowa Natural Heritage Foundation. The farm being made available to IAB is part of a Natural Heritage project based in Howard County. The 200+ acres provides pasture and crop land for grain grow-outs, conservation breeding, evaluation/testing and feed production. This farm significantly expands IAB's capacity for the future.

A Down: The model on-farm breed conservation project we discussed last year with PFI and Rodale Onfarm Research had to go on hold. A setback occurred this summer when co-founder Peter Jorgensen suffered a ruptured disk. Surgery was necessary but successful. During the convalescence a number of priorities had to be shifted. But all's well that ends well. A new round of proposals have gone out for the fall season to resume this important work.

In the meantime, we are always interested to hear from PFI members. Thank you for your encouragement and interest in this issue. We look forward to working with as many of you as possible in the coming months.

### PFI PROFILES: THE BOB & DIANE GRAAF FAMILY

Gary Huber

The Instamatic snapshot next to the Morning Sun Farm tomatoes in the Humboldt Hy-Vee store showed a smiling man holding two red tomatoes in either hand. The man in the picture was Bob Graaf, a PFI member who currently represents northwest Iowa on the PFI board of directors.

I stopped at the store because earlier in the day Bob had told me they were selling his tomatoes, which are marketed under the brand name Morning Sun Farm. I wanted to see first-hand how this product of the Graaf farming operation was being sold at the retail outlet. The picture of a smiling Bob, along with a caption noting Bob was from the nearby small town of Palmer, was a nice marketing touch.

Fall 1992

"We need to open our eyes to the

potential around us."

The gentle landscape around Palmer in southeast Pocahontas County has been home for Bob and Diane Graaf nearly all their lives. The farm they live on with their six children has been in Bob's family since the 1950s, and over the last six years the family's farming operation has changed so that little of what the family now does to grow food for a living would be recognizable to many Iowa farmers.

The change started with some experimentation with alternative crops on a few acres because, as Bob said it, "We were getting bored with the same old thing, and making money on corn and soybeans wasn't all that easy."

They first tried a couple of acres of everlasting flowers for dried flower arrangements. Then came some chamomile, a flowering plant used in soaps and as certain types of tea. They also tried chives and comfrey, two herbs they thought had some market potential. At the same time they began growing tomatoes outdoors, and four years ago they moved the tomatoes indoors into a small greenhouse.

During this time of experimentation, the Graafs continued to raise corn and soybeans on the rest of their 320 acres. But during planting in the spring of 1991 they were working sixteen hour days, seven days

a week, and they decided something had to change. Seeing the potential for expansion by selling their tomatoes in more stores, they decided to rent the cropland out and concen-

trate on expanding their greenhouse tomato operation. This involved adding a new building to double the size of their greenhouse space to 12,000 square feet and spending more time in new grocery stores introducing customers to their tomatoes.

When starting in a new store, Bob spends each Friday and Saturday for a month in the store handing out tomato samples on nice plates using toothpicks. This is work Bob admits that he enjoys, and his smile, the flavor of the tomatoes, and the fact they are grown by a local farm family help overcome resistance to



Bob at the door of a greenhouse at the PFI field day. Strawberry plants grow in the stacked containers inside.

trying the tomatoes. The fruit costs more, but once someone tries one of the Graafs' tomatoes, they usually have a customer. They help customers recognize the tomatoes by placing a sticker with the trade name "Morning Sun Farm" on every other tomato.

The Graafs currently market their tomatoes in stores within a 60 mile radius of their farm. Starting in the Humboldt Hy-Vee helped because when Bob approached other Hy-Vee stores he was able to suggest that they call the manager in Humboldt if they wanted a reference. The Graafs also sell in the Hy-Vee stores in Carroll, Algona, Storm Lake, and

Webster City, and they have started selling in Randalls in Fort Dodge. Tuesdays and Fridays are delivery days.

While marketing is one

key aspect of the Graaf farm operation, the production side of the business is another. The tomato variety used is indeterminate, meaning the plants fruit continually. Plants are started from seed in December, and during January and February they are grown in a closed off area of one of the greenhouses to keep heating costs down. Then in March they are transplanted into the greenhouses, into individual plastic bags filled with ground rice hulls. The rice hulls, which the Graafs get from Arkansas, provide an inert medium for water and nutrients that are piped to the plants.



