Continuous Improvement Equals More Profit

How to Find and Keep Quality Employees

Financial Benchmarking Completes the Story
INTRODUCING BANAMINE®-S ANTI-INFLAMMATORY FOR SWINE

Banamine-S Anti-inflammatory Makes Them Feel Better Fast, So They’ll Be Up and Eating Like Pigs

After one dose and as few as four hours, fever will be reduced by as much as two degrees.* Administer Banamine-S anti-inflammatory intramuscularly in the neck at the first signs of fever.

Now There’s Only One Choice for Controlling Fever in Swine

Banamine-S anti-inflammatory is the only form of flunixin meglumine FDA-approved for reduction of fever in swine; use of generic formulations is no longer permissible for this purpose. See your Schering-Plough Animal Health representative for more information on Banamine-S.


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PigCHAMP is pleased to bring you the inaugural issue of *Benchmark – 2005 Year in Review.*

This magazine contains a wealth of information to help you and your pork enterprise. Most importantly, you'll find a useful synopsis of key swine production trends and analysis. The data in this review represents more than one million sows from operations across North America, with additional data from other countries.

This magazine is provided as a service to the industry, to help pork producers identify the areas in which they are doing well compared to the “average,” as well as where they might have opportunities for improvement. Producers who participate in the PigCHAMP Benchmarking program also receive quarterly updates of how their operation compares to benchmark averages. In addition, PigCHAMP offers more in-depth, customized reports for a small fee, but keep in mind there is no charge to participate in the basic benchmarking program.

We have supplemented the benchmark information with other articles you will find interesting and useful in your operation. We’ve included a number of articles designed to help you take your operation to the next level, from marketing, to financial benchmarking, to human resources.

PigCHAMP would like to extend a special thank you to Dr. John Deen and his team at the University of Minnesota for providing the analysis of the benchmark data. Susan Olson, Benchmarking Manager at PigCHAMP, has worked closely with Dr. Deen to make sure the information in the magazine is as accurate and timely as possible. We also want to thank the industry sponsors who’ve chosen to advertise in this first issue. Your leadership and support is appreciated.

As a proud member of the Farms.com Family of Companies, all of us at PigCHAMP strive to deliver on the mission of the organization, which is to provide:

*Innovative Information Products and Services for the Global Agriculture and Food Industries.*

We believe the data, analysis and articles provided in Benchmark help support this mission. We welcome the opportunity to discuss how we can help you in the future.

Jack Tichy,  
General Manager  
PigCHAMP, Inc.
Merial & PCV2 diseases

at the forefront of emerging pathologies
MARKET OUTLOOK TOP TEN
Here’s what will affect the market in the months to come.

By JoAnn Alumbaugh

While no one has a crystal ball to predict what the hog market will do in the future, a number of factors have proven to be good indicators over the years. These indicators would provide for a soft security blanket and an opportunity for guaranteed profit under normal circumstances. But of course nothing is normal, particularly in this day and age.

Can 3.6 million pigs be wrong? That’s the approximate number of pigs M&F Trading has bought and/or sold during the last three years, which gives Chris Gehl, manager of M&F Trading, and Doug Reisburg, Swine Production Manager at M&F, a certain level of expertise. While they would never call themselves “experts,” their experience gives them a degree of knowledge about market factors. Their “Top Ten List” provides an overview of what producers can expect in the next 12 to 18 months in terms of market indicators.

1. EQUITY POSITION
North American pork producers have had two good years of selling SEWS and feeder pigs, explains Gehl. “A lot of the strength in the prices has been held up by limited supplies and excess finishing barns in the Midwest,” he says. “As a result, producers have more money to work with. With this better equity position and older barns, with little to no fixed costs left in them, comes the ability to finish higher priced feeder pigs. Also, being out from under the microscope of bankers, producers have shown the ability to expand their operations out of cash flow, and we believe it is has been slowed only by the availability of permits, building crews and the pigs to fill the barns over the last year.”

The other factor adding to the excess number of finishing barns is the new trend of crop farmers building hog finishing facilities. Often these producers’ intentions are to enter into a custom feeding arrangement where they can claim back the benefit of the manure as part of their nutrient management plan, notes Gehl.

2. BSE
“A lot of people believe BSE has run its course,” explains Gehl. “The ratio of the number of positive tests to the number of animals tested is incredibly low.

