Approved: January 27, 1998
Date

MINUTES OF THE HOUSE COMMITTEE ON AGRICULTURE.

The meeting was called to order by Chairperson Joann Flower at 9:00 a.m. on January 22, 1998, in Room 313-S of the Capitol.

All members were present except: Representative Henry - excused
Representative Lloyd - excused

Committee staff present: Raney Gilliland, Legislative Research Department
Gordon Self, Revisor of Statutes
Kay Scarlett, Committee Secretary

Conferees appearing before the committee:
Jim Shantz, High Plains Development, Murphy Family Farms
Tom Stinson, Development, Murphy Family Farms

Others attending: See attached list

Chairperson Flower welcomed members of the Kansas Livestock Association participating in KLA's Young Stockmen's Leadership Conference that were in attendance.

Jim Shantz, High Plains Development, Murphy Family Farms, provided a brief historical background of the company started by Wendell Murphy and his father in North Carolina in 1962. He said that Murphy Family Farms came to the Midwest in 1986 and are now in North Carolina, Iowa, Missouri, Illinois, South Dakota, Oklahoma, and Texas, and are still completely family owned. He explained that the company uses three types of facilities: sow farms, nurseries, and finishers; these may be company owned or owned and operated under contract by local farmers. He said they own several feed mills, but own no packing plants. (Attachment 1)

Mr. Shantz told the committee that Murphy Family Farms is committed to being environmentally, socially, and economically responsible. He said that all their facilities undergo a detailed permitting process and sites are designed by professional engineers to meet or exceed state and federal regulations. He explained the construction of their company owned lagoons which are lined with compacted clay and synthetic liners. He said that water and soil quality are constantly monitored. He reported that odor abatement technologies are implemented on every company site where they are currently using digesters, lagoon additives, covered lagoons and barrel filters.

Mr. Shantz reported that Murphy Family Farms has applications for three permits pending in Kansas, one near Jetmore in Hodgeman County and two locations in Lane County. He said Murphy Family Farms will have $6.7 million in capital investment for each sow unit of 11,000 head, with 13,520 tons of feed to be purchased locally per sow unit per year. He reported that each location will provide 50 full-time jobs, most from the local area, while the company will receive no tax incentives or abatements that neighbor farmers don't receive. He indicated that they are considering possible contract finishing developments in North Central Kansas close to available feed and processing markets. He said that they have received 50 inquires already for contract finishing in Kansas. Committee members were invited to visit any of their facilities. Mr. Shantz and Mr. Stinson answered committee questions concerning Murphy Family Farms' proposed operations in Kansas.

The meeting adjourned at 10:00 a.m. The next meeting is scheduled for January 23, 1998.

HOUSE AGRICULTURE COMMITTEE GUEST LIST

DATE: January 22

NAME	REPRESENTING
Steve Zatkar	Seaboard Farms
Jim Allen	Seaboard Farms
Todd Johnson	K.L.A.
	KLA
Robert R. Regan	KLA
Matt Mann	KLA
Julie Ostrick	KLA
Scott Albright	KLA
Dan J Sudermann	KLA
Rod Horn	KLA
Debbie Lyons Blythe	KLA.
Kirk Sowers	KLA
Dusty Turner	KLA
Shane R. Tracy	KLA
Matthew K Tyler	KLA
Michael Brush	KLA
Frank Jasper	KLA
Jason L Ken	KLA
Wade Tarpenden	KLA

HOUSE AGRICULTURE COMMITTEE GUEST LIST

DATE: January 22

NAME	REPRESENTING
Scott Minard	KLA
Brent Dewmitt	KLA
Don Boos	KLA
Chris Daugherty	KLA.
Patty Clark	KDOC&H
Ann Williams	KDOC&H
Dan Thalmann	KAC
Gwen Easley	AG's office
Derenda Mitchell	Kansas Dept. of Agric.
Jeff Arpin	Division of the Budget
Keith Bradshaw	Intern, Rep Neufeld
Jim Suber	Topeka Cap. Journal
Charles Benjamin	KS Sierra Club / KS Natural Resource Council
Craig S. Volland	Spectrum Technologists
Judy Moler	Ks. Assn. of Counties
Marty Vanier	Ks Ag Alliance
Mike Jensen	Ks Fed Council
Doug Wareham	Kansas Grain & Feed Assn. Kansas Fertilizer & Chemical Assn.
Carole Jordan	Ks Dept Agriculture

HOUSE AGRICULTURE COMMITTEE GUEST LIST

DATE: January 22

NAME	REPRESENTING
Steven Graham	K-State Research & Extension
LeAnn Schmitt	Legislative Division of Post Audit
Kelly Logan Sill	Kansas Livestock Assoc.
Jenni Hoover	Kansas Livestock Assoc.
Rich McKee	KLA
Matt Caldwell	KLA

Thank You

MURPHY
FAMILY FARMS

Jim Shantz
High Plains Development
North Highway 283
Post Office Box 1066
Laverne, OK 73848

Tel: (580) 921-1569
Fax: (580) 921-1570
Mobile: (580) 344-3845
Voice Mail: (800) 311-9458, #8101

MURPHY
FAMILY FARMS

Tom Stinson
Development
North Highway 283
Post Office Box 1066
Laverne, OK 73848

Tel: (580) 921-1569
Fax: (580) 921-3625
Mobile: (580) 344-3841
Voice Mail: (800) 311-9458, #8079

House Agriculture Committee
January 22, 1998
Attachment 1

Introductions

- Tom Stinson
  - Development Manager for the Midwest
- Kay Stinson
  - High Plains Operations Manager
- Jim Shantz
  - Development Specialist for the High Plains

Murphy Farms History

- Started by Wendell Murphy and his father.
- Began with a feed mill
- Expanded the business by contracting with local farmers
- Came to the Midwest in 1986
- Now in NC, IA, MO, IL, SD, OK, and TX
- Still completely family owned

Murphy Family Farms is Committed to being:

A. Environmentally Responsible

B. Socially Responsible

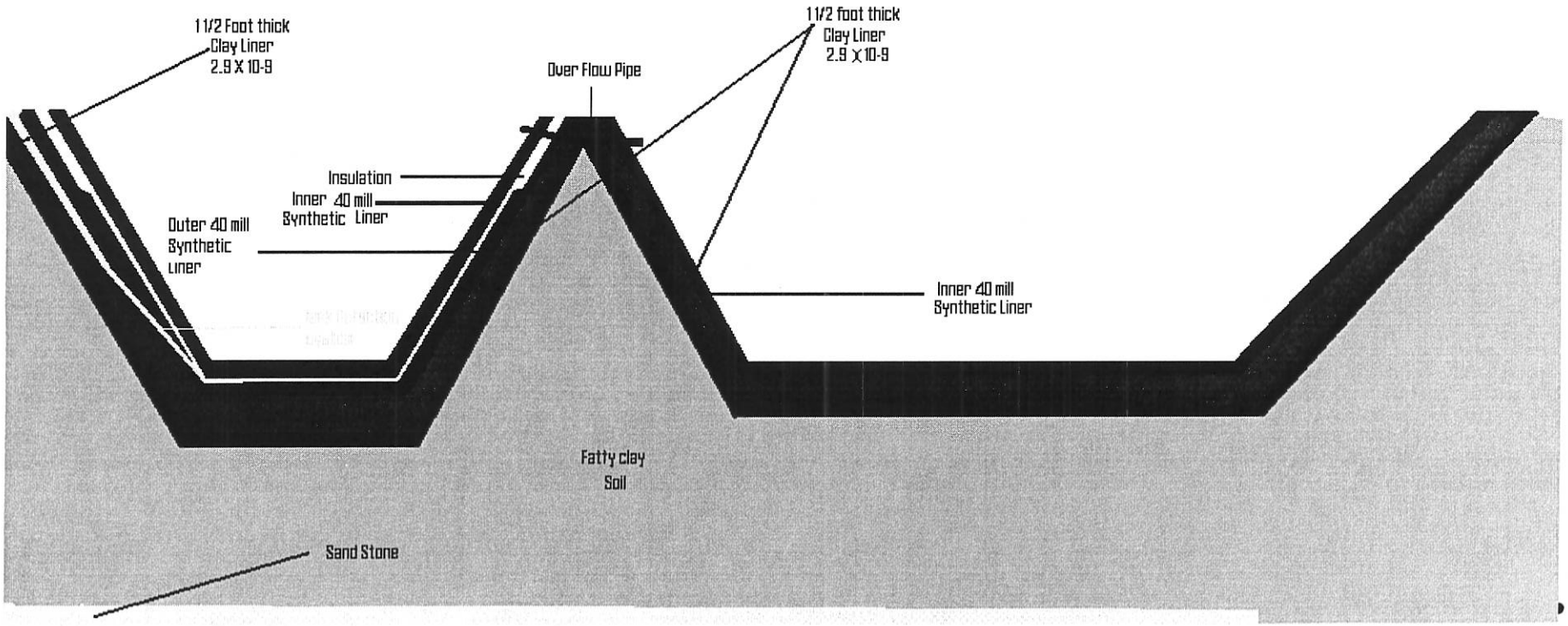
C. Economically Responsible

Environmentally Responsible

- Water Quality
  - MFF meets or exceeds all state and federal requirements
  - Voluntary monitoring of on site wells
  - Detailed nutrient management program
  - Company owned lagoons lined with clay and synthetic liner.

Ground Water Protection

WILDCAT SOW SITE



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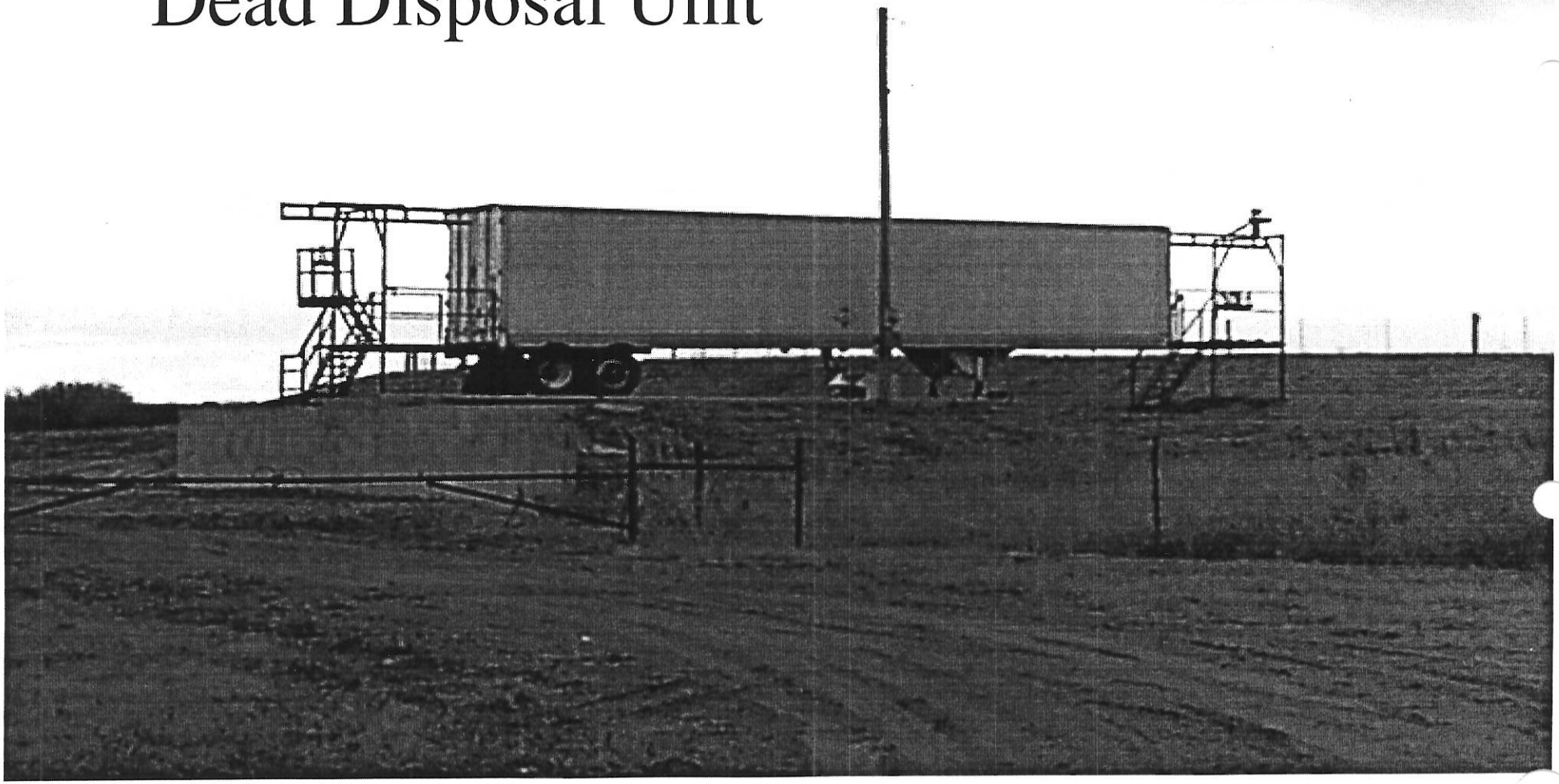
Environmentally Responsible

- Water Quantity
  - –Each sow unit uses only 80 acre feet of water.
  - –This would be equivalent to 40 acres of corn.