The Bob and Diane Graaf family: from left, Diane holding Jordan, Holly, Tyler, Brent, Emily, Whitney, and Bob.

As the plants grow they are trellised using clips to support the vines. Marketing starts in April and continues until garden tomatoes start to ripen in the summer. The market for tomatoes then evaporates, and the blossoms are picked off the vines so the plants do not set fruit. After garden tomatoes are done in September, the plants are allowed to set fruit again and marketing continues into December.

All this time the plants continue to grow. One day a week is spent trimming the vines and moving them down the rows of plants in the same direction so that by the time the plants are a year old the vines are twenty-five to thirty feet long. Two days a week are spent picking, sorting, and boxing the tomatoes. A room in the garage with a window air conditioner set to 55 to 60 degrees provides short term storage. Delivery to stores is done with an air conditioned van.

The operation has provided a reasonable quality of life for the Graaf family. While Bob acknowledges that some people have commented that the operation appears to take a lot of work, he counters by saying, "I always thought you had to work to make a living." Future plans are to diversify what is grown so that several items can be delivered while making the rounds to the same stores they supply with tomatoes. Likely candidates are cucumbers and peppers, and this last summer they began raising strawberries in one of the greenhouses. Diversifying what is grown while maintaining the same market area will help keep labor costs down relative to sales.

In response to a question of what Bob would recommend to others concerned about Iowa agriculture, he believes there is a lot more room for diversity in what farmers produce. He recommends to others that they "add value to what you grow or raise yourself instead of selling to someone else who will add the value." He continues, "We need to open our eyes to the potential around us. Look at all the retired Iowans living in Arizona. They all know what good beef is, and yet they often say they can't get good beef in the stores out there. Iowa beef producers could be promoting Iowa beef in these stores, and they could be getting a big premium."

The Graafs acknowledge that there is a lot of learning and some risk involved in trying something new. Starting slow with experimentation provides some safeguards along the way. But they also find the challenge invigorating. Concern for rural Iowa, the love of a challenge, and a desire to learn are qualities they have in common with many PFI families.

### S.O.S. - SUSTAIN OUR SOCIETY

Gayle Olson, Winfield

Practical Farmers of Iowa members are concerned about the sustainability of the land as well as the families and communities originally upon that land. As farms become larger, fewer families remain to support a community. Larger farms buy in bulk quantities, usually not from a local business. As businesses fold, small town residents move away. Youth who are ready to enter the work force do so in another, more urban community. In fact, our midwestern colleges and universities are prime recruiting grounds for many employers because of the work ethic and value system our kids have developed during their rural upbringing.

Meanwhile, back on the farm, life is much more competitive than cooperative. As small farms and businesses fight for survival in an age of high technology and off-farm jobs, there is less time and motivation to be neighborly. Not only is the community population shrinking, the sense of community is fading.

Rural communities can only be saved

if we can keep our dreams alive. We

need to realize that we are not saving

a past, but creating a future. Our aim

This may be an oversimplification of what has happened in the past few generations. Many of our nation's public policies have encouraged and rewarded conditions that have led to these trends. That has added a feeling of powerlessness and abandonment to the stress of isolation and low economics among people still committed to a rural lifestyle. As the conditions intensify, it sometimes seems inevitable that the negative trends will continue.

Take heart. Practical
Farmers of Iowa is not the
only organization concerned about these
changes. The National
Rural Families Conference
held at Kansas State
University September 2325 drew together a
multidisciplinary force
(including farmers) of
people who share these

University September 2325 drew together a
multidisciplinary force
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concerns. Iowa was well represented. Rural pastors,
extension personnel, social workers, health care
professionals, and others not only discussed the
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professionals.

extension personnel, social workers, health care professionals, and others not only discussed the dilemmas, but exchanged ideas and described projects that have begun to reverse the decline of our rural communities.

Jon Webold, president of Kansas State University, asked if, in the face of all the decline, rural America is worth saving? Emphatically, YES! His words: "If rural America goes by the boards, the American dream will be vanguished. The repository of American values of 1992 are derived from the land. In truth, rural America produced the American dream and if the American dream is going to stay alive into the Twenty-First Century, we have no choice but to get the president, the congress, and our various state legislatures to realize how valuable rural America is to the values. beliefs, and institutions that we hold dear in 1992. I encourage you to hang in there, to keep fighting for the superb men and women and their families in rural America. American civilization, in many ways, is at stake. We're looking at a watershed period here in the 1990s. With cooperation, we can overcome and go on, revitalize and rebuild rural America."