“We’ve haven’t found it in any cattle young enough to be in the food chain,” he emphasizes. “All the positive cases have involved cows that were around well before the restrictions were put in place.”

Chris Hurt, a livestock economist at Purdue University, believes BSE is “a 24-hour news item. Oh, it’s going to affect our export market, but you can’t lose something you’ve already lost – you can’t ‘double lose’ it.

“We’re already doing without it,” Hurt continues. “Will it slow down negotiations with Japan? Who knows. The fact that we shipped a young cow with vertebrae attached probably has more to do with a trade disruption than finding BSE in a 10-year-old cow.”

3. AVIAN FLU AND THE POULTRY INDUSTRY
Avian Influenza is another matter completely, states Gehl. “I don’t think people properly understand the science of it yet. The publicity involves
people dying and the word ‘pandemic’ is frightening. The pandemic issue overshadows everything, as this puts Avian Flu in the public eye and outside the control of most of the pork industry.”

The more likely impact will be economic, if or when there is an Avian Flu outbreak within the North American poultry industry. Gehl says, “With BSE, we saw a change in how people ate, but as the price of beef dropped and there was enough science to convince us it was safe, people began to eat beef with regularity again. The question lies in whether we can expect that same reaction with Avian Flu. If we continue to eat chicken in North America and the export markets to the rest of the world are shut off, we will be stuck with an oversupply of chicken at very low prices. That scenario is never favorable to the pork industry. If the North American people react as the Europeans have and just stop eating chicken out of fear, pork has a better chance to step forward as an alternative.”

4 REGULATIONS
Reisburg says most new construction he’s seen is for finishing units of 2,400 pig spaces, because that holds the barn within a certain set of regulatory guidelines. Above that number, other requirements come into play through state departments of natural resources, and may become a limiting factor in the future.

“We’re seeing a shift, however,” notes Reisburg. “We’re seeing more producers get an engineer do the groundwork, from a structural and regulatory standpoint, so the operation could expand to more pigs.”

Most of the barns have 8-foot pits, he explains, and some of the newer facilities have only half the pit in the ground; the other half is above ground. This is a precautionary measure to keep the pit above the water table so there’s no seepage. It also makes it easier for both pigs and people during the loading process.

5 NUTRIENT RESOURCE MANAGEMENT
What used to be a necessary evil is now a valuable by-product of pork production. “There are people who in the past would never put an ounce of manure on their ground,” notes Reisburg. “Now they’re on waiting lists to get the manure. The economics just played in. We see a number of crop producers put up buildings so they can have the manure, in addition to the equity in the facility. They see finisher buildings as a good investment.

Having a natural source for crop nutrients is going to give these farmers an advantage over the producers who have to buy fertilizer.

“When manure has a $40-60 value per acre, it hedges producers against the cost of energy, so it’s leveraging them against nitrogen and phosphorus – they’re diversifying their energy needs,” asserts Reisburg. “This has become a big factor, and pig producers are being looked upon in a friendly manner by crop producers. Where it was once a nuisance by-product, now it’s an asset.”

6 HEALTH STATUS
Gehl and Reisburg both feel that in the past 6 to 12 months, there have been more health-related challenges with PRRS and Circovirus Type 2 (CRV2). “We believe this is part of the reason for the tight supply, and it continues to be a growing problem,” says Reisburg. Many symptoms appear to be caused by PRRS, and when the general health status of the herd is compromised, it seems to open the door to other problems. “There were several waves of different problems in Eastern Canada, and it seemed to be a chain reaction,” continues Reisburg. “It affects overall costs on these pigs.”

As a result of these health challenges, M&F’s policies of full disclosure and the encouragement of vet-to-vet consultation is essential. It helps protect both buyer and seller from a liability standpoint, and provides the buyer with an opportunity to obtain valuable information on introduction protocol.

“Producers are more cautious than ever, because of the incidence of PRRS and CRV2 in North America,” says Gehl. “That’s where we have an advantage of working with many producers over a period of years – it provides a certain level of confidence.”