Environmentally Responsible

Dead Disposal Unit

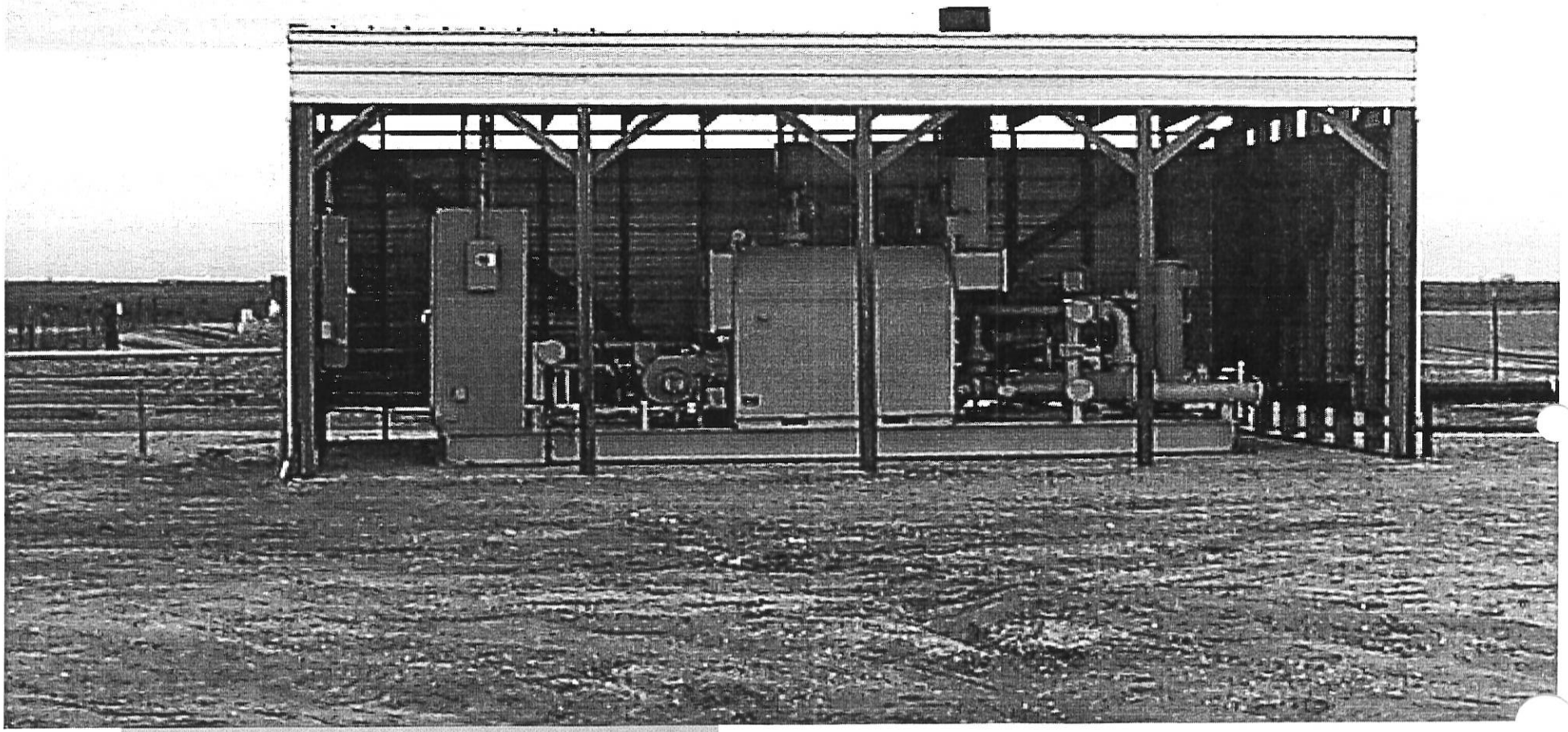


Socially Responsible

- Odor
  - Major issue to our industry
  - MFF engaged in continual odor reduction research
  - Odor abatement techniques implemented on every company site
  - Currently using digesters, lagoon additives, covered lagoons and barrel filters

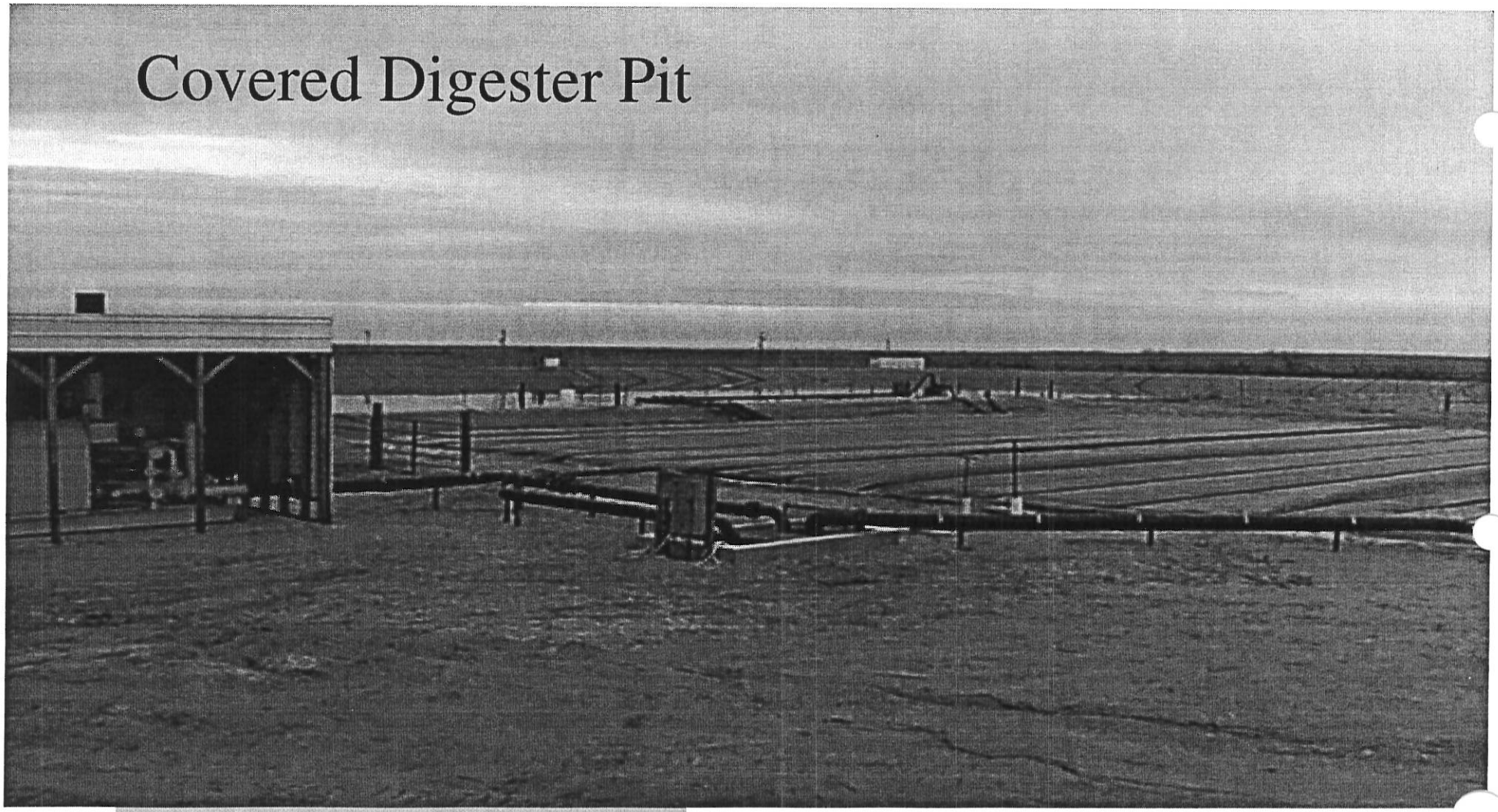
Socially Responsible

Methane Digester



Socially Responsible

Covered Digester Pit



Plans for Kansas

- Company owned sow units
  - 11,000 head of sows
  - $6.7 Million in capital investment per sow unit
  - 50 full time jobs (most from local area)
  - 13,520 tons of feed purchased per sow unit per year
  - No tax incentives or abatements that neighbor farmers don't receive

Kansas Plans Cont.

- Contract Finishing
  - Possible development in North Central Kansas
  - Close to available feed and markets(processing)
  - 10 year payoff with 10 year contract
  - Lowered risk

Kansas Plans Cont.

- Contract nursery units
  - 10 for each sow unit
  - Contracted to independent producer
  - 10 year contract, 10 year payoff
  - $2.5 Million in capital investment per sow unit
  - Proven track record (35 year history)

MURPHY
FAMILY FARMS

WHO IS MURPHY FAMILY FARMS?

We at Murphy Family Farms are dedicated to long term profitability through the efficient production of high quality pork for consumers worldwide. We are committed to the continuous improvement of our organization through the growth, development, and prosperity of our employees and producers. We will accomplish these goals by applying our values of integrity, animal care, environmental protection, safety, business relationships, and community well-being.

A BRIEF HISTORY

Wendell Murphy began his working career as a Vocational Agriculture instructor. Driving through the area one day, he and a friend saw a feed mill and decided that a similar operation could benefit their community.

In the mid-1960's, with some cash of his own and some assistance from his father, Wendell acquired the property and equipment needed to open the feed mill . . . keeping his job as a teacher for additional security.

As business progressed, Wendell began to establish contract arrangements with local farmers to manage the feeder pigs he purchased. Since then, the business has evolved, as has agriculture in general. In 1979, the company began producing their own pigs, and today, Murphy Family Farms operates a three-site production system: sow farms; off site nursery partnerships, and off-site finishing partnerships.

Today, Murphy Family Farms has operations in North Carolina, Iowa, Missouri, South Dakota, Oklahoma, Texas and Illinois. At this time, about 400 staff members operate sow farms in our Midwest operations.

Director of Midwest Farrowing operations, Stephen Summerlin states, "Everyone is invited to tour our facilities near Nevada, MO, or Laverne, OK between 8 a.m. and 5 p.m., Monday through Friday. To schedule an appointment, please contact our Missouri office at 800-566-7675 or our Laverne office at 1-800-586-2019."

Myth vs. Fact

Murphy Family Farms' expansion plans generally create a number of questions and occasionally some misinformation. The following is an effort to clarify any misunderstandings.

MYTH: Murphy Family Farms (MFF) does not hire any local people. **FACT: As of January 1, 1998, over 70% of our labor comes from within a 40 mile radius of the farms.**

MFF employees will include college graduates and high school graduates; men and women; first-job employees and those with a good deal of work experience; employees with "pig knowledge" and those that are new to livestock production. The cross-section of applicants will be reflective of the community. Our employment base is generally directly related to the demographics of the community as a whole.

MYTH: Murphy does not spend money locally. **FACT: MFF spends 50% of construction dollars locally in MO, and 90% of our Oklahoma construction dollars are spent within an 80 mile radius of Laverne OK, plus significant dollars for regular operations.** The remaining % is spent on specialty items generally not available in the area.

Area vendors have the opportunity to bid on MFF Projects.

MYTH: Murphy's operations will negatively impact the environment. **FACT: MFF has a proven track of being environmentally responsible, and is setting the pork industry standard in natural resources protection programs at our farms and in surrounding communities. MFF was the 1996 Environmental Stewardship Award winner for the Mid West Region.**

☒ ☒ ☒

Modern Pork Production

Gone are the days when Wendell Murphy began contracting with local farmers to raise feeder pigs; providing the farmer with pigs, feed, feeders and hog wire fencing. In 1979, Murphy began its first sow operations with a goal of disease control and an increase in the overall quality of feeder pigs.

Additional refinements brought about MFF's current three-site production process:

- Sow farms
- Off-site nurseries
- Off-site finishers

In the Midwest, Murphy has built sow farms that house from 2,400 to 11,000 sows and contracted off-site nurseries with local farmers. At the current time, all Midwest off-site finishers are located in Iowa and South Dakota, where local farmers grow the hogs to market weight.

Here's how the production process works:

- The farm is stocked with gilts produced at our multiplication unit.
- On the Commercial Sow Farms, gilts and sows are bred through artificial insemination, monitored and farrowed. Pigs are weaned at three weeks and sent to the off-site nursery.
- Off-site nursery partners provide the day-to-day care for the pigs for six to seven weeks.
- In Iowa and South Dakota, the feeder pigs are fed to market weight and sent to packing plants.

The required employees for an 11,000 head sow farm generally include a farm manager, two team leaders, an on site trainer, 23 technical people and 22 team members. Organization is critical to an effective sow farm. Processes are monitored and data is collected daily throughout the operation.

EMPLOYMENT STATISTICS

The following reflects the employee base of MFF's Oklahoma operations, as of 1/1/98:

75%	from 40 mile radius of Laverne operations
7%	from surrounding area
18%	from Missouri and North Carolina Operations

MFF and the Environment

The environment is an issue that is in the forefront of the minds of many people these days. We at Murphy Family Farms understand the importance of protecting natural resources. The following information will help provide a view of Murphy Family Farms and our role in being responsible stewards of the environment.