Ron Daly, Extension's national program leader in human development and family relations, told us ways we can build the cooperation needed to make an impact. We must go beyond knowing what each other is doing, he said, and begin truly working together, to build on existing resources and organizations. Jack Gibb's **TORIS** model provides a good guide: **Trust**, **Open communication**, **Realization** (of each person's full potential), Interdependence, and **S**ynergy (the whole being greater than the sum of its parts). Using

the five components of this model, we can create innovative programs grounded in the heart and soul of what makes rural communities unique.

One of last year's speakers, Chuck Schroeder from the University of Nebraska Foundation, said that most

measurements point to the demise of rural America. But measurements don't show the dreams, visions, and expectations of the people. Carol Christianson said "Trend is not destiny." Without our dreams, then, rural America will die, fulfilling what the measurements are projecting. Rural communities can only be saved if we can keep our dreams alive. We need to realize that we are not saving a past, but creating a future. Our aim is the most we can hope for, not the least we can endure.

Is the situation critical? Yes. Is it hopeless? No, not if we define our dreams and root them in reality. We must develop visionary leadership, at the grassroots level, and truly help one another to realize our true potential. We must once again depend upon one another, each person making their own unique contribution. It is not a change that can be made in one big battle. It will only be possible by taking many tiny but concrete steps in many small communities, in our own families. And it will require that we shout our stories of success to the policy makers, the media, and one another so that we can keep the vision alive.

### PESTICIDE CONTAINER RECYCLING

Iowa farmers and commercial pesticide applicators can recycle their empty plastic pesticide containers, which will be ground into plastic chips and reused, at 35 sites across the state. Applicators must triple- or pressure rinse the containers and remove the caps and labels.

For the location of the nearest collection site, contact the Iowa Fertilizer and Chemical Association, at (515) 262-8323.

### PFI SUSTAINABLE PROJECTS 1993 ACCEPTING PROPOSALS

Had any good ideas lately? PFI Sustainable Projects is a grants program that can help you turn your bright ideas into reality. With financial support from the Northwest Area Foundation of St. Paul, PFI has conducted Projects since 1990 to assist Iowans in a variety of small, local projects related to agriculture and the environment.

The application deadline for PFI Sustainable Projects 1993 is February 1 of next year, but just to

make sure you have plenty of time to plan your entry, the application form is included in this newsletter. You might tell you neighbor about this program too. It's not necessary to be a member of Practical Farmers of Iowa to participate.

Ten projects were approved for funding in 1992 for an average amount of \$371. The

- review committee funded no project at more than \$400 in order to support a greater number of proposals. Here are the recipients and projects for 1992:
- Dordt College, Sioux Center monitoring soil and groundwater nitrate nitrogen in 8 fields (continuation of Leopold Center project).
- John Wurpts, Ogden comparison of conventional and biological fertilizer program (with assistance from Boone County Extension).
- Richard and Sharon Thompson, Boone replicated trials of rye cover crop on the ridge for weed control.
- Don and Sharon Davidson, Holland narrow strip intercropping with economics tracked through Crop Enterprise Record Keeping System.
- Charles City Future Farmers of America replicated trial on the Floyd County Fairgrounds of corn nitrogen rates based on yield goal versus the late spring soil nitrate test.
- Chickasaw County Extension Service school assembly program on soil conservation and farm survival issues featuring a dramatic presentation.
- Allen Tibbs, Williams replicated trial of potassium and phosphorus availability as affected by fertilizer placement in or out of anhydrous ammonia band.
  - Barbara Pies, Coralville development of a curriculum in sustainable horticulture for junior high and high school.
  - Howard County Soil and Money Savers Club demonstration of different cover crops after silage corn.
  - Larry and Joyce Conrad,
     Delta replicated trial of insecticide effect on corn yield in first-year corn.



Charles City FFA Sustainable Projects nitrogen rate trial.