7 ECONOMIC FACTORS
“The U.S. dollar has declined 27% against the Canadian dollar since 2002. The U.S. dollar in 2002 was worth $1.57 CDN, in comparison to $1.15 in early 2006,” explains Gehl. “That alone is a big reason why expansion has decelerated in Canada in the last year.” A major variable in the makeup of a Canadian market hog price is the U.S. dollar, as the Canadian market hog price is essentially based off the U.S. market. Simply put, Canadian finishes have seen a 27% decrease in their price of market hogs since 2002 due to an exchange rate favoring the CDN dollar over the U.S. dollar. He believes expansion of the North American breeding herd will take place primarily in the U.S. in the next two years. “However, we have to be careful,” he cautions. “We might already be outpacing sow herd expansion with these new finishing units.”

Gehl believes most production increases in Canada will come from better genetics, not from more sows. “It will come from increased efficiencies, because current economic realities (exchange rate and higher feed costs) will keep Canadian pork producers from building to the same extent as U.S. producers.”

While the Canadian industry won’t be building units in Canada, Canadian producers will be forming relationships with U.S. producers, believes Reisburg. “The new dynamic we see is retained ownership by Canadians who feed out pigs in the U.S. and get better prices for their market hogs. There are better revenue opportunities to sell market hogs in the Midwest than in Canada because there are more packers – Canada has limited packing capability,” he notes.

“If this trend continues,” comments Gehl, “we believe Canada will continue to increase the volume of pork it imports from the U.S., which in turn is to the advantage of the U.S. pork industry.”

8 FUTURE FARM PROGRAMS
“Ask the economists,” quips Gehl. He wonders whether or not the U.S. farm bill can continue at the level it is today.

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MARKETING IS NOT ONLY A KEY COMPONENT TO YOUR BUSINESS – IT IS AN INTEGRAL FACTOR IN MANAGING RISK. WHEN YOU CONSIDER RISK, IT’S IMPORTANT TO LOOK AT IT FROM A BUSINESS PERSPECTIVE. FIRST, WHAT IS THE ISSUE? NEXT, WHAT IS THE PROBLEM OR OPPORTUNITY?

IDENTIFY THE KEY FACTORS THAT INFLUENCE THE ISSUE TO HELP YOU WEIGH EACH OF THE ALTERNATIVES. THEN DO AN INDUSTRY ANALYSIS, WHICH LEADS INTO ALTERNATIVES FOR ADDRESSING THE ISSUE. IDENTIFY POTENTIAL SOLUTIONS THAT ARE AVAILABLE NOW, AND POTENTIAL SOLUTIONS. THEN, PUT THESE SOLUTIONS ON A DECISION GRID.

Consider a basic marketing plan that recognizes the options you have and the seasonal behavior of the industry. Unless you have special-trait pigs, you are basically selling a commodity, and transportation limits the range of buyers to whom you can sell.

IT’S A CYCLICAL MARKET

In the pork industry, prices go through considerable fluctuation. Over the last 5-7 years, when we have cyclical down swings and seasonal changes during the year, we have big price swings. When we have a price swing to the low side, we have a loss-making situation. We don’t like this volatility and sometimes the whole industry bleeds.

Historically, the primary factor affecting this fluctuation is supply. We have more pigs in the spring and summer. When prices are good, we have expansion. Then, inevitably, we have the downside of the cycle.

A NEW PLAYER: DEMAND

Something new has been evident in the last couple years: a demand side factor, mostly due to strong exports. When we look at per capita consumption in the United States during this period, there was no increase in consumption. The U.S. Census tells us that we ate (or used) less pork per person during each of the prior two years.

However, exports of pork last year were up to a new record high, particularly to southeast Asia and Japan, but also to Mexico and Canada. Avian influenza and BSE had significant impacts on the protein market, and suddenly, the main meat being consumed by our export clients was pork. A weak dollar also contributed to overseas purchasing of meat. We had a captive market in that part of the world for pork.

Even though we had record production of pork last year, the change in demand created strong market prices.

SO, WHY WORRY?

Does this mean we should no longer think about price risk? The answer is no, eventually beef trade will normalize, though to what degree is unsure. The biggest threat is the “normal” (or usual) expansion in supply that we are used to seeing when prices have been profitable this long.

Challenges to expansion exist. Building costs are probably as expensive as they have ever been. Also, the resistance to new construction and placement of hogs for “environmental” reasons is high. Nevertheless, where there is a will, a way will be found. Where there is a lot of cash, a way will be found more quickly – and the hog industry has a lot of cash right now.

Most will agree there is a powerful incentive to build finishing barns for the purpose of using the manure side product. If finishing barns are built, it begs the question: Where will the early wean (or feeder) pigs come from without expansion?