Water Quality Protection

State and federal regulations direct the design and construction of effluent lagoons that must be followed by all large-scale animal producers. At MFF, we go one step further. Not only do our design and construction standards meet or exceed state and federal requirements, we also perform semi-annual voluntary monitoring of on-site wells. Testing is done to collect data and confirm that no lagoon water has leached to the ground water table. We work closely with agronomists and soil scientists to determine the best time and location to spread nutrient water on our land, assuring no off-site runoff.

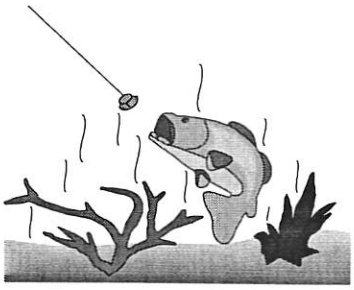
Odor Research

On an independent basis, and as a member of the National Pork Producers Council, Murphy Family Farms is actively engaged in odor research. MFF invests thousands of dollars annually in the development of new technologies and funds for extensive odor management research at Duke University. In addition, Murphy uses the latest odor management steps, including:

- Changes in lagoon management to lessen exposure of wastes into the atmosphere. As most lagoons mature, odor begins to abate as the natural breakdown of wastes takes place.
- Increase landscaping around lagoons to contain odor and improve screening.
- Use of setbacks that exceed federal guidelines.
- Changes in feed to produce less odor in waste.
- Improvements in management within the barns to reduce the waste volume.
- Chemical treatment of lagoons.
- New experimental fences designed to trap odor before it leaves the lagoon areas.

Wildlife Protection

Murphy Family Farms, with the help of resource professionals throughout the country, has implemented an Environmental Stewardship Program. This policy of wildlife protection and enhancement has been implemented on all MFF farms. The program concentrates heavily on the improvement of wildlife habitat---through the establishment of certain types of vegetation that is beneficial to wildlife. Where appropriate, the program also includes provisions for opening Murphy's lakes and ponds to fishermen, and other steps for making Murphy's facilities a showcase for those interested in learning about wildlife protection and habitat enhancement.



Flexibility for Mom to Stay Home

Joanne Scotten enjoyed her job working as a manager for a travel agency in Nevada, but

there was one major drawback she shared with many mothers who work outside the home--not enough time to spend with her three young sons. In 1994, Joanne and her husband, C.D., saw an opportunity for Joanne to make money while staying at home with her sons.

Joanne and C.D., who own 300 acres east of Nevada, were interested in Murphy Family Farms' nursery partner program and contacted the Vernon County office.

Joanne is responsible for the nursery but she finds her sons want to help. After 2 1/2 years as a nursery partner, Joanne said, "It has been easier than I imagined and I have learned a lot. The best part is the flexibility of earning a good income while spending time with my family." Joanne joins 17 other women who have the primary responsibility to manage their family's nursery.

Change . . .

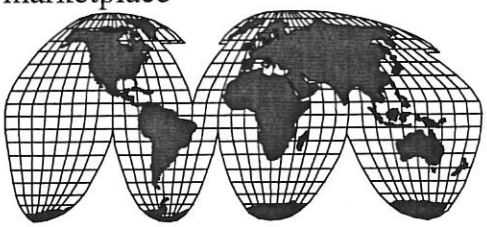
"Times are changing. Can you change in time? Changing with the times doesn't just mean adapting new technologies. It means adapting those technologies effectively . . . . Innovations in nutrition, management, genetics, and environment . . . make the most of your time . . .
(Copied from a Nutrena Feeds ad in the January/February, 1996, issue of Pork Report)

. . . the pork industry

Pork Report, January/February, 1996, taken from an article entitled "Passport . . . "

For the first time since 1952, the U. S. became a net exporter of pork this past year . . . . What factors have spurred this growth explosion?

- A New Global Ball Game. In 1994, barriers began falling off with the passage of the North American Free Trade Agreement and the General Agreement on Tariff and Trade to level the playing field in the world marketplace



- U.S. Develops Market Niche. Pork checkoff dollars have focused on the development of foreign markets as well as domestic markets

- Competing on Price. The U.S. pork product has differentiated itself on safety, color, quality, consistency, availability and on price issues.

. . . food production

According to Bruce Bullock, a professor in the University of Missouri College of Agriculture, Food and Natural Resources, Clinton Daily Democrat, December 28, 1995, ". . . the food industry is rapidly being converted from a producer-driven to a consumer-driven system. . . . To be successful in these markets in the future, the U. S. food system will have to be geared to what the consumers want to buy, rather than to what American farmers want to produce."

Bullock listed five characteristics of new technology and its impact on society:

1. New agricultural technology is productivity-enhancing

2. New technology is management-intensive
3. New agricultural technology is capital-intensive
4. New technology is not scale-neutral
5. New technology is more beneficial to high-quality inputs

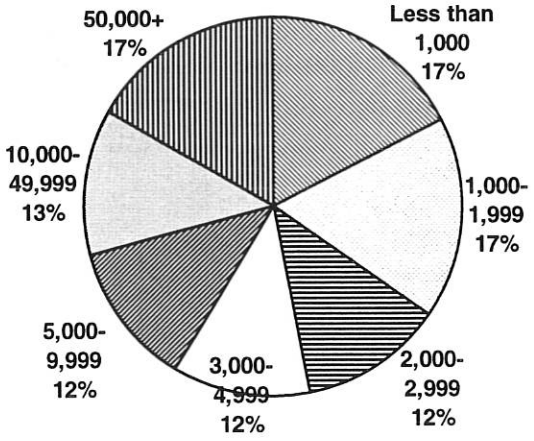
Bullock says industrialization of agriculture has been occurring for the past 75 years in America . . . "We have now entered the post-industrialized stage . . . "

. . . pork producers

"Independents Have A Place In The Future" Pork '95, October, 1995 by Marlys Miller provides the following information:

"The key is still management," contends Ron Plain, University of Missouri

Pork Production Market Share, based on animals marketed per year



agriculture economist. ". . . size is not as important as a lot of people think it is. These numbers tell us small producers can compete, but you can't do things the way you did last year. You're going to have to change."

"That doesn't mean you have to have 5,000 sows or get out. It means you need to look at the way you've raised hogs and adopt technologies . . . things that work and are effective."

According to the article, finding someone to eventually take over the operation remained as a limitation for 17 percent of the Pork'95 respondents. "Independent producers who are willing to change the way they do things and continue to improve will have a place," says Plain.

. . . summary

The crises in American agriculture may be recognized in the aging American farmer. For a variety of reasons, young people are not seeking ownership of the family farm as they did 20-30 years (and longer) ago.

Are there opportunities for young families in agriculture? Yes there are -- but what are the limitations?

Capital is one of the biggest drawbacks that keeps young couples from farming as their primary income. Over the past 20-30 years, land values have increased (a blessing to the retiring farmer; a curse to the young farmer); equipment costs have risen sharply; and interest rates have been volatile.

Risk is a large concern for any young couple starting out. Financing may be available, but the risks of weather, markets, etc. remain a heavy burden.

Other opportunities challenge one's choice as well. College graduates with degrees in animal or plant science could effectively manage the family farm -- but at what risk, and with whose capital? Career opportunities in agri-business can be

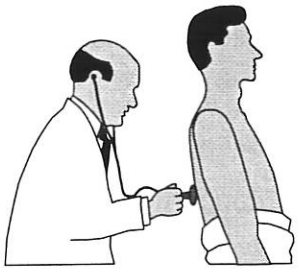
rewarding with no capital requirements, limited risk, and employee benefits.

Murphy Family Farms is a family owned operation that started with a small investment in the early 1960's. The family has been successful based on hard work, by reinvesting capital into the operation, and developing programs and systems based on scientific and business management principles.

We at Murphy Family Farms are proud to be recognized as a leader in environmental, land nutrient, and pork production technological standards.

Murphy Family Farms Employee Benefit Summary

Following is a summary of benefits offered to full-time employees of Murphy Family Farms (MFF). Detailed explanations of these benefits and other company policies are available by referring to the Company Handbook or contacting the Human Resources Department.



Health Insurance

- Employees are covered, at MFF's expense, insurance may be purchased for family members
- Major medical coverage, health, and hospitalization are included
- Coverage includes conventional deductible and co-insurance standards
- Blue Cross/Blue Shield coverage

Life Insurance

- Employees and their immediate family members are eligible for life insurance coverage provided by Murphy Family Farms
- Employee coverage is for 1.5 times their annual salary
- Spouse coverage is set at $2,500; children under 6 months are covered for $200, over 6 months for $2,500

Dental Insurance

- Dental insurance coverage, with a variety of options, is available for the employee and family members at the employee's expense to cover cleanings, x-ray's, etc

401(k) Retirement Program

- Following one year of employment, staff members are eligible to contribute to a self-directed 401(k) retirement program
- Before-tax contributions can range from 1% to 15% at the employee's option
- MFF matches 100% up to a maximum match of 4% (the match is 100% vested)

Profit Sharing - Retirement

- Regular employees are eligible to participate in the profit sharing plan following their first employment anniversary (must have worked at least 1,000 hours in the plan year). The Board of Directors determines company contributions each year. 100% vesting after 5 years.

Paid Leave

- Paid leave may be taken after it is earned
- ANY absences from a scheduled work day is considered a paid leave day
- Leave days may be accumulated
- Accumulation schedule:

1st year	.66 days/month
2nd - 4th years	1.16 days/month
5th - 11th years	1.58 days/month
12+ years	2 days/month

Holidays

- Paid holidays are as follows:

New Year's Day	Labor Day
Thanksgiving Day	Easter
Memorial Day	Christmas Day
Independence Day	

Long Term Disability Insurance

- MFF provides managerial/supervisory payroll employees with long term disability insurance coverage

Probationary Period

- All new employees are subject to a 60 day probationary period and become eligible for all benefits following the completion of their probationary period.

Our doors are open.

Murphy Family Farms continues to develop plans to expand operations. Occasionally the press has focused on negative events associated with hog farms. In any business, be it manufacturing, row crops, or cattle farms, there are good and bad producers. Murphy Family Farms understands all aspects of our business, we operate responsibly, and we can prove it. We ask only that your opinion of Murphy Family Farms be based on facts.

We make the following invitations to any interested citizen:

1. **Visit our farms in Missouri or Oklahoma.** We welcome individuals or groups, schools, churches, civic organizations, etc. All areas of our farms are open and visitors who meet our biosecurity measures will be allowed to enter the hog buildings.

2. **Send technical specialists** (individuals or teams) to our farms in Missouri and/or Oklahoma to evaluate our overall management procedures.

3. **Call the Missouri Department of Natural Resources.** The DNR approves farm designs and monitors and regulates day-to-day operations. Ask DNR about pork producers in general and specifically about Murphy Family Farms.

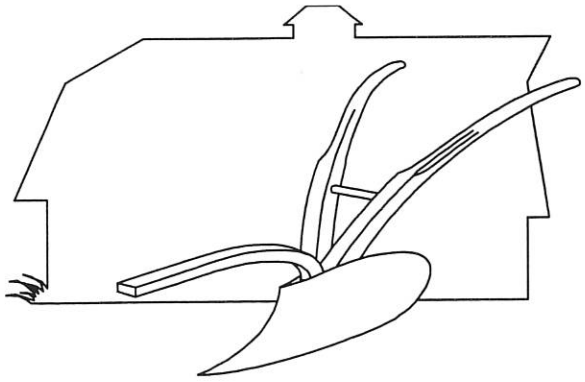
4. **Call lenders and contract partners who have worked with MFF.** Contract partners and lenders who have been involved in our programs can provide a wealth of knowledge and insight.

5. **Encourage your friends and neighbors to follow-up on their issues and concerns.**

We offer you the opportunity to judge us not as an industry but as a company, to form opinions based on facts, and to get to know us as individuals.

EMPLOYEE PROFILE

Adam Weigand was born and raised on a diversified crop and livestock operation in East Central Kansas. His parents still live there, where his father farms and serves as a county commissioner and his mother is a legal secretary. Adam saw an opportunity to remain in agriculture and have an impact on food production at its core level. (production agriculture) Adam joined Murphy Family Farms in June of 1994 after graduating from Kansas State University. Adam worked for three years in our Missouri operations, near Nevada, Missouri. Two of these years were spent managing a 3600-head commercial sow farm, which was one of the farms in the pyramid recognized nationally for environmental stewardship. Adam chose an opportunity to help start up our High Plains expansion and is scheduled to manage our Wildcat sow farm near Jetmore, Kansas. Currently, Adam is filling a role in our High Plains Development team while we wait to receive our Wildcat permit.



AGRICULTURE

Tours for individuals, groups, specialists:
Murphy Family Farms
Missouri 1-800-566-7675
Oklahoma 1-800-586-2019

Employment Information:
Darra Johnson 800-566-7675

Missouri Department of Natural Resources:
Mr. David Shorr, Director 314-526-6627
George Parsons, Inspector 417-895-6950

Financial Institutions:
Ray Tubauch, Mercantile Bank
417-682-5502
Dennis Markham, First National Bank
417-667-3057
George Cooley, Farm Credit Services
417-451-6084

Nursery Contract Growers:
Ronnie Means 417-682-5874
Wayne Jeans 417-927-3480
Jeannie Petit 417-667-6876

SHARED PRIDE

As part of Murphy Family Farms, employees and contract growers are members of a team who share a common goal: producing a high-quality food in an environmentally responsible way. It's a kindred group that participates in providing good jobs and economic security--and shares the company's pride in doing so.