# SUSTAINABLE PROJECTS 1993 PROPOSAL FORM

### PRACTICAL FARMERS OF IOWA

WITH SUPPORT FROM THE NORTHWEST AREA FOUNDATION, ST. PAUL, MN

Sustainable Projects is designed to help citizens of Iowa carry out activities that focus on agriculture and the environment. Sustainable agriculture has been described as preserving the soil and water resources as well as the people involved in agriculture. What could a Sustainable Project be? Maybe you want to undertake an on-farm trial like those used by the farmer cooperators in Practical Farmers of Iowa. Maybe you would like to create a specific program for the local school or FFA that teaches about the relationship of farming to the environment. Perhaps you are part of a group that needs some support to have an educational booth at the county fair. Maybe you could use some funding to bring your community leaders together on a related issue. Be creative!

Proposals for up to several hundred dollars will be accepted. (PFI cooperators, for example, receive as much as \$400 for an on-farm trial.) It is legitimate to include in the proposal payment for your own time. Itemize labor and other costs in the budget you submit. Large equipment purchases will not be funded; however, equipment leasing may be used in proposals to defray equipment costs.

In return for funding your Sustainable Project, we ask that you agree to share both the results and the *process* that you went through carrying out the project. That will help us to build on past experience and share the successes of the program. A credible "feedback," or reporting plan is one of the criteria on which proposals will be evaluated!

Projects will be chosen by a committee consisting of PFI members and board representatives, the PFI coordinators, and representatives of ISU, including the Leopold Center for Sustainable Agriculture. Proposals for 1993 are due by Feb. 1. Committee decisions will be announced by March 1. Project reimbursement will be made upon receipt of a final report.

Please return this proposal form to: Practical Farmers of Iowa, 2104 Agronomy Hall, Iowa State University, Ames, Iowa 50011.

Name of Project	
Name Submitting	
Address	
Zip Code	Telephone

(OVER, PLEASE)

This form	must be typed.	Use additiona	l paper if needed.
	Please include	e an itemized b	udget.

Please describe the pro	oblem that this project will	address and why there i	s a need for the project.
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Please describe what you will do in the planned project. Be specific.

How will you communicate to the public about the project? What kind of reporting to Sustainable Projects will you carry out?

What is the amount of money you need to carry out the proposed project? Please itemize.

# LONG-TERM EFFECTS OF MANAGEMENT STUDIED

Rick Exper

PFI cooperators Richard and Sharon Thompson, Boone, are part of a study by the USDA National Soil Tilth Laboratory into the long-term effects of farm management. This effort was undertaken in part because of complaints that there was little "hard" data on the effects of farming systems such as those de-

scribed in the National Research Council book Alternative Agriculture. The investigation pairs two of the Thompsons' fields with two neighboring fields owned by Mr. and Mrs. Eugene Baker. The "Thompson-Baker" study was begun in 1989.

20 feet.

Tilth Laboratory researchers have examined the way the soil accepts rainfall, soil resistance to erosion, organic matter, nitrogen dynamics, earthworms, and crop yields.

Tilth Laboratory researchers have examined the way the soil accepts rainfall, soil resistance to erosion, organic matter, nitrogen dynamics, earthworms, and crop yields. Additional measurements have included a detailed grid survey of soil types using cores as deep as

The two farms offer contrasting management styles on side-by-side fields of the same soil types. However, Tilth lab researchers emphasize that while the farming styles differ, both farmers are good managers. The Baker farm, designated "conventional" management, has been in a corn-soybean rotation since 1957. No manure has been applied to the fields since 1979. Since 1981, the tillage tools have been the chisel plow and field cultivator. Weeds are controlled with herbicides and one cultivation.

The Thompsons' system, designated "alternative," has since 1967 used a five-year crop rotation of corn-soybeans-corn-oats/hay-hay. From 1967 to 1984 no commercial fertilizer was applied. Hog and cattle

manure are applied to row crops. Since 1987 municipal sludge from Boone has also been applied. Some synthetic nitrogen and potassium fertilizer is now used as well. Ridge tillage is practiced on row crops. The hay crop is incorporated with a chisel plow. Weeds are managed with mechanical and cultural methods.

Table 1.	
Simulated Rainfall Runoff & Infiltration and Soil Bulk	Density in Corn for Two Systems.