As of the December 2005 Hogs and Pigs Report, the USDA assures us that no expansion in the breeding herd has taken place. One has to wonder if human nature has changed; in other words, have more profits from the hog business not begat hunger for even MORE business?

The issue of price risk remains.

ADDRESSING PRICE RISK

In the past, people addressed price risk in several ways. Since the late 1990s, risk management has been through some kind of packer contract. These include:

1. Ledger contracts: The packer assures a minimum price, but if cash prices go below the floor, an account is set up by the packer, so producers owe back money. For example, let’s say I should have paid you $70, but instead I paid you $100. This maintains a minimum payment to producers. It’s a cash-flow arrangement that does not assure a hard price. This is not proper price-risk management – it is just cash flow management.

2. Forward contract: A producer can lock in the price at which he’s going to deliver to the packer in the future. The first type is a fixed basis contract, where the futures are adjusted to a hard number. Pigs are delivered, and that’s the price you’re going to get. The other is a basis-open contract – future price is used to lock in the price of the pigs, but on the day the pigs are delivered, the actual price is compared to the futures price.
3. Hedge pigs by shorting the futures yourself. This is the same as an open-basis contract but you do it yourself.

**A NEW TOOL**

Now there is another way to manage risk, through livestock revenue protection, currently being managed by the Risk Management Agency of USDA. Producers can put a minimum price on pigs as an insurance program. Another one is much more of a margin tool that goes beyond just the hog’s market price. With the first, you choose your level of coverage on any given day. Then, there’s a premium and it ends up being similar to a put option strategy that defends a minimum price. This tool was used in a pilot project in Iowa three years ago, and it was made available to all producers in 2004.

There are other, more complicated packer contracts being offered today. For instance, one contract is the meat value less a discount (meat prices do not go up and down as much as pig prices). There is also a minimum price on a matrix program that offers a minimum price with no ledger, but these are very specific and aren’t available to everyone.

**DEVELOP AN ACTION PLAN**

After identifying the issue and the available tools to address the issue, evaluate your cost of production. While the market generally doesn’t care about the cost of production when prices are set, it’s important for you to know what price you need in order to make money. Otherwise, you’re just stabbing at a price.

On the cost side, buy feed at prices that you know are below average, since feed is your biggest input. Over the last few months, we’ve seen favorable corn and meal prices that could be locked in. Plan your feed buying seasonally so you can buy low.

If your operation is continuous flow, treat every load of pigs separately. Selling pigs into a seasonal high (May, June, July) you can expect to get much better prices than if you sell pigs in November and December.

Begin to think about pre-pricing your pigs. As of publication, you should have a price in mind for the pigs you’re going to sell in July, August, December and January of next year. Given the inputs you know (your costs), if prices are hit at the end of your marketing year, you can project your estimated profit.

The idea is to have a plan that takes you to a profit destination. When the market is throwing all these prices at you, and some are well above your target price, you can begin to book ahead and protect yourself.

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**Benchmark**

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CONTINUOUS IMPROVEMENT = MORE PROFIT
Benchmarking helps producers keep an eye on the prize.

By JoAnn Alumbaugh

In the business world, it’s about profit and building relationships for long-term value. Without these basics, you can’t stay in business. So when you talk about a 2.5% yearly productivity increase, it can make a huge difference.

If you started with 21 pigs weaned per mated female per year five years ago, you would now be at 23.5, says Dr. Joe Connor at Carthage Veterinary Service, Ltd. in Carthage, Illinois. “We look at the mean or the average of the benchmark data set that improves every year over five years. The top herds haven’t moved up at the same percentage, as the incremental change is less, which is what you’d expect. On the other hand, the bottom herds have improved faster than that.”

Connor explains that the number of pigs weaned per sow per year provides a good example of the economics of pork production. “An increase in one pig per sow per year will lower cost per weaned pig by $1.00,” he says.

Let’s say you have a 2,400-sow operation and your cost is $30 per pig. “If you’re putting out 2,400 more pigs, that’s an additional $72,000,” emphasizes Connor. “These marginal return dollars and your costs basically stay the same.”

WHY BENCHMARKING IS IMPORTANT
Benchmarking has been part of the management strategy at Carthage Veterinary Service, Ltd. in Carthage, Illinois, for a long time.