⇒ The truck driver hauling the grain that feeds the pigs.
⇒ The accountant who translates all the activity into meaningful numbers.
⇒ The purchasing agent who ensures that we have needed farm supplies and equipment.
⇒ The office professional storing important data into the computer.

All staff members and contract growers are as much a part of the farming operation as the worker who nurses a piglet in its first few minutes of life. It's hands-on involvement that makes the difference -- whether those hands scoop out grain, shift gears, or tap a keyboard.

As part of this effort, MFF team members provide a vital link in the pork production chain and are an integral part of agri-business. Our team members are proud of their dedication through their support and participation in programs to increase their knowledge and skills. We have a kinship born in professional cooperation --and collective pride.

Murphy Family Farms

FACTS ON FILE

Murphy Family Farms was founded in 1962 in North Carolina by Wendell Murphy. The company's long history of contracting began with local farmers to finish out feeder pigs.Originally owned by Wendell Murphy and his father, the company continues to be family owned by Wendell, his brother, his sister and his son. The company continues to raise only hogs.

Midwest Overview

Murphy Family Farms has operations within the Midwest in **Oklahoma, Iowa, Missouri, South Dakota and Illinois** with expansion planned for Texas and Kansas.

The company uses three types of facilities: sow farms, nurseries, and finishers. These may be company owned or owned and operated under contract by local farmers. We own several feed mills, but we do not own packing plants.

Oklahoma Operations

Hogs are raised here for market (commercial production) and for breeding stock. Commercial farms hold 11,000 sows and breeding stock farms hold 3,650 sows.

We contract with local farmers. The farmers provide the facility, the day-to-day management and environment management. **We have a contract sow farm and several contract nurseries in Oklahoma.**

A **new feed mill** is projected for the **region.** At full capacity, **the mill will use 19 million bushels of grain annually**, with some of the grain purchased from local farmers.

Community Investment

Murphy has committed to **more than $ 20 million** capital investment **in Northwest Oklahoma with no tax break or incentives** taken by the company.

More than **$2.3 million** were spent in **Harper, Ellis and Woodward** Counties in 1997 (excluding salaries and feed).

One out of every four construction dollars are spent locally.

In 1997, Murphy Family Farms will pay more than $14,500 in real estate and property taxes.

Murphy Family Farms continues its **long history of donating to the communities** in which it operates. Cash and hog donations were made to local, civic, school and not-for-profit groups. Our employees are actively involved in community organizations such as local Chamber of Commerce, Lions, Laverne Booster Club and local churches.

Employment and Training

Murphy Family Farms added 89 new jobs in 1997 to the Laverne, OK economy. 70% of all employees are from the local area.

The company maintains an aggressive **training and promote-from-within program.**

Technical training teaches employees what to do, how to do it, and why, with a goal of proficiency..

Murphy's Continuous Quality Improvement program emphasizes statistics and Deming and Covey management principles.

Competitive benefits equal to 26.5 percent of salary
- Health and dental insurance
- Life insurance (100% paid by Murphy)
- 401(k) retirement plan with 100 percent match up to 4 percent contribution
- Profit sharing retirement program
- Paid leave days (combination of sick and vacation days)

FACTS ON FILE

Murphy Family Farms takes very seriously its role as a Steward of the land. As a leaders in the pork industry, Murphy Family Farms chooses also to be a leader in the role of wise land use. Sound management of our natural resources are accomplished through the use of proven scientific methods, and through the dedication of employees and contract partners alike.

Responsible Land Use

All facilities undergo a detailed permitting process. **Sites are designed by professional engineers to meet or exceed state and federal regulations.**

Preliminary soils evaluations, including compaction and permeability tests, are completed to determine a site's suitability for construction.

Lagoons are lined with compacted clay or, on larger farms, approved synthetic liners.

The company requires a minimum of one mile setback from an occupied residence for sow farms locations.

Annual soil sampling is conducted to **monitor 11 soil constituents,** including potassium and phosphorus.

Cropping and irrigation plans are designed by professional agronomists to match soils' characteristics and needs.

Thorough record-keeping tracks nutrient application on fields to ensure proper fertilization.

Best management practices are followed to optimize nutrient application to farm fields.

Odor Control and Manure Treatment

Murphy Family Farms participates in **odor research** with North Carolina State, Iowa State, and other universities.

The company's **two methane digesters in Oklahoma control odor and treat manure** by using technology from municipal waste treatment systems.

MFF is testing technology to treat manure and control odor which have proven effective on dairies and other agricultural operations.

The company's costs for **voluntarily implementing new technology** can add over $300,000 cost to a site.

Environmental Stewardship

Conservation of topsoil and protection of water quality are chief goals.

Use of riparian setbacks and establishment of field borders preserve natural vegetation, reduce erosion, and protect water quality.

Erosion control methods, such as conservation tillage, terracing, and establishment of windbreaks are **practiced across the company.**

The company encourages the creation of wildlife habitat through vegetation plantings and establishment of unique areas such as wetlands and ponds.

Farms are open to the public. MFF establishes demonstration farms to explain environmental practices.

1996 Midwest Winner of Environmental Stewardship Program sponsored by National Pork Producers Council, National Hog Farmer and Pfizer for the Ozark Pyramid, which includes four sow farms, located near Sheldon, Missouri.

For more information, please call our Laverne, Oklahoma office at (580) 921-1569.

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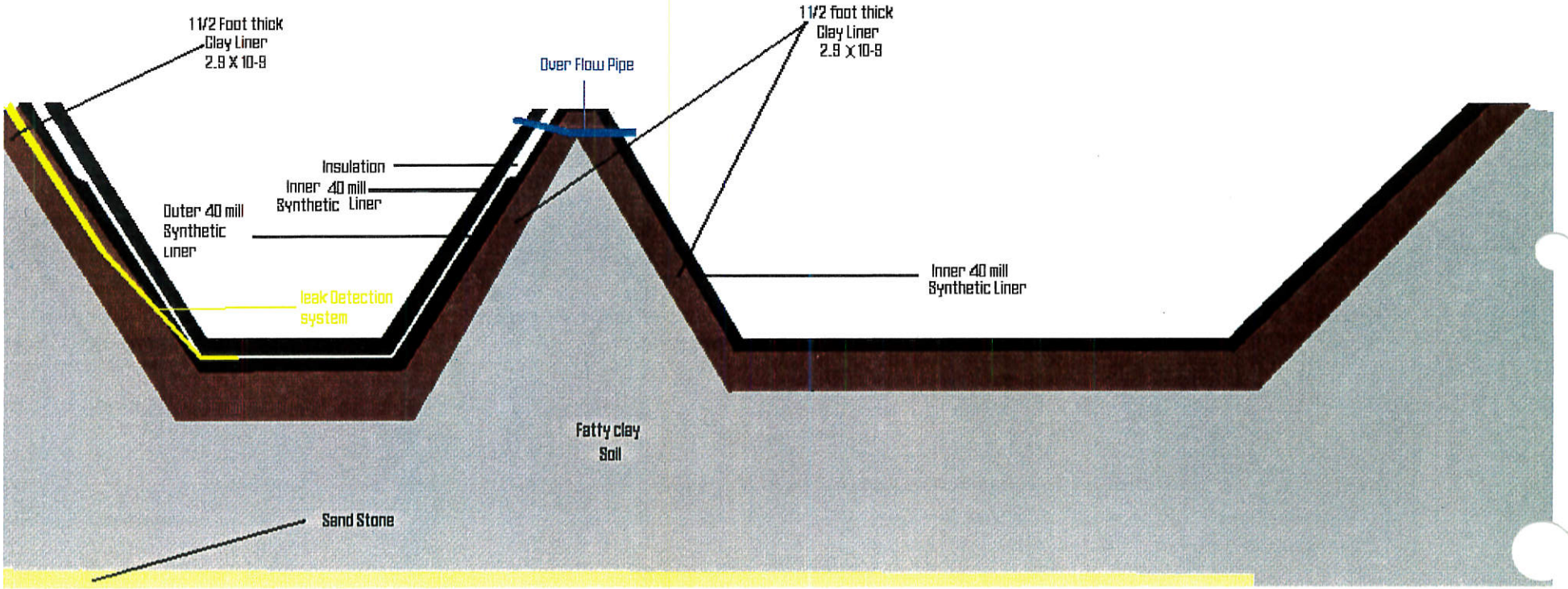
Ground Water Protection

WILDCAT SOW SITE



Murphy Family Farms and Water Usage

Size and type Of Facility	What we use	Other terms
11,000 head sow unit	80 acre feet	40 acres of corn
3400 head nursery unit	3-5 acre feet	4 acres of corn
3300 head finishing unit	8 acre feet	4 acres of corn

Murphy Family Farms and Our Water

Water is a valuable resource to all of us. It is especially important to farmers. It is our lifeblood. As livestock producers, we depend on reliable, clean water for our operations.

The two issues that must be addressed are water Quality and water Quantity.

Water Quality

Protection of our water from contamination is not just a goal, it's a necessity. State and federal guidelines direct the design and construction of effluent lagoons that must be followed by all large-scale animal producers. At Murphy Family Farms, the protection of ground water starts before we ever have a pig on the property, or any construction underway. As part of our site evaluation process, we conduct soil sampling by drilling test holes. The analysis of the soil from these holes tells us the type of soil on the site, whether there is adequate material for a clay liner, and if the water table is to close to the surface. We also go a step further. Not only do we construct our lagoons to meet or exceed state and federal laws, we also perform semi-annual voluntary monitoring of on site wells. Testing is done to collect data and confirm that no lagoon water has leached into the water table. We work closely with soil scientist and agronomists to determine the best time and location to apply nutrient waters.

On top of the measures taken above to protect the ground water, we have chosen to line our lagoons with a synthetic liner. This plastic liner is professionally installed and tested to insure against leaking.

Water Quantity

Water conservation is also taken very serious at Murphy Family Farms. We are continually looking for ways to lower our water usage. Today, an 11,000 head sow unit is approximately 80 acre feet of water per year. This would be the equivalent to 40 acres of irrigated corn. A contract nursery facility will use only 5-8 acre feet per year.

On many of our sites, we have a net decrease in water usage than before we were there. Here's how it works. We buy a portion of a farmer's land, and then lease his remaining land for application of nutrient water. When we change the water from agricultural use to livestock, there is a loss of 30%. For example, to get 70-acre feet of water for animal use, the farmer will lose 100-acre feet available for agriculture use. So the amount of water available for use has be decreased. The water is used on the farm for drinking water, and wash water. When the water leaves the farm, it goes to a lagoon and from there back onto the farmers field. Only now it is a value added water.

MURPHY FAMILY FARMS
High Plains Nursery Partnership Program

Murphy Family Farms' Missouri nursery program began in Vernon County in 1992. More than 38 farm families are in partnership with MFF with 50+ nursery buildings. Ten families have constructed a second nursery building. Demand for nurseries has continued with 10 farm families on the list for future nurseries. Local lenders have played a key role in acceptance of the program.

Murphy Family Farms operates a three-site pork production plan that includes:

- sow farms
- off-site nurseries
- off-site finishers

Contract off-site nursery partnerships are based on the independent farmer managing 3,400 pigs; raising them from 10 pounds to a feeder pig size of 40-50 pounds over a 6-7 week period. Farmers will generally have 7.5 "turns" of pigs each year.

Cash flow and management requirements fit the typical family farm. Nursery partners spend approximately 3 hours per day in their nursery. The partnership contract provides $25,000 to $27,000 positive cash flow beyond 100% debt service and operating expenses. The Nursery Partnership Program can be an effective "on farm" income generating part of your operation.

We are told that our nursery contract, written in plain language, is unique. The payment structure is on a per day -- first in, last out -- basis for ten years. The nursery program is an integral part of our production plan and we expect the relationship with our partners to last long beyond the term. Under effective maintenance, we expect nursery facilities to have a 20 year life.

Regarding environmental concerns, MFF requires all nursery partners to:

* With assistance from MFF and a contracting engineer, submit a site development application to the Oklahoma Department of Agriculture, including:
    * Project Description
    * Soils Report
    * Construction Specifications
    * Detailed Engineering Drawings
* Maintain Nutrient Application and Soil Test Monitoring Records
    * Record keeping of waste spreading locations and amounts
    * Annual soils evaluation to monitor levels of 6 different nutrients

Note. Maintaining nutrient management and application records is required by Oklahoma Department of Agriculture if an initial application is voluntarily submitted.

The application and records are submitted to the Oklahoma Department of Agriculture. Due to the size of the nursery operation, ODA does not require this level of documentation, however MFF contends that a proactive approach in dealing with the Department is an effective way to manage your nursery.

The nursery building is 170' x 60' and the building, lagoon, and drive will generally occupy about 3 acres. Additional land will be needed to irrigate effluent twice each year from the lagoon.

Historically in Missouri, we have found that current building costs should be budgeted at about $165,000. During the past four years, we have seen these costs range between $145,000 and $170,000. In the High Plains, the costs are estimated to be $211,209 due to the larger size. These cost estimates include the nursery construction project itself and would exclude the cost of land, powerwashers, and irrigation equipment. Many farmers rent the irrigation equipment when needed. Our staff will provide assistance in obtaining financing, detailed building plans, assist in site selection, assist with construction supervision, and available contractor information.