Soil Series:	Cla	rion	Webster							
Farming System:	Conventional	Alternative	Conventional	Alternative						
		July, 1989								
Runoff (µm/s)	8.32	3.19	1.13	1.49						
Infiltration, Sprinkler (µm/s)	8.35	13.30	13.15	13.60						
		July,	1991							
Runoff (µm/s)	0.17	0.14	0.66	0.04						
Infiltration, Double Ring (µm/s)	12.43	15.53	23.62	47.64						



This equipment is used by Tilth Lab researchers to simulate rainfall in the field.

### Infiltration

In one of the more spectacular evaluations, the Tilth Lab ran hoses into the fields for a rainfall simulator (see photo). In July of 1989 and 1991, corn plants were removed so infiltration and runoff could be observed on bare ground. Table 1 (previous page) shows results. High runoff numbers indicate water leaving the plot (undesirable), while high infiltration numbers indicate water going into the ground (desirable). In 1989 the alternative system showed much less runoff, but the difference was statistically nonsignificant. In 1991, the difference was smaller but

significant. All runoff figures are lower for 1991, because the soil was very dry and the sprinkler rate was too low to show large differences. In both years, however, the alternative system showed significantly higher rates of infiltration (D.L. Karlen, personal communication).

### **Bulk Density**

The alternative system had higher soil bulk density than the conventional system between the rows of corn and lower bulk density in the rows. This is consistent with the controlled traffic aspect of ridge tillage. After simulated rainfall, the soil in the alternative system was wetter, indicating greater moisture holding ability. The researchers found a greater number of large pores in the soil of the alternative field (D.L. Karlen, personal communication). Large pores, such as those formed by earthworms and plant roots, are important conduits for rain water to enter the soil.

### Potential Erosion

Table 2 shows there were also differences in the ability of soils to resist erosion. Field moist soil samples were evaluated for the percentage of soil aggregates

Table 2. Soil Fie	ld Moist Wet	Aggregate	Stability and	Organic Ma	atter in Two	Systems.			
	Autumi	n 1990		Spring 1991					
System/Crop	Aggregate Stability	Organic Matter	Aggregate Stability	Organic Matter	Aggregate Stability	Organic Matter			
		Percent Stable	Soil Aggregate	s and Percent	Organic Matter				
Conventional Corn	48.6 a	3.0	50.5 a	3.2 a		,			
Conventional Soybeans	49.8 a	2.4			30.8 a	3.0 a			
Alternative Corn	78.3 с	5.2	62.8 b	4.4 b					
Alternative Soybeans					81.6 b	4.6 b			
Alternative Hay	67.1 b	4.2							

able to resist dispersion in water. Soil whose structure is broken down by water is subject to erosion. In every case alternative treatments had significantly greater aggregate stability. Soil organic matter content is also shown in Table 2. Researchers believe the higher organic matter levels in the alternative system are responsible for the greater resistance to erosion. They attribute the greater organic matter to the application of manure/sludge, the 5-year crop rotation, and the lack of primary tillage in the alternative system (D.L. Karlen, 1992).

### **Earthworms**

In the fall of 1989 and 1990, researchers took 18-inch deep soil cores for earthworms. In 1989 both fields were in corn, while in 1990 the conventional system field was in soybeans and the alternative system field was in first-year hay. Figure 1 shows there were large differences in earthworm numbers. In most cases no worms were found in the conventional system. The greater number of earthworms in the alternative system was attributed to manure applications, a crop rotation that provided more plant residue rich in nitrogen, and the lack of fall tillage. The alternative system showed lower numbers of worms in 1990 than 1989, which may be due to the fall disking done to establish the oats/hay crop.

### Nitrogen

Figure 2 shows concentrations of ammonium nitrogen and nitrate nitrogen in the soil of the two

Figure 1.

Earthworm Numbers by Farming System

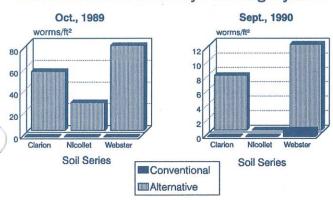
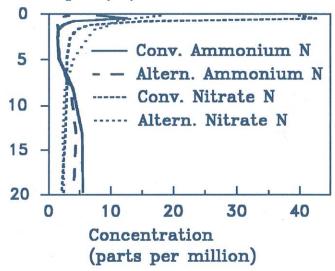


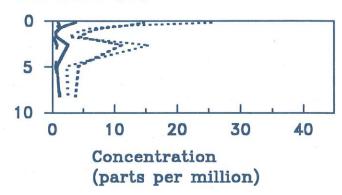
Figure 2.