“We’ve always felt that benchmarking was a key motivator for producers to want to make change. It’s a way to show them where they rank today and what is possible if changes are made,” says Connor, one of six veterinarians at the clinic. This swine-specific clinic is known well in pork industry circles, with PigCHAMP records on 70,000 sows from herds ranging in size from 50 to 6,500 sows.

Connor works closely with Barb Roskamp and Jeanette Moon, who make up the PigCHAMP department at Carthage. They are responsible for data entry, record keeping and report compilation. Reports are used as a management tool on all farms, serving as an aid to the veterinarians during herd visits.

“For all the herds, we compile an annual production summary comparing their herd to herds in the database for benchmarking. Then we compare their own production of the most recent year to all their previous available years,” notes Connor. “Benchmarking allows us to show customers that goals are realistic, and that even the top herds can make production improvements. We also show them the changes in benchmarking year-on-year, so customers can see how both the mean and the upper 10th percentile continue to move forward.”

STANDARD OPERATING PROCEDURE
Carthage Veterinary Service, Ltd. collects information on a number of performance indicators, including total born/litter, live born/litter, stillborn/litter, mummies/litter, pigs weaned/litter, preweaning mortality, serve-adjusted farrowing rate, pigs weaned/mated female, culling percentage, sow death loss and percent repeat services.

“We have a goal of 30 pigs per sow per year by 2010 and we believe we will be able to attain that.”
Dr. Joe Connor, Carthage Veterinary Service, Ltd.
The clinic does yearly benchmarking reports on the entire database as well as quarterly reports on subsets of farms, which includes farms within a given operation.

“After we gather the information, we break it out so we have the benchmark parameters based on the mean and the upper and lower 10th percentiles,” explains Connor. “We use that same protocol within the subset of the herds from the larger database.”

Reports are compiled by the staff at Carthage Veterinary Service, Ltd., and are then compared to those from the previous year.

“We provide the information to farm managers by e-mail or hard copy, then we give it to the production manager and to the herd veterinarian, to discuss with them during their next visit.”

WHAT TO LOOK FOR

Connor and the other veterinarians in the clinic look for several red flags. This includes a quarter-to-quarter decline in any parameters where they expected to see improvement. They also look for a downward trend in five consecutive quarters of any parameter.

“We sit down with our producers and go through these benchmark figures,” says Connors. “Based on what we see, we make recommendations that are consistent to what we have done for the previous quarter, but also use it as a reinforcement that the production goals are attainable. We also use these reports to point out the reasons why we haven’t been able to attain the benchmarks we had previously set.”

Carthage Veterinary Service, Ltd. has made a consistent and concerted effort to do a very detailed protocol in developing gilts, particularly in areas of health, space, vaccination regimens and diets. The impact of these gilt development changes on first litter productivity and lifetime productivity is evident through benchmarking.

“You can clearly see those improvements as they have come through the herds,” asserts Connor. “Because these herds have followed procedures in the manner that science has told us it should be done, we have been able to show other herds this is the improvement you can expect if you make these changes.”

COST PER WEANED PIG

The majority of the herds that Carthage Veterinary Service, Ltd. works with keep good financial records. Farms are typically divided into farrow-to-wean and wean-to-finish populations. “With production factors like pigs born alive and pigs weaned per sow, it’s easy to see the impact of those changes on the cost per weaned pig,” states Connor. “Another example is in pre-weaning mortality – where we have implemented training, we are able to show the impact through a lower cost per weaned pig.”

As stated above, Carthage Veterinary Service, Ltd. expects about a 2.5% yearly productivity increase for the herds with which they work, and the clinic has seen this kind of improvement.

“However, the precaution would be to understand the database behind the benchmarking and what differences each person’s individual herd would have from the larger database,” points out Connor. “Factors such as genetics and age of the sow herd are good examples. Producers must understand the differences and then use benchmarking to set attainable goals for the individual herd.”

Another point to keep in mind is the rapid change the pork industry has experienced during the last five years.

Connor says one of the reasons the mean has moved up so rapidly is that a lot of the less productive herds are no longer part of the industry. He believes one of the key drivers over this time period has been the emphasis on maternal traits and the incorporation of highly prolific genetic lines.

NEW FACTORS TO CONSIDER

Connor says some of their producers have asked to look at percentage of pigs weaned per total born, and in recent years Carthage Veterinary Service, Ltd. has put more emphasis on pigs weaned per lifetime female. “In the first benchmark, the pigs weaned per total born says something about pig quality at birth, including weights and viability as well as the traditional indicators of survivability and stillborns. We are trying to capture a little bit broader parameter.