POST OFFICE BOX
NEVADA, MISSOURI
417-398-2212

MURPHY
FAMILY FARMS

MURPHY FAMILY FARMS
OF MISSOURI
Contract Grower Application

(TYPE OR PRINT)

GENERAL INFORMATION:

NAME (LAST) (FIRST) (MIDDLE INITIAL) SSN#

ADDRESS/ ROUTE/BOX # CITY STATE ZIP

TELEPHONE# LOCATION (COUNTY) (TOWNSHIP) (SECTION)

BIRTH DATE SPOUSE NAME: BIRTHDATE:

SPOUSE SSN# _____

FINANCIAL INFORMATION:

BANK NAME	THIS SECTION FOR OFFICE USE ONLY.
ADDRESS	
TELEPHONE#	
BANK OFFICER TO CONTACT:	

BUSINESS INSURANCE CARRIER:

NAME	
ADDRESS	
TELEPHONE#	
PERSON TO CONTACT	

GENERAL BUSINESS REFERENCES: (PLEASE LIST 3)

NAME	
ADDRESS	
TELEPHONE#	
PERSON TO CONTACT	
NAME	
ADDRESS	
TELEPHONE#	
PERSON TO CONTACT	
NAME	
ADDRESS	
TELEPHONE#	
PERSON TO CONTACT	

It is understood when submitting a signed application that Murphy Family Farms may make inquiries regarding credit, business relationships and history of the applicant to the banks, reference accounts, governmental agencies, vendors and suppliers mentioned above.

SIGNATURE _____ DATE _____

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Contract Nursery Partner Application Process

If you are interested in becoming a MFF contract nursery partner, you'll follow this sequence of events:

- Acquire this packet of information
- Schedule a visit with Jim Shantz
- If you wish, schedule a farm tour and nursery site visit
- Complete, sign, and return the following . . . (forms enclosed)
  - _____ Contract Grower Application
  - _____ Agricultural Financial Statement
  - _____ Cash Flow Statement
  - _____ Authorization Form
  - _____ Grower Environmental Commitment
  - _____ Past three years of income tax returns (MFF can make the copies if necessary)
  - _____ Sign (husband and wife) the form from the Oklahoma Department of Agriculture (this form is the construction permit application and will be completed by the engineer
  - _____ Provide a copy of the SCS photograph map of your property; Soils Map; and Interpretation Sheet
- The MFF office will conduct an in-house review of your application; if approved, with your permission, MFF will submit your application to area lenders
- A visit will be scheduled with a MFF nursery service staff member to discuss questions, outline MFF/nursery partner expectations, and visit the proposed nursery site
- Schedule contract engineers to dig "test holes" and collect a dirt sample for the "permeability" test
- Receipt of bank commitment letter
- Following receipt of the bank commitment letter, schedule the engineer to prepare topographical work
- Topography engineering completed
- Total application package is approved
- Title Insurance is ordered; construction loan papers are prepared and signed
- Nursery engineering work is completed and construction is scheduled

Contact: Jim Shantz
PO Box 1066
Laverne OK 73848

We authorize Murphy Family Farms (MFF) to release our personal information package to various financial institutions in order to secure a loan for a MFF contract nursery.

This financial package includes:

1) Balance Sheet

2) Current Cash Flow of Operations

3) Past Three Years Taxes

_____ _____

Signature Date

_____ _____

Signature Date

NOTE: You may be contacted by the officer from a lending institution. The present cash flow is subject to change.

To: Murphy Family Farms

From: _____

GROWER ENVIRONMENTAL COMMITMENT

We have reviewed the requirements of Murphy Family Farms and the Oklahoma Department of Agriculture regarding the application method of nutrients produced by a contract nursery and the soils to which nutrients may be applied.

We agree to implement an environmental plan to effectively manage the lagoon, related nutrients, and application land that will meet or exceed state and federal guidelines; and are aware of the costs related to this responsibility.

We agree to contract with Ag Advisory, Ltd. for help in developing our environmental file. Please inform them to contact us at the appropriate time.

_____ _____

Grower's Name (print) Date

_____

Grower's Signature

Address: _____

_____

_____

Murphy
Family Farms

Nursery Setback Minimums

- Three miles (as the crow flies) from a city or town
- No buildings or lagoons within ¼ mile of dwellings or inhabitable dwellings
- Written permission from the resident if less than ¼ mile from building or lagoon
- Verbal notice to neighbors within one mile regarding plans to construct and operate a nursery
- Murphy Family Farms will provide some trainng and require written verification
- Buildings and lagoons must be 150 feet or more from property lines
- Buildings and lagoons must be 300 feet or more from roads
- Buildings and lagoons must be 50 feet or more from ponds, creeks, and ditches
- Nurseries must be 1,100 feet apart

Other Issues:
- Water Source
- Electricity
- Clay
- Rock Outcroppings
- Sinkholes

Neighbor Notice Verification

Name: _____

Address: _____

Distance from site: _____

Comments: _____

_____

_____

_____

_____

Date of Visit: _____

Name: _____

Address: _____

Distance from site: _____

Comments: _____

_____

_____

_____

_____

Date of Visit: _____

_____

Nursery Applicant Signature

October 1, 1997 Volume 3, Issue 15

MURPHY FAMILY FARMS BACON BITS

Murphy Family Visits Missouri

The Murphy family traveled to Missouri the last weekend in August to visit the operations and hold their August board meeting in Nevada. Individuals from North Carolina included our owners, Wendell Murphy, Pete Murphy, Joyce Murphy, and Dell Murphy; Vice Chairman of the Board, Jim Stocker; Murphy Family Farms President, Jerry Godwin; and Chief Financial Officer, Howard Rush.

Members of the Midwest Farrowing Operations Resources Team made presentations on the benefits of an 11,000 sow farm, the updates of Midwest Public Relations, interdepartmental communication, meat quality demonstration, production overview, and the five year study of nutrient management in Missouri. Additionally, Doug Tennel, Tim Chase and Jason Butterfield included presentations about people development through CQI, training, and the role of a manager.

Visitors from Lane County Impressed By Our People

Since the first of the year, Murphy Family Farms has been looking at possible expansion into Lane County, Kansas. Our development efforts there have paid off and we are now planning to expand there sometime in 1998. As always, we have hosted tours of our facilities both in Nevada and in Laverne; all have gone extremely well. We have hosted county commissioners, economic development people, concerned citizens, local farmers, local teachers, and an eighth grade English class.

Every one that has visited has been very impressed with our commitment to the environment and to local businesses. In particular, they have commented on the measures that we have taken to protect the ground water and the efforts that we are making to reduce odor, such as digestor and covered first stage lagoons.

Many of those who have visited were initially undecided about our company and the pork industry prior to their visit. Many of these people have actually showered in to our first 11,000 head sow farm. After the tour, we always ask them if it was what they expected. Ninety-nine percent of them say "no". When asked what surprised them, they talk about how clean it was, the lack of flies, how nice the environment was, and the various technologies we use. However, the number one thing that impresses them the most about our company is the people who work there. We get more positive comments about the people who work within the farms than any other area.

We always hear that it is the employees of an organization that make it great. We believe this is true of Murphy Family Farms, and the people who have toured our farms from Lane County would definitely agree.

Circle Four Visit

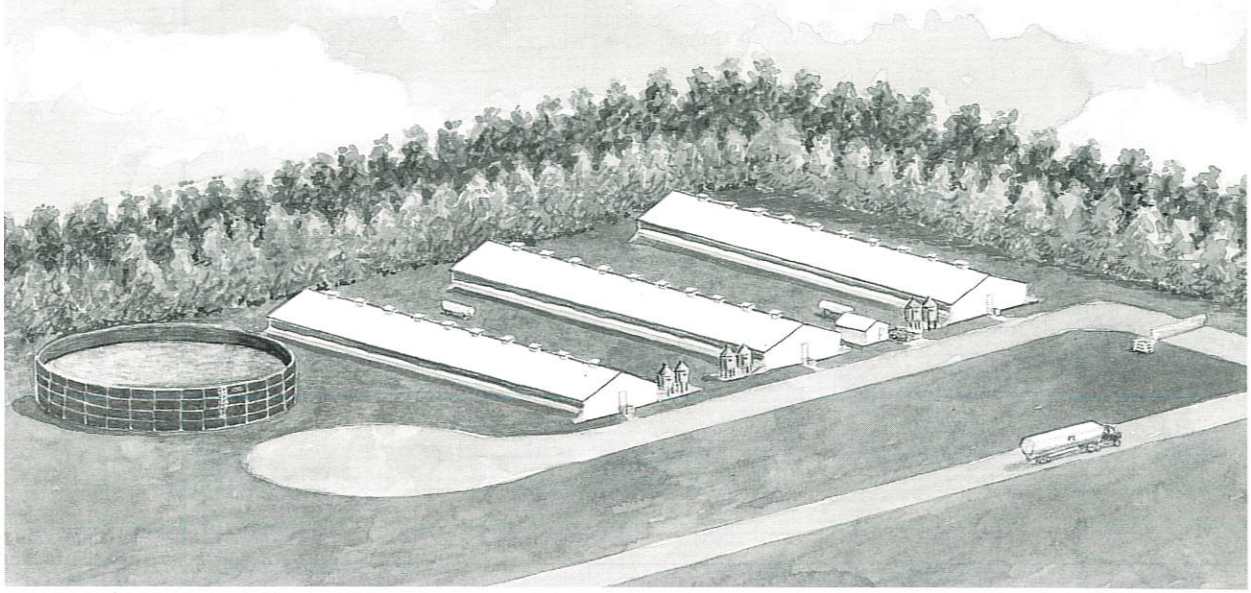
After the great visit to Utah, four of their team leaders will be visiting our Missouri operations from September 29 to October 1. The individuals visiting are Dwight Potter, Accounting Team Leader; Kenny Seidel, Support Services Team Leader; Eric Bleaks, Training Team Leader; and Kerry Sherwood, Sow Operations Team Leader.

The focus of the group is to better understand how the Missouri Resource team and farm managers work together. They will also have overviews from various departments such as training, human resources, purchasing and production.

Give a man a fish and you feed him for a day; teach him how to fish and you feed him for a lifetime.

-Stephen Covey

Stewards Of The Land



MODERN PORK PRODUCTION

Every step of the pork production process requires careful research and attention to achieve success. At Murphy Family Farms, the result of our on-going search for improvement has resulted in the highest quality pigs, state-of-the-art swine finishing buildings, time proven business management systems, and more.

One integral step of the process -- nutrient management -- has received the same careful attention. Modern pork production, combined with highly productive soils receiving properly agitated and knifed-in manure, make an excellent package to enhance soil fertility, increase soil tilth, provide nutrients and reduce costs in crop production.

That's why an important part of your pork production facility will be a Slurrystore® structure, manufactured by A.O. Smith Engineered Storage Products Co., an industry leader in the field of livestock manure storage using glass-fused to steel technology. In addition to more than 20 years of experience in manufacturing the Slurrystore structure, their Harvestore® structures have been marketed in North America for nearly 50 years.

The Slurrystore structure is designed to offer positive containment of valuable nutrients in manure which are used for crop production. As an example, in a year, 10 hogs weighing 200 lbs. can provide the total nitrogen fertilizer needs for one acre of 150 bushel-per-acre corn. In addition, the structure is approved by the Natural Resource Conservation Service when built to manufacturer specifications.

As a family farmer contracting with Murphy Family Farms you will receive an agronomist-developed nutrient management plan.

Pork production is a process that begins with your involvement and ends with satisfied consumers around the world. Murphy Family Farms wants you to know that every step of the process -- from stock selection to building design and nutrient management -- have all been carefully considered.

MURPHY
FAMILY FARMS

'NGINEERED NUTRIENT MANAGEMENT

Stewards Of The Land

The manure storage for a three-barn Murphy Family Farm installation is a Slurrystore® structure measuring 120 feet by 19 feet which provides one year's storage capacity.

The Slurrystore structure is produced in an ISO 9001 certified plant in DeKalb, Illinois. The design and quality manufacturing procedures have continually evolved and improved.

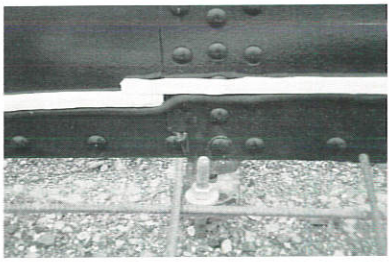
The sheets for the structure are made using proprietary glass-fused-to-steel technology in which the steel sheets are coated with a liquid blend of powdered glass. The steel and glass are fused together in a 1500 degree furnace.

EDGECOAT™

During the "Edgecoat™" edge enhancement process, perimeter edges are beveled, then receive an alloy and "glass" coating.

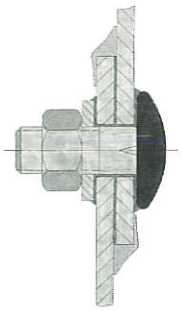
Slurrystore structures are built by certified, trained crews who first level the building site, then place a reinforced concrete footing.

A patented leveling system allows vertical adjustment to within ± 1/8".