Nitrogen Sampling April, 1989

Soil Depth (ft.)



Nitrogen Sampling Autumn, 1990 Soil Depth (ft.)



systems. The samples taken in the spring of 1989 were in corn fields. The fall 1990 samples were from corn in the conventional system and from a hay field in the alternative system. Researchers found "there were no important N concentration differences between the conventional farming system that uses commercial fertilizer and the alternative farming system that uses animal waste as a nutrient source" (D.L. Karlen, personal communication). This was despite the application in the alternative system of roughly 20 tons per acre of manure/sludge three times in each five-year crop rotation.

Table 3. Cor	Tissue Nitrogen and Relative Yields for Hybrids in Each System.								
		1991							
Farming System	Relative Yield	Early N Accumulation	Ear Leaf Nitrogen	Relative Yield					
	%	mg/plant	%	%					
Alternative	94	123 b	20.6 b	78					
Conventional	94	203 a	26.6 a	99					

### **Crop Yields**

Since the two farms have used different hybrids and crop varieties, researchers have compared yields to other fields of the same hybrids around central Iowa. Some of these "relative" yields are given in Table 3. Measurements in 1989 indicated that corn in the conventional system accumulated significantly more nitrogen early in the season than did corn in the alternative system (D.L. Karlen, personal communication). This is consistent with the greater soil nitrate concentration shown in Figure 2 at the 6-inch depth.

Tissue samples from the ear leaf at silking also showed significantly more nitrogen in the conventional system. Previous research on the Thompson farm (Karlen and Doran, 1991) has shown that without spring tillage, the soil is slow to warm up and release nitrogen in plant-available forms, and that significant amounts of soil nitrogen may be lost in gaseous forms through denitrification. The Thompsons are now applying liquid nitrogen at planting to address the spring shortage.

The Soil Tilth Laboratory has the mission and the tools to assess physical, chemical, biological, and economic outcomes of farming systems, and Tilth Lab researchers have undertaken several additional studies around the country focusing on water quality and resource conservation. Over time this work will lead to a much more detailed understanding of the effects of management.

### References

Karlen, D.L. 1992. Conventional versus alternative farming: A quantitative comparison (third year report). National Soil Tilth Laboratory.
Copies available from Doug Karlen, National Soil Tilth Laboratory, (515) 294-0556.

Karlen, D.L., and J.W. Doran. 1991. Cover crop management effects on soybean and corn growth and nitrogen dynamics in an on-farm study. American Journal of Alternative Agriculture 6(2):71-82.



### **BENEFITS OF REDUCED TILLAGE**

A long-term research project in southeast Iowa shows how reduced tillage is more beneficial than conventional tillage in wetter soils. The 12-year-old Southeastern Iowa Conservation Tillage Research Project compares different tillage systems for crop growth, soil properties, cost, and amounts of inputs used in corn and soybean production.

Reduced tillage has resulted in yields as good as or slightly higher than conventional tillage with less cost and decreased energy use. Farmers do not need to make major changes when switching from conventional to reduced tillage, according to Rick Cruse, Iowa State University agronomist. That's because herbicide, weed control and management are similar between the two systems.

The reduced tillage used in the project was fall and spring disking. Conventional tillage was fall moldboard plowing followed by spring disking.

Researchers also looked at no-till and ridge-till systems. The no-till plots had no preplant tillage and the ridge-till plots had large row ridges built with a modified cultivator.

No-till corn at the research site had 5 percent lower yields than the other two systems. Ridge till, however, has performed as well or better than reduced tillage.

The project examined energy costs among the different tillage systems. Research data gathered by agricultural engineer Tom Colvin confirm that nitrogen is the largest energy input. Nitrogen requires a huge amount of energy in the manufacturing process.

The project began as a cooperative effort between ISU and Southeastern Community College, with funding from the Iowa Department of Agriculture. It has involved numerous federal, state, and local farmers over the years.

For more information, contact: Rick Cruse, Iowa State University, (515) 294-7850; and Tom Colvin, National Soil Tilth Laboratory, (515) 294-5724.

(This press release prepared for Soil and Water Conservation Week, Sept. 6-12, by Iowa State University Extension Communications in conjunction with the Iowa Department of Agriculture and Land Stewardship, Iowa Department of Natural Resources, Leopold Center for Sustainable Agriculture, and the Soil Conservation Service.)