“Pigs weaned per lifetime female is the economic driver,” he continues, “Having a female in the herd longer lowers costs very dramatically.”

Health challenges are always present, and new diseases seem to arise. “We still have ongoing challenges to PRRS. Depending on the strain, it has a dramatic affect through six months of reproduction and finishing,” says Connor. “Until we make a broader effort to eliminate the virus from geographic areas, we are going to continue to see flare-ups, especially in the winter months.”

That is where benchmarking helps, the veterinarian notes. If a farm was in the upper 25% before a health outbreak, Carthage Veterinary Service, Ltd. can use the benchmark from the previous quarters to help producers get through a health episode.

“It offers encouragement to the producer,” he says thoughtfully.

A GROWING TREND

Connor says he is “certainly seeing more of our producers want to benchmark. Everyone is trying to set goals.”

A number of clients use PigCHAMP’s Instant Data System handheld computers for data entry, which helps them keep accurate records more quickly and easily. This paves the way for them to benchmark. The clinic began using the IDS handhelds in January 2004, and now, about 20 herds are using IDS.

Contests among the clinic’s producers seem to provide some added incentive for benchmarking as well. Awards are given for the top herds in pigs per mated female at the annual swine conference that Carthage Veterinary Service, Ltd. holds every August.

“We have an objective of 30 pigs per sow per year by 2010,” says Connor. “We believe we will be able to attain that, so our producers will have to keep benchmarking. That’s pretty aggressive, but we feel it’s attainable. Our top herds will be at 27 to 28 pigs per sow per year, so they will have to increase 0.5-0.6 pig per sow per year to hit that.”

Tools like benchmarking, along with good management and expert advice, will eliminate some of the guesswork as Carthage Veterinary Service’s producers strive to attain that goal.
with the existing economic situation. Furthermore, ethanol and other energy projects will demand higher amounts of grain. "It's such a gold mine now with the tax benefits and the U.S. government's push for more renewable fuel," he points out.

9 NORTH AMERICAN TRADE
There is no duty on swine or pork right now, but the Canadian corn growers have brought a corn duty against the U.S. "This has affected the economics of finishing pigs in Canada," notes Gehl. "It's another reason why Canadian pork producers want to finish pigs in the U.S.

"Canadian corn production isn't enough to supply all the demand and the duty is expected to increase domestic markets for corn," he continues. "If this continues for any length of time, it will artificially inflate the price of corn, and that will increase the cost of producing market hogs in Canada.

"The message is, Canadian producers are taking the pigs to the cheaper corn in the Midwest, however the overall revenue opportunity is still seen as the biggest gain to finishing pigs in the U.S., and that is primarily due to the higher competition for packing and processing," explains Gehl.

10 MANAGEMENT IS KEY
Some of the newer players in the pork industry don't have a deep background in pork production, and don't have the contacts for pigs. For these reasons, M&F Trading expanded into swine production management in January 2006. The business is expected to manage 25,000 to 30,000 finishing spaces before the end of the year.

Crop farmers want to concentrate on the crop side. They view a finishing barn as a viable asset, but their level of risk seems to stop with building the barn and building equity for the next 3-5 years by custom-feeding pigs for someone else. That seemed to be the overwhelming theme at the Iowa Pork Congress this year. Then, they'll think about owning some pigs on their own.

"For 18 months leading up to starting the management service, we'd had various inquiries from people we typically bought and sold pigs for," says Reisburg, Swine Production Manager. "We found ourselves introducing these customers to producers and organizations in the Midwest, and Steve Mohr, located in Glidden, Iowa, was being used as a reference for some of our better customers. The one thing these people seemed to be lacking was someone on the ground in the Midwest, like an employee.

"They weren't finishing enough pigs to hire someone on their own, so we at M&F offered them the opportunity to have someone who worked for them on a consulting basis. It's a definite win-win," he notes.

"Our core business has always been buying and selling these pigs, but retained ownership in the Midwest is becoming a viable option for our current and future customers. That is the purpose for getting involved in the swine management business," says Reisburg.