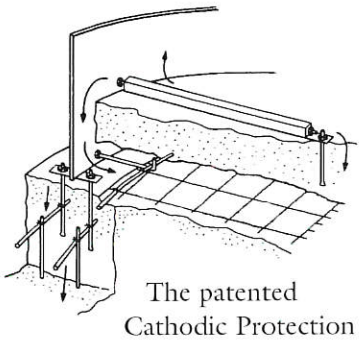
Bentonite foundation sealer strips are installed below a primary sealing strip. Together they create a positive barrier to potential liquid flow between the foundation sheet and the concrete floor.

A continuous, monolithic concrete floor is poured over compacted granular material and an extensive reinforcement grid to create a sturdy base and a positive barrier to liqu'd flow.

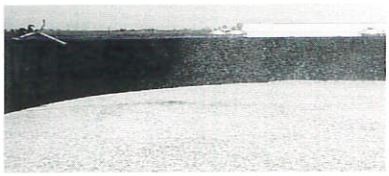


Bolts, nuts, and washers have a mechanical galvanized coating. Bolts have plastic encapsulated heads for use inside the structure.

Sealant is applied to sheets before bolting. As bolts are tightened, the sealant flows around them to create a sound joint.



The patented Cathodic Protection System helps reduce galvanic corrosion on steel components (tank and concrete reinforcement) that are in contact with the slurry.



To help reduce odor concerns, a Murphy Family Farm's representative will arrange for the application of a bio cover over the manure's surface once filling has begun.

Based on your manure management plan, your Murphy Family Farm representative will also work with you to schedule manure agitation and application to fields.

Sagebrush Farm

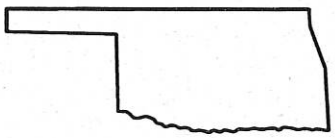
Respecting the environment where we work and live

Joining hands with the people of Laverne, OK: Community leaders researched Murphy Family Farms and visited our operations in Nevada, Missouri, before inviting us to come to Laverne. We are proud to be part of this community.

MURPHY
FAMILY FARMS

Murphy Family Farms has grown to become one of the world's largest pork producers. Since the beginning in 1962, the company has always been a family farm. We now employ more than 1,800 people in six states and work with more than 700 family farms for contract hog production. We are proud of the long-term relationships we maintain with our growers and the high level of commitment exhibited by our employees.

Our farms in Oklahoma are unique. We understand that land ownership is important to Oklahomans. We are involved with local landowners on a long-term lease basis. This creates a win-win situation. The landowners maintain possession of their land, while receiving valuable irrigation water and nutrients needed for crop production. It also allows us to concentrate on pork production. This arrangement fits right in with our company's 35-year history of contracting with local farmers.



Agri-ecology is the management of agricultural land so that it closely resembles a natural ecosystem in the way it cycles nutrients, purifies water, and provides habitat for plants and wildlife. While raising high-quality hogs, we work hard to preserve topsoil and protect water quality.

Sagebrush Farm is equipped with a two-stage lagoon, lined with one and one-half feet of compacted clay and two, 40 mil synthetic liners (about the thickness of a dime). A boiler will heat the first stage to 95 degrees to speed the anaerobic breakdown of solids. This stage is also covered.

This technology will reduce the solids going into the second stage by 85 percent. Some of the water from the second lagoon is recycled for cleaning the barns.

The second lagoon, lined with compacted clay and one synthetic liner, provides irrigation water and nutrients for growing crops.

For more information, please call 405-921-1569

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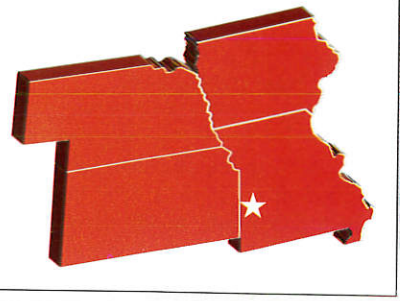
National Hog Farmer®
October 1996

Midwest Region Winner



Open Doors Educate The Public

Ozark Pyramid/Nevada, Mo.

At the Ozark Pyramid, operated by Murphy Family Farms, you expect the emphasis to be on pigs.

But talk a bit with Sam Ennis or the managers of the Ozark Pyramid and you will be constantly reminded that pigs and farmland are a total system. You can't operate one without having an impact on the other. And if you are going to be successful long-term, you better be watching both the pigs and the environment.

Ennis works in land management for Murphy Family Farms, the nation's largest hog operations. Located near Nevada, MO, the Ozark Pyramid, with 14,000 sows produces 300,000 weaned pigs per year.

"As farmers, we have two goals – to maintain the quality of the water and the integrity of the soil," he explains.

The challenge to Murphy managers has been to produce large numbers of pigs in harmony with those soil and water goals. In fact, they've taken it one step further. The pigs actually help meet the environmental goals.

That attitude, plus a willingness to use the Ozark Pyramid as an educational tool, led to the selection of the Murphy operation as the Midwest Regional winner of the Environmental Stewardship Award.

At the Ozark Pyramid, the sows are housed in four hog complexes scattered over 1,100 acres. Each complex has two farrowing barns, a breeding barn, heat-check barn, two gestation buildings, an on-site nursery, on-site finisher and 5.5-acre lagoon.

The lagoons have enough capacity to provide good anaerobic digestion of the hog wastes.

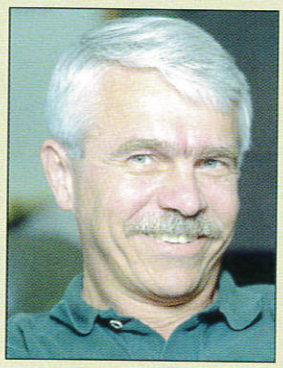
The effluent from the lagoons is used to fertilize either row crops or grass, depending on the soil and terrain. Lagoon effluent is applied either via traveling guns or center-pivot irrigation equipment. A network of underground pipes carries effluent to the irrigation equipment.

There's no guesswork in those applications. The Murphy organization has an entire panel of consulting agronomists help plan the amount and timing of the applications, based on detailed soil sampling and effluent sampling. The key, of course, is to wring the maximum nutrient value out of that hog waste.

Timing the applications is a major concern and one that will be fine-tuned for years to come. "If you make the applications on growing crops, the crop will use it and cut the risk of any problem," reports Steve Brier, manager of Murphy's commercial production in Missouri. "So we try to irrigate corn and soybeans during the growing season and put effluent on grasses in early spring and late fall."

The payoffs are big. They estimate they saved more than $44,000 in fertilizer bills by using manure on the cropland.

Soil nutrients are constantly adjusted to meet cropping needs. In a few spots, the Murphy managers have reduced high phosphorus lev-



Sam Ennis

Steve Brier

Management rules require employees every hour to walk fields being irrigated from the lagoons.

els, caused from over-fertilization by previous tenants. With a few years of planned programs, those levels have come down.

Chuck Vadnais, land and nutrient management specialist, has an office stacked with binders of soil tests, effluent analysis and application figures. He expects to use global positioning system (GPS) technology in the future to make those applications even more precise.

The Ozark Pyramid operates with some tight rules on irrigating. Employees must go through a training process before they can operate the equipment.

When irrigation equipment is running, company rules require an hourly inspection, which means actually walking through the fields to see the effluent is soaking into the soil and not running off. Anytime there's a problem, equipment is shut down until it's solved. Only a half-inch of application is allowed at one time.

All row crop fields have a wide grass border to ensure zero runoff from the irrigated fields.

Protecting the environment pays dividends at the Ozark Pyramid. When Murphy Family Farms took over the land, one 800-acre tract supported about 100 beef cows. After two years of proper management and intensive grazing programs, 300 of those acres supported 650 springer dairy heifers. The remaining acres were cut for hay.

Row crop acreage has expanded and yields increased. "In the time I've been here, I can see an improvement in the quality of the soil when we take soil samples," Vadnais notes.

All the environmental programs are closely monitored. For example, when the Ozark Pyramid operation was set up, a number of ponds were installed to catch runoff rain water. The ponds are monitored to detect any problems.

They look for soil particles in the pond water, signaling something must be changed in the fields.

"We also look at both the life in the water and the nutrients in the water," Ennis says. "The water in that pond should be clean. If it's not, we have to go back up the chain and find out what's wrong. And right now, we do not see algae and duckweed and similar problems. It's a good indication the water is clean."

Ennis recalls putting the system to a tough test. For a visiting group of teachers, nine ponds were sampled and tested for dissolved oxygen and nitrogen levels. "The only pond with any impact was one in a field where dairy cattle used the water for drinking and cooling," he proudly recalls.

A solid wildlife program is considered another monitoring device. If the environment is preserved correctly, wildlife populations will grow. Size gives the Murphy organization an edge. At the Ozark Pyramid, Kurt Strauch, a land and nutrient management specialist, handles much of the monitoring work, a nest box program to attract birds and similar programs.

One key element in the wildlife program is a bit hard for some folks to swallow. On pond edges and around fields, the rule is no mowing during nesting season. Weeds and grass are left to grow tall, providing shelter for many types of wildlife. Tall growth in waterways helps slow down runoff and settle out soil particles. Around buildings things are kept trimmed.

There still are many long-range plans being developed for the 1,100-acre farm. Ennis says they will include more strip cropping and rotation of grasses. They also are looking for plants with deeper root penetration to improve the soil. Vadnais says alfalfa is a definite possibility, with up to five cuttings per year.

The corporation's long-term goals are to process any water leaving the farm through either settling ponds or wetlands to ensure any water leaving the farm is as clean (or cleaner) than when it arrived at the farm, according to Ennis.

There is a second reason the Ozark Pyramid was chosen for the 1996 award. The company has been impressively open. At the entrance to the hog and farm complex, there's a huge welcome sign and an open gate, almost unheard of around large hog farms.

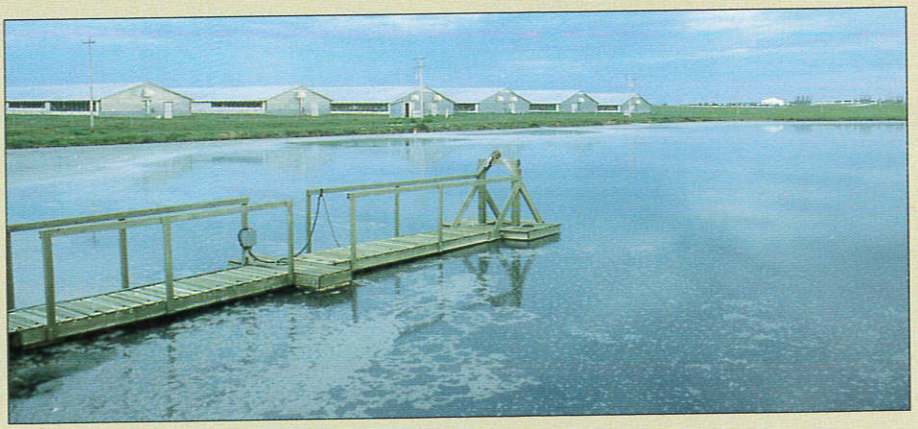
Visitors are asked to stop at the office to be accompanied by a Murphy employee. They receive a map and brochure about the programs. Throughout the farm, explanatory signs highlight points of interest. The company regularly books tours of teachers, university specialists, farmers, hog producers and even curious local groups.

Ennis notes one of the hardest jobs his company faces, is "helping people understand how everything ties together – the hogs, the crops, the grasses and the ponds."

In another community relations area, Murphy Family Farms has done considerable work to cut down odors from the huge hog complex. Key factors include:

- A high standard of cleanliness inside the units.
- Anaerobic lagoons reduce odors.
- Trees and other vegetation have been established at strategic points around the farm to help break up wind flow which carries odors.
- A patrol of local citizens check 10 locations in a 1- to 2-mile radius twice a day to see if odor is detectable.
- Neighbors are given odor monitoring sheets to use if they wish to keep a record of offensive odors.
- A toll-free hot line lets local residents report odor problems.
- In all cases, there is an effort to pinpoint problems and make corrections.

Sam Ennis sums up the Murphy program this way: "The programs we have in place are real. We can monitor them and we know they are working." ◇



Manure from each sow unit flows into 5.5-acre lagoons.