### FOOTSTEPS OF A GRASS FARMER: A SYSTEM HARVESTED BY ANIMALS

by Tom Frantzen, Alta Vista

The summer of '92 provided us ample supply of working and sleeping weather, but with it a strange growing season. Frequent rains fell during July, August, and September; however, the precipitation was accompanied by the coldest temperatures since 1915. I thought that the cool season grasses would perform better in this environment than they did. Cool season grasses may need spring and fall "seasons" and not just spring-like weather. The legumes on my farm, especially red clover, grew aggressively in this unusual climate. Hay land that was mostly grass at first cutting was almost entirely alfalfa by the third crop.

I combine-harvest the oats and bale the straw. This is my only harvest expense, as I graze off both the corn and red clover.

The growth of the red clover fits well into an alternative farming system that I am moving into this year. I divided 5 acres of sidehill crop land into three 1.7-acre areas. Two rows of hybrid cottonwood poplar trees were planted in each division this spring (see diagram). The quick growing hybrid trees will form an effective wind barrier in a few years. All together they required 0.4 of an acre of land for planting. For years I have observed a positive relationship between pastured livestock and nearby protective trees. Trees help to moderate the microclimate, shielding stock from biting cold winds and providing shade when it is hot.

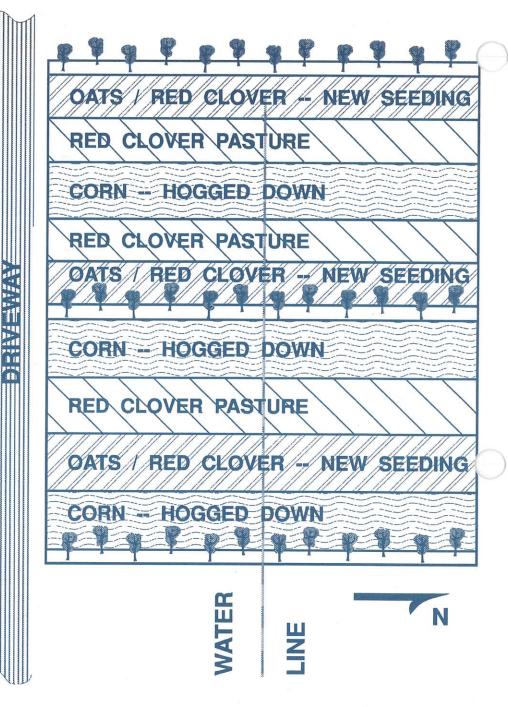
I planted the land between the trees into equal strips of corn, oats, and red clover. The trees and the corn are protected from livestock damage with two strands of electric fence. The intended rotation is corn (probably to be hogged down in the fall), oats (com-

bined and the straw baled), and red clover, underseeded in the oats. The red clover is lightly grazed as new seeding and pastured the second year. Five sows farrow on the red clover strip in June. During August, after the adjacent oat strip is harvested, ten sows farrow on the two clover strips (this year's seeding and last year's). To limit soil compaction I placed the farrowing huts on the clover strip intended to grow corn the next year. I limit my driving to that strip as well, and the hogs tend to follow the machinery traffic. When the corn is mature. I move the electric fence over and allow the sows and pigs to hog down the crop.

Although I have pasturefarrowed for 19 years, this is my first experience with this field design. I see advantages to this strip system. Sows farrow in small groups. This reduces stress and helps produce uniform groups of pigs. The corn and trees provide several benefits. They provide a physical separation between groups of sows and pigs. When it is hot, shade is available. During a recent rainstorm, I walked with difficulty across an open field to observe almost no windblast in the strips. The corn and trees reduce

wind chill. I combine-harvest the oats and bale the straw. This is my only harvest expense, as I graze off both the corn and red clover. A grid underground water system purchased from Kentucky Graziers Supply (KGS, 1929 S. Main St., Paris, KY 40361,(800) 729-0592) provides easy access to water.

This alternative farming system fits into our future landscape description. It also blends into the quality of life goals we have set as a family. Both the water cycle



and mineral cycle benefit from this design. The strip effect efficiently harvests the sun's energy. Plant succession will be held at a relatively low level, due to the planting of annual crops. In time, we may plant rows of nut-bearing trees or bushes to add to the economic viability. My current calculations show a gross margin of \$170 per acre. I am excited about the future of this low input farming system.