Do the positive market factors outweigh the negative indicators? According to Gehl and Reisburg, the answer is yes, if the demand for pork and the number of new hog buildings are any indication. ■

continued from page 7

WHAT ABOUT HIGH CASH MARKETS
Sometimes we experience high cash prices, and at these times producers feel the urge to stick with cash prices. Even if you have a very optimistic perspective of the next year, having gone through your cost of production, you still have considerable profit.

You may want to use downside insurance like Livestock Revenue Protection, just in case something surprising happens over the next several months.

By the time you read this, if you haven't already done so, you should seriously be looking at opportunities. At the very least, you should be putting some downside price protection for the fall and winter of 2006 and certainly for 2007.

SUCCESS EQUALS PROFIT
This process may sound complicated, but it can be reduced to one simple concept. Your success depends on this simple idea:

\[ R \text{ (revenue)} - C \text{ (cost)} = P \text{ (profits)} \]

Revenue, minus cost, equals your profit. By knowing your costs, you can determine at any time what your profit will be on any load of hogs.

Secondly, have a target. That doesn't necessarily mean that you'll hit it, but unless you have price targets and are watching for them, good prices will come and you most likely won't "see" them or do anything with them. If you don't have targets and a plan, you are more likely to get caught up in the hype and excitement of the market and do little to no marketing.

As the market throws prices at us, we can quickly do the work and determine where the revenues at current prices will provide a profit.

Once your targets are in place, it is essential to be disciplined. Don't waste time trying to get the highest price of the year – leave that thinking to the speculators.

MAXIMIZE REVENUE
There are different ways of looking at revenue. Consider using services that can help you look at your costs within the system, and then help you set price targets to know where your profit is for any particular load. These services will pay for themselves very quickly so they are extremely worthwhile.

The top 25% of producers will be the best, not because of their production practices, but mostly because of how they market their pigs, long term. You can be the best producer in the industry, but if you're getting inferior prices over the long run, financial success will be impossible. ■
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BENCHMARKING
What it means and how to use it.

Yearly benchmarks serve as “state-of-the-industry” reports that provide both motivation for change and recognition for how far the industry has come. The PigCHAMP annual year-end benchmark, for example, reports average production values as well as the upper and lower 10th percentile values for participating sow farms.

But what does it all mean? For pork producers, the annual PigCHAMP benchmark data and analysis offer points for herd comparisons. In many ways, the annual benchmarks are like new technology—their value lies less in the possession and more in the implementation. And that leads into benchmarking—the active use of benchmarks to improve productivity.

Looking at relationships within the sow productivity data provides an opportunity for “ecological” benchmarking – large-scale exploration of factors associated with more and less productive operations. However, ecologic benchmarking has several challenges, beginning with ecologic fallacy. The ecologic fallacy is that relationships observed at the level of the group are not necessarily true at the level of the individual (farm). In other words, it is not hard to find an exception to the “rule.” Further complicating the issue with farm-level summaries is that average production values represent averages across all farms and do not take into account differences such as herd size, health or genetic stock.

It is possible that the annual PigCHAMP benchmarks are a biased representation of the industry, since herds that use paper or other record-keeping systems are not considered. This could also mean that information from herds with poorly kept records or that have poor performance is excluded from consideration. Farm-level bonus systems may lead to manipulation of certain performance parameters in generated reports and cause misrepresentation of actual performance. Incomplete event recording can cause disparities between actual and paper performance, and differences in event recording practices between farms can limit comparison of some measures.

Despite their limitations, however, annual industry benchmarks continue to shape both producer and customer expectations. Seedstock suppliers are expected to offer both prolific and efficient animal lines. Nursery managers, recognizing the risks associated with lightweight piglets, have increased weight standards for acceptable animals. This, in turn, has led to longer optimal lactation length at the sow unit.

Although the content of quarterly and year-end benchmarks may be limited at this point, they provide relevant information. Current benchmarks serve to set expectations. As with other technologies, the value of the benchmarks lies within the implementation of benchmarking and the steps taken toward herd improvement as a result of the findings.

THE RESULTS ARE ONLY AS GOOD AS THE DATA.

The first step in creating benchmarks is the establishment of a database that includes the records of the farms that share in the benchmarking project. To allow comparison, farms with stable herds that have reported production throughout the calendar year are included.

To benchmark breeding herd performance, farms to be included for analysis are selected. This is a two-stage selection process, based on completeness of the data for the benchmarking period (quarter or year) and stability of the sow inventory. After creating farms in PigCHAMP, the units are set to U.S. dollars and pounds. Then the index file is rebuilt and the incomplete sow/boar records are resolved or removed.