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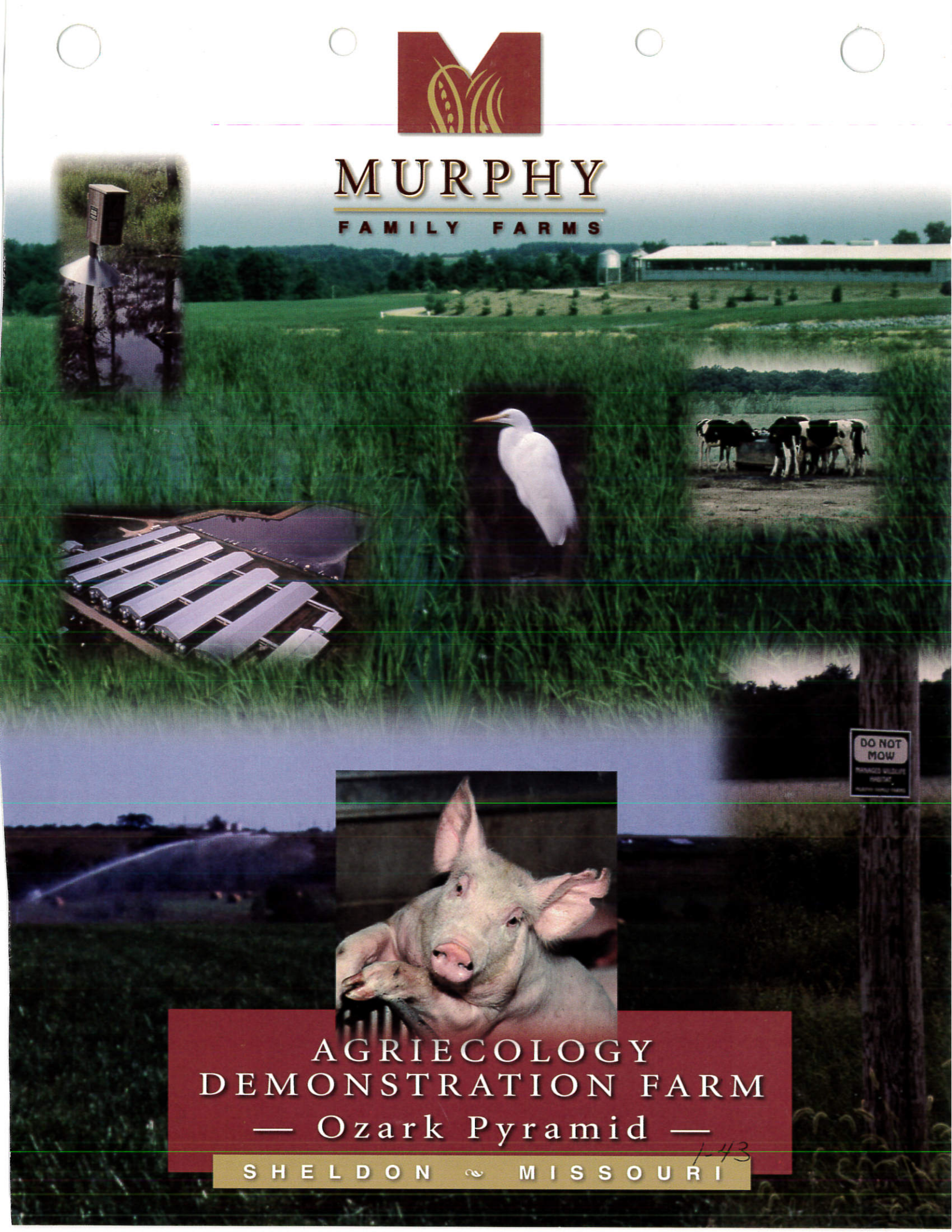


AGRIECOLOGY DEMONSTRATION FARM

— Ozark Pyramid —

SHELDON ~ MISSOURI

1-43

WELCOME

Welcome to Murphy Family Farms' Agriecology Demonstration Farm Tour. This tour will take you through the 1,100 acres that comprise our Ozark Pyramid. At Murphy Family Farms, we define a "pyramid" as a group of pork production units that are operated and managed as a single entity. As you take this tour, you will see the four units that make up the Ozark Pyramid. Together, the buildings on the Ozark farm house 14,000 sows and produce 320,000 baby pigs annually.

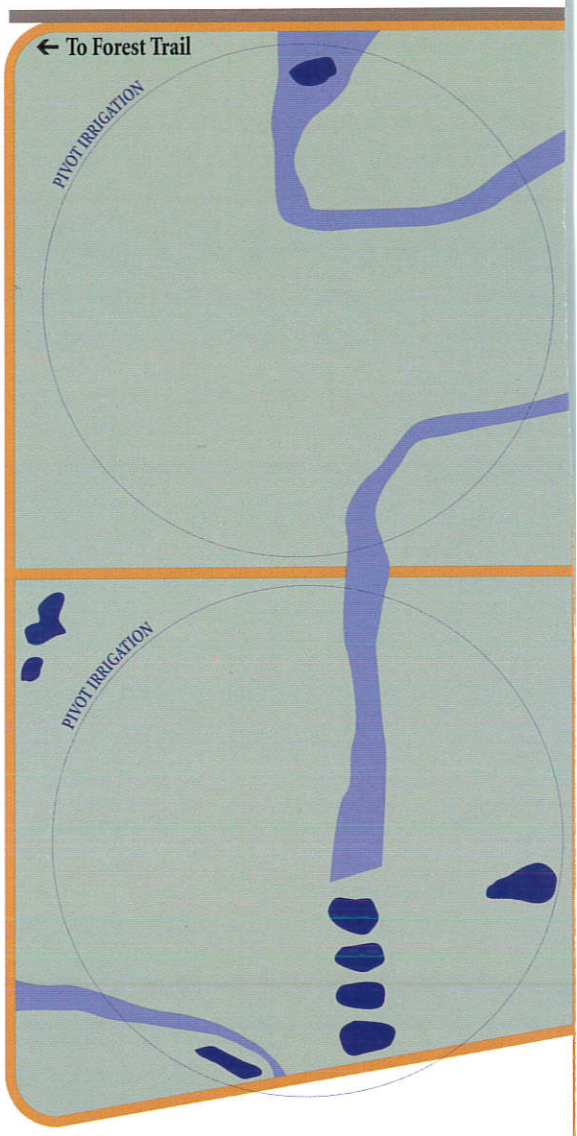
This tour has been designed to illustrate what Agriecology is all about. Agriecology is the management of agricultural land so that it resembles, as closely as possible, a natural ecosystem in the way that it cycles nutrients, purifies water, and provides habitat for plants and wildlife.

At Murphy Family Farms, we have built our program of Agriecology around the goals of preserving topsoil and protecting water quality. Good soil and clean water are vital to agriculture and to natural ecosystems like prairies, woodlands, and wetlands. Everything we do on the Ozark Pyramid, from raising quality hogs, to growing soybeans, is done with these two goals in mind.

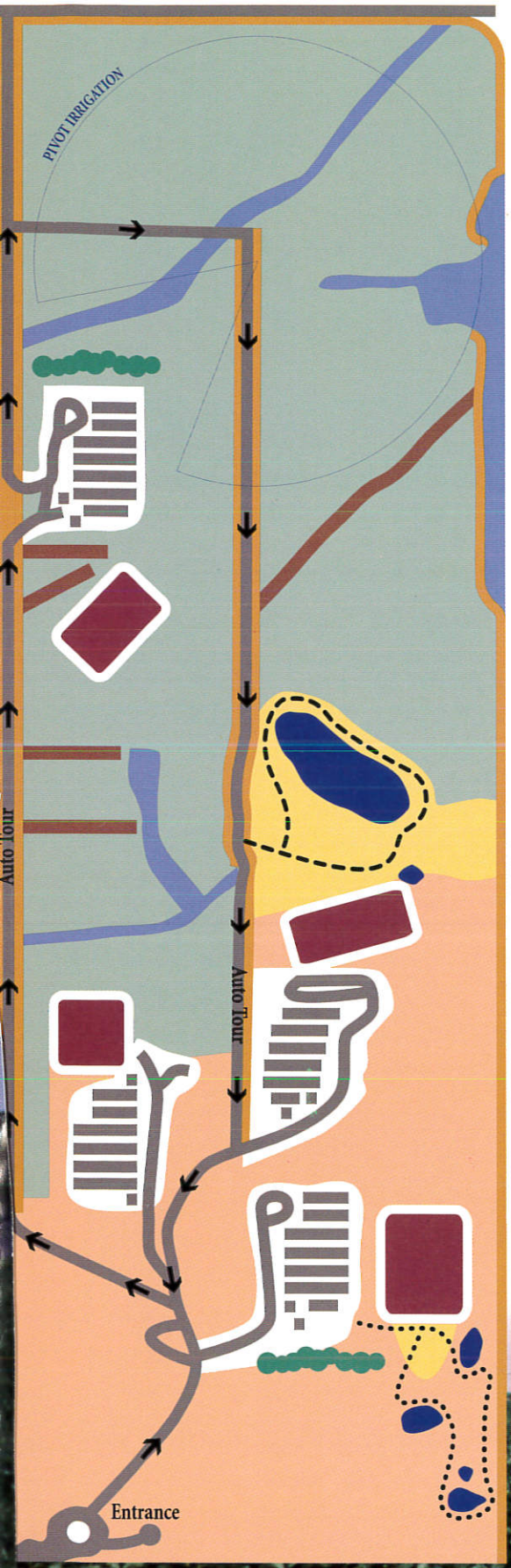
On this tour there are over 20 stops that illustrate how a complex farm system can fit together. You are welcome to visit any of our three walking trails. Each one is clearly marked, and an employee will be happy to act as your tour guide.

Thank you for spending time to learn about Murphy Family Farms and Agriecology. We welcome your questions and comments.

MURPHY FA



- Cropland and Cultivated Grasses
- Field Borders
- Ponds and Lakes
- Waterways
- Roads and Buildings
- Lagoons
- Remnant Prairie
- Terraces
- Fescue
- Windbreak Trees
- Marshland Trail
- Pond & Prairie Trail
- Auto Tour



STATION MARKERS

Wooden station posts have been placed along the auto tour and the three walking trails. Each station post has been marked with a number that refers to the agriecology action that is illustrated at that location. Station posts for the agriecology trails are marked with a bright stripe to distinguish them from other posts used in farming operations. Each agriecology action is described on the back of this brochure.

WALKING TRAILS

The walking trails offer a unique opportunity to explore the farm. If you take the time to look and listen, you may be surprised at the diversity of life thriving on the Ozark Pyramid.

Pond & Prairie Trail *1 mile/1 hour*

This trail offers a diverse mixture of row crops, wetlands, and native prairie as well as the plants and animals associated with shallow farm ponds. The water in this pond is clean due to the land management practices in the adjoining watershed. Spring and summer visitors will see a variety of nesting waterfowl and songbirds. Fall and winter visitors may see a "white pond" as snow geese routinely use the pond as a resting stop during migration.

Forest Trail *1 mile/1 hour*

This 80-acre stand is representative of the oak-hickory climax forest that once dominated the hills of South Central Missouri. Species are clearly identified along the trail. Visitors should look for signs of forest-dwelling animals, such as raccoons, opossums, and deer, as well as tree-nesting birds such as woodpeckers. Although the dense canopy of this climax forest has shaded much of the undergrowth, certain wildflowers adapted to the shade are present at different times in the growing season.

Marshland Trail *1.25 miles/1.25 hours*

This trail illustrates how good land management practices can have multiple use benefits. Several ponds with wetlands have been created along a waterway to eliminate soil erosion and improve the quality of the surface water. The ponds slow the water's flow allowing soil to settle, and the plants naturally filter nutrients from the water. A variety of wetland plants have become established along the edges and in the shallow areas of the ponds. Frogs, turtles, shorebirds, and wading birds use these ponds and can be seen on most days during the late spring and summer. Visitors may also see tracks of larger animals such as raccoons, foxes, coyote, and deer who use these ponds for drinking water and feeding areas.

1-45

AGRIECOLOGY STATIONS

1 FESCUE PASTURE Tall fescue, a cool season grass, was introduced into Missouri to provide farmers with a reliable, inexpensive source of winter feed. This fescue pasture is irrigated with water from the farm's lagoon. The grass in this pasture is harvested as hay. Although fescue remains an important component in a livestock program, some fescue fields throughout our farms are being converted to native prairie or warm season grasses. The converted fields will provide diversity in hay production and increase habitat for upland birds and wildlife.

2 SONGBIRDS Many of the songbirds using this farm are seasonal residents, spending spring and summer in the Midwest and leaving in the fall for warmer winter weather in Mexico, Central and South America, and the Caribbean. Some of these species include Bluebird, Scarlet Tanager, Wood Thrush, and several species of warblers. Many of these birds eat insects and play an important role in insect control on the farms.

3 WINDBREAK These rows of trees and shrubs have been planted to act as windbreaks. Windbreaks, when properly completed, redirect and break up winds, reducing the risk of soil loss from wind erosion. When constructed using evergreens, such as the one seen here, windbreaks provide excellent year-round cover for birds and small mammals.

4 HEALTH CONTROL Hogs are susceptible to diseases which can impact the economic viability of the farms. To maintain healthy herds in all Murphy Family Farms, access is restricted inside farm buildings. All employees and visitors must shower and wear special uniforms before entering a farm building to reduce the chance of spreading disease.

5 HOG FARM BUILDINGS Murphy Family Farms uses three separate production sites to produce pigs. The 3,500 sows housed in this set of buildings produce approximately 80,000 baby pigs per year. The pigs leave this farm at three weeks of age to be raised by contract nursery growers in the surrounding counties. When pigs reach 45 lbs., they are transported to contract finishers in Iowa where they grow to 250 lbs.

6 LAGOONS Manure from farm buildings is washed away six times a day into lagoons via underground pipes. In the lagoon, the manure is broken down by the activities of anaerobic bacteria (bacteria that can function in the absence of oxygen). The final product, a nutrient-rich water mixture, is applied as liquid fertilizer to crops and pasture land. A properly working lagoon is deep red in color.

7 NATURAL SUCCESSION As an ecosystem matures, it undergoes significant changes in the kind of vegetation it supports. This change is called succession. If this field were left untouched, over time it would progress to a shrubby thicket, and ultimately to a hardwood forest. As the vegetation changes, different types of animals move into the area.