### FROM THE KITCHEN

Marj Stonecypher, Floyd

Time seems to be slipping by me, as I'm sure that it is most everyone else, too. Harvest just slipped right into our busy schedule without much warning. So here are a couple of quick recipes for those busy wives that help in the field and try to prepare a good nutritious meal for the family.

### PICANTE CHICKEN & RICE (Mexican)

- 6 boneless chicken breast halves, skin removed, salt to taste (or a whole chicken)
- 3/4 cup coarsely chopped onion
- 3 large cloves garlic, minced
- 1 tablespoon oil
- 1 1/4 cup chicken broth
- 1 cup medium Picante sauce
- 1 cup converted rice



Cook onion and garlic in oil in 10" skillet for about 2 minutes. Add chicken broth and Picante sauce. Bring to boil. Stir in uncooked rice. Arrange chicken breast (or whole chicken) over rice. Cover tightly and simmer 30 minutes, or when chicken is

done. Remove from heat. Let stand, covered until all liquid is absorbed, about 5 minutes.

Peel and slice 1 avocado, chop or slice 1 tomatoe, and garnish top of casserole with both. Top with ½ cup of shredded cheddar cheese.

If you have any zucchini left, here is a delicious, moist CHOCOLATE ZUCCHINI CAKE

- 2 ½ cup grated Zucchini (unpeeled)
- 2 ½ cup flour
- 1/4 unsweetened cocoa
- 1 teaspoon soda
- 1 teaspoon salt
- ½ cup oil
- 1/2 cup margarine
- 13/4 cup sugar
- 2 eggs
- 1 teaspoon vanilla

Beat margarine, oil and sugar until fluffy. Then add eggs, one at a time. Add vanilla. Add dry ingredients, alternately, with ½ cup buttermilk. Stir in grated zucchini, mix well. Put into 9 x 13" greased pan. Sprinkle with 6 oz. package chocolate chips and ¾ cup nuts. Bake at 325 degrees for 55 minutes or until done. Very good.

Have a safe harvest, take time to go to the house for your meals. You need that time for a break and relaxation from your work.

PFI Men  and Ren  Name  City  City  County  Do you derive a directly from far  Please enclose a year, \$25 for tf  Farmers of low  Practical F  2035 190	PFI Membership Application and Renewal Form	Name	City	County	State	Zip Code	Phone # ()	This is a new membership	renewal	Do you derive a significant part of your income directly from farming in Iowa?	Please enclose check or money order (\$10 for one year, \$25 for three years) payable to "Practical Farmers of Iowa" and mail to:	Practical Farmers of Iowa 2035 190 <sup>th</sup> St. Boone, IA 50036	
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### **CORRESPONDENCE**

Correspondence to the PFI directors' addresses is always welcome. Member contributions to *the Practical Farmer* are also welcome and will be reviewed by the PFI board of directors.

District 1 (Northwest): Bob Graaf, RR 1, Palmer, 50571. (712) 359-7787.

Associate board member for District 1: Paul Mugge, RR 2, Box 48, Sutherland, 51058. (712) 446-2414.

District 2 (North Central): Allyn Hagensick, RR 4, Box 57, Hampton, 50441. (515) 456-2945.

District 3 (Northeast): Tom Frantzen, PFI President, 1155 Jasper Ave., New Hampton, 50659. (515) 364-6426.

District 4 (Southwest): Vic Madsen, PFI Vice President, RR 3, Audubon, 50025. (712) 563-3044.

District 5 (Southeast): Jeff Olson, RR 2, Box 147, Winfield, 52659. (319) 257-6967.

PFI Treasurer: Dick Thompson, 2035  $190^{\rm th}$  St., Boone, 50036. (515) 432-1560.

Coordinators: Rick Exner, Gary Huber, Room 2104, Agronomy Hall, ISU, Ames, Iowa, 50011. (515) 294-1923.

Public Relations Coordinator: Maria Vakulskas Rosmann, RR 1, Box 177, Harlan, 51537. (712) 627-4653.



### **Practical Farmers of Iowa**

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### PRACTICAL FARMERS OF IOWA MEMBERSHIP DISTRICTS



### Acknowledgment:

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