8 PRAIRIE This area closely resembles the native tall grass prairie that once covered much of the Midwest and supported a diversity of wildlife, including the American Bison. One of the important plants of the prairie was Big Bluestem, which also thrives in this field. Big Bluestem is nicknamed "turkeyfoot" because its seeds grow in a cluster of three stalks that look like the foot of a turkey.

9 CONTROLLED BURN Fire is one of nature's tools for cycling nutrients and controlling succession. It is also a valuable management tool, particularly in areas where native prairie species thrive. This field is being managed with controlled burns every 2–3 years to promote the growth of native prairie grasses and flowers.

10 NUTRIENT APPLICATION Nutrients derived from the natural breakdown of manure in the lagoons are applied to crop and hay fields. The key components in this liquid fertilizer are nitrogen, phosphorous, and potassium. These are the same key components found in commercial fertilizer.

11 CROPLANDS AND CULTIVATED GRASSES Croplands and cultivated grasses are an integral component of farming, and Murphy Family Farms dedicates significant acreage to row crop production. Irrigation with nutrient-rich water from the farm lagoons increases the crops' productivity while enabling Murphy Family Farms to recycle nutrients on the farm. Crops are selected based on soil conditions and the crop's ability to utilize the nutrients applied to the soil. Row crops grown on this farm include corn, soybeans, milo, millet, and winter wheat. Grasses include alfalfa and matua.

12 SOIL MONITORING Soils on this farm are sampled and analyzed at least once a year to determine the concentrations of nutrients and trace elements including nitrogen, phosphorus, and potassium. Test results are recorded on soils maps for the property. The information is used to help make decisions for the following years, including the types of crops that should be planted in each field and the amount of nutrients that should be applied. The goal of the nutrient management program is to maintain a balance of nutrients in the soil.

13 GRASSED WATERWAY Rainwater runoff is directed through grassed waterways constructed throughout the farm. Tall grasses in the waterways slow the water, reducing the water's potential to erode soils. The grasses also trap soil particles that may already be in the water, significantly reducing the amount of soil leaving the farm.

14 FIELD BORDERS These areas have been planted with warm season grasses and have purposely been left unmowed. The tall vegetation slows surface water runoff, reduces soil erosion, and filters out soil particles and nutrients from the water. Studies have shown that even a 15-ft. field border significantly increases the habitat potential for insects, birds, and small animals by providing additional food and cover. These areas also serve as travel lanes for wildlife between larger pieces of prairie, marshland, or forest.

15 CONSERVATION TILLAGE Close observation of this field reveals that remnants of last year's crop are still in place. By using conservation methods of farming, the stalks and root systems of the previous year's crop can be left in place when new crops are seeded. Conservation tillage helps to stabilize soil and significantly reduces erosion over conventional methods.

16 WARM SEASON GRASSES Warm season grasses are species that undergo growth during the late spring through early fall and then go dormant throughout the colder winter months. Warm season grasses were key components of the native prairie and include Big and Little Bluestem, Indian Grass, Switchgrass, and Eastern Gamma Grass. These grasses are characterized by deep root systems, sometimes extending deeper than ten feet. Warm season grasses provide excellent soil erosion control and habitat for wildlife and birds.

17 CREATED MARSHLAND Shallow ponds have been constructed along waterways on this farm to slow water flow and control erosion. Wetland plants, which have become established in the ponds, provide diverse habitat for a host of wildlife species, including frogs, turtles, and wading birds such as Great Blue Herons. Evidence of use of these areas by larger animals such as deer and raccoon is found in the variety of tracks left in the mud around the marshland's edges.

18 BRUSHPILES Properly built brushpiles provide important shelter and habitat for birds and small animals such as quail and rabbits, as well as important predators which aid in pest control.

19 TERRACES Terraces are constructed to control water runoff and reduce erosion. When surface water runoff intersects with a terrace, the terrace serves as a small dam and redirects the water to a grassed waterway and away from the more erodible crop land.

20 MISSOURI TREES This stand of trees was planted to illustrate the diversity of a native Missouri forest. Approximately 20 different species of trees and shrubs are represented here.

121 S. WASHINGTON, P.O. BOX 393 • NEVADA, MISSOURI 64772-0393 PHONE (417) 667-3397 • FAX (417) 667-6764

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MURPHY
FAMILY FARMS

eats and other good things

going whole hog...

P.O. Box 1066
Laverne, OK 73848
405-921-1569

2501 North Loop Drive
Ames, IA 50010
515-296-8158

MURPHY
FAMILY FARMS

P.O. Box 759
Rose Hill, NC 28458
910-289-2111

111 South Harland
Algona, IA 50511
515-295-7570

P.O. Box 393
Nevada, MO 64772
417-667-3397

Pharmaceutical By-Products

Pharmaceuticals rank second only to meat itself in the important contributions hogs make to society. Rapidly advancing science and technology are continually adding to the list of life-supporting and life-saving products derived from the incredible hog.

Adrenal Glands

Corticosteroids
Cortisone
Epinephrine
Norepinephrine

Blood

Blood Fibrin
Fetal Pig Plasma
Plasmin

Brain

Cholesterol
Hypothalamus

Gall Bladder

Chenodeoxycholic Acid

Heart

Heart Valves

Intestines

Enterogastrone
Heparin
Secretin

Liver

Desiccated Liver

Ovaries

Estrogen

Specially selected and treated hog skin, because of its

going

101 Wnle

Industrial By-Products

Hogs also make a very significant con-tribution to the world of industrial and consumer products. Hog by-products are sources of chemicals used in the manufacture of a wide range of products which cannot be duplicated by syntheses. And of course, pigskin is used extensively as high quality leather for clothing, shoes, handbags, sporting goods, upholstery...the list goes on and on.

Blood

Sticking Agent
Leather Treating Agents
Plywood Adhesive
Protein Source in Feeds
Fabric Printing & Dyeing

Bones and Skin

Glue
Pigskin Garments, Gloves & Shoes

Dried Bones

Buttons
Bone China

Bone Meal

Mineral Source in Feed
Fertilizer
Porcelain Enamel
Glass
Water Filters

Gall Stones

Ornaments

Hair

84-1

84-1

Progesterone
Relaxin

Pancreas Gland

Insulin
Glucagon
Lipase
Pancreatin
Trypsin

Skin

Porcine Burn Dressings
Gelatin

Stomach

Pepsin
Mucin
Intrinsic Factor

Thyroid Gland

Thyroxin
Calcitonin
Thyroglobin

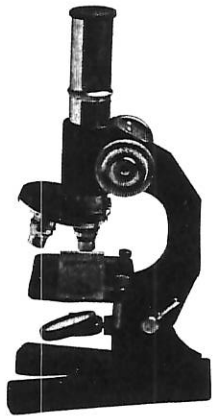
Pineal Gland

Melatonin

Pituitary Gland

ACTH - Adrenocortico-
tropic Hormone
ADH - Antidiuretic
Hormone
Oxytocin
Prolactin
TSH - Thyroid
Stimulating
Hormone

similarity to human skin, is used in treating massive burns in humans, injuries that have removed large areas of skin and in healing persistent skin ulcers.



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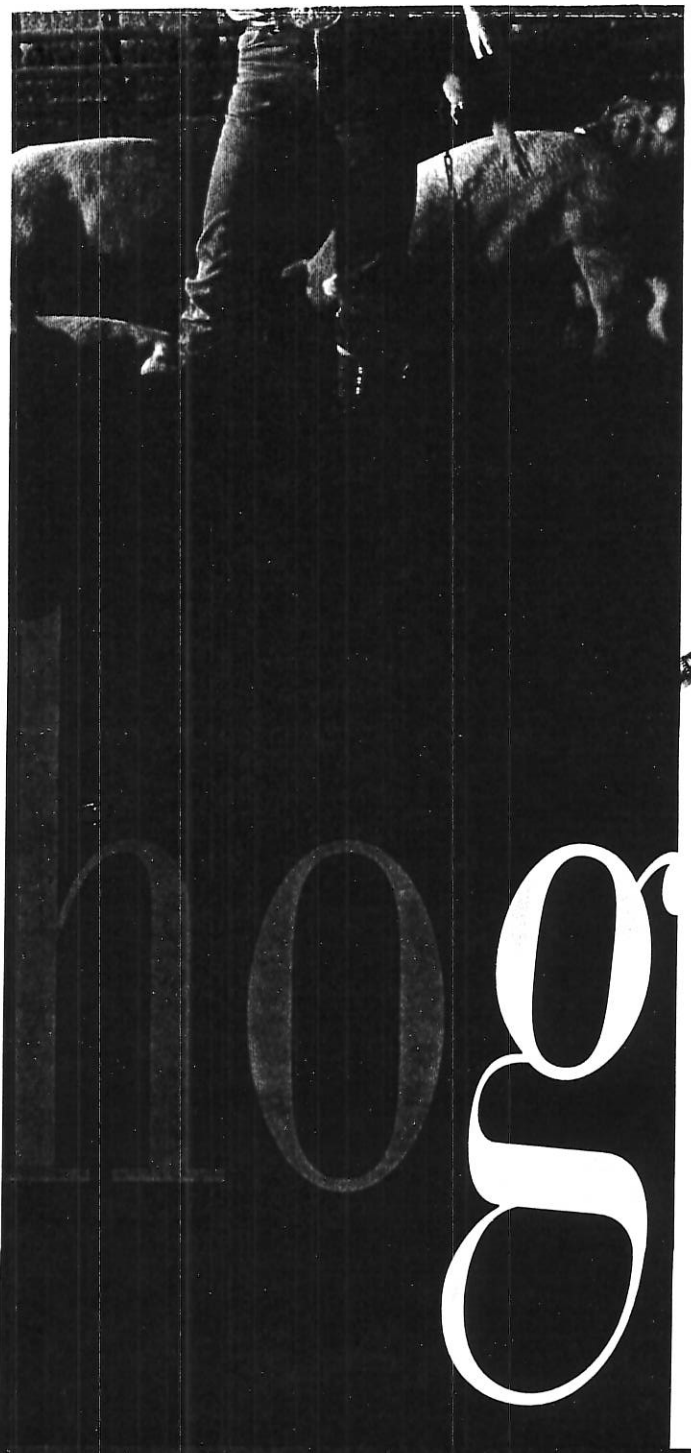
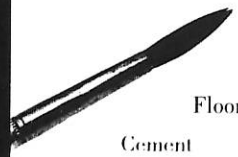


Artists Brushes
Insulation
Upholstery

Fatty Acids & Glycerin

Insecticides
Weed Killers
Lubricants
Oil Polishes
Rubber
Cosmetics
Antifreeze
Nitroglycerine
Plastics



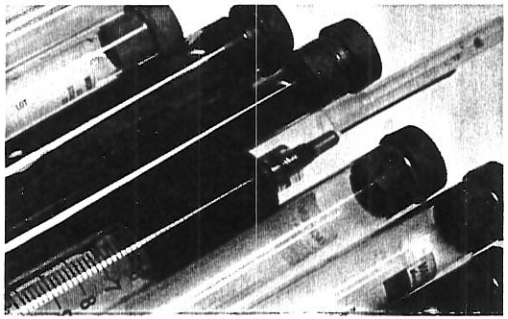
Printing Rollers
Cellophane
Floor Waxes
Cement
Fiber Softeners
Crayons
Chalk
Matches
Putty
Paper Sizing
Insulation
Linoleum

Hogs are powerful medicine: All told, hogs are a source of nearly 40 drugs and pharmaceuticals.

64-1

No other animal provides society with a wider range of products than the hog.

Hogs are the source of high quality animal protein in the form of the widest and most varied range of food products available from any animal.

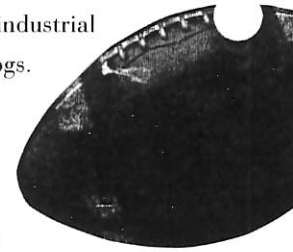


By-products from hogs play a vital though less visible role in maintaining and improving the quality of human life. New and different by-products from hogs are constantly being developed.

- **Insulin from hogs is used in the treatment of diabetes.**
- **Hog heart valves are used to replace damaged or diseased human heart valves.**
- **Skin from hogs is used to treat severe burn victims.**

A viable animal agriculture not only provides an abundant supply of vital nutrients found in meat, but is also a ready source of essential and useful by-products that humanity depends on so extensively.

Shown here are some of the important medical and industrial products we get from hogs.



You can look it up:
Pork is the meat most widely-eaten in the world.

did you know...

How did Wall Street get its name?
Free-roaming hogs were notorious for rampaging through the precious grain fields of colonial New York City farmers. The Manhattan Island residents chose to limit the forays of these riotous hogs by erecting a long, permanent wall on the northern end of what is now Lower Manhattan. A street came to border this wall — aptly enough named, Wall Street.

What is the origin of the saying to "go whole hog"?
The expression came from the 18th Century when the English shilling was at one time called a "hog." Thus, a spendthrift, one willing to spend a whole shilling on the entertainment of a friend in a pub, was willing to "go whole hog."

Where did the saying "living high on the hog" come from?
It originated among army enlisted men who received shoulder and leg cuts while officers received the top loin cuts.

What's the origin of the word "barbecue"?
It's derived from French-speaking pirates, who called this Caribbean pork feast "de barbe et queue," which translates "from beard to tail." In other words, the pig roast reflected the fact that the hog was an eminently versatile animal that could be consumed from head to toe.