A detailed performance monitor report is run and only those farms with complete data for the entire period are considered for benchmarking. This is followed by generation of a data integrity report for each of the farms selected. The last day of the report is the last day of the benchmarking period in both the performance monitor and data integrity reports. The value of the percentage change in inventory for the final year is checked to determine the eligibility of the farm to be included for benchmarking. If the percentage change in inventory is more than 40%, the farm is excluded.

These criteria are essential to ensure the quality of benchmarking. Inclusion of farms with incomplete data may adversely affect the ability to generalize the benchmarks for one or more variables. Similarly, farms with excessively unstable female inventories may be indicative of rapid expansion or termination of operations. These variables can have extreme values that may not represent the production performance or sustainable achievement of the herd.

Of course, other measures should be considered in validity, including biologic consistency. Many of these validity steps are included within PigCHAMP and PigCHAMP Care during data entry. Together, they create the opportunity to increase the confidence and repeatability of reported productivity levels in participating farms.
The 2005 PigCHAMP year-end summaries are filled with interesting numbers that serve to describe the “state” of the U.S. industry. Many herds will compare their numbers to the summary to try to determine where they fall with respect to the competition. But this opens the door to the question, who is “the competition?”

It is difficult to define a “typical” sow herd. Size differs. Ownership differs. Herd objectives differ. Some are contracted to sell weaned piglets while others produce piglets to be finished within their own facilities or flow into a multi-sourced system. Many are commercial herds; others are in the business of genetic multiplication. Some purchase their replacements; others produce their own. Some herds experience significant disease challenges; others are relatively healthy.

So what does this mean for benchmarking? Is there an opportunity to find similar herds with a general industry benchmark? By its very nature, the annual year-end summary describes sow herds that share a common record-keeping system, but it is beyond the scope of the Benchmark program to define participating herds on the basis of weaned destination, health or genetic programs. It is, however, possible to consider herds with respect to size.

Starting with the 2004 PigCHAMP Benchmark information, average production data was compiled by size cohort. The purpose of the cohort summary is to provide herds another “benchmark” that describes herds with similar characteristics. The size cohort summary for the 2005 year-end summary is shown to the right. Size cohorts were determined by average female inventory over the year.

The summary presents an interesting picture of the average herd within each cohort. Of course, there are always herds above average, just as there are always herds on the opposite end. As well, the detail with which herds record events varies. Nevertheless, these “average herds” paint an interesting picture about the competition. Some observations include:

- The average percent multiple matings is 14-15% less among the small herds compared with mid-sized and large herds.
- Average farrowing rate increases with average herd size.
- Average farrowing interval is greatest among small herds, as are wean-to-first service intervals, average age at weaning and average non-productive sow days.
- Average total born and born alive per litter are similar among small and mid-sized herds and greatest for large herds.
- Average pre-weaning mortality is least among mid-sized herds and greatest for large herds.
- Average pigs weaned per sow increases with increasing herd size cohort, as does average pigs weaned per mated female per year.
- Average culling and death rates are least among small herds and greatest among large herds.

While conclusions drawn from the averages of yearly data are of limited value, it is interesting to note that the greatest production “advantage” among large herds lies within farrowing rate and the overall ability to attain productive sow days once an animal is bred. The similarity among size cohort averages for percent of litters with less than seven pigs born live, and average pigs born alive per litter, suggests that productivity potential is not limited by herd size.

<table>
<thead>
<tr>
<th>Measurement</th>
<th>&lt;500</th>
<th>500-1499</th>
<th>&gt;1499</th>
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<tr>
<td>Average parity</td>
<td>2.7</td>
<td>2.7</td>
<td>2.6</td>
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<tr>
<td>Percent multiple matings</td>
<td>76.8</td>
<td>90.9</td>
<td>91.4</td>
</tr>
<tr>
<td>Percent repeat services</td>
<td>14.8</td>
<td>12.4</td>
<td>10.5</td>
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<tr>
<td>Ave non-productive sow days</td>
<td>75.1</td>
<td>63.3</td>
<td>61</td>
</tr>
<tr>
<td>Ave NPD / parity record</td>
<td>29.5</td>
<td>23.4</td>
<td>22.3</td>
</tr>
<tr>
<td>Ave parity of culled sows</td>
<td>4.3</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td>Ave parity of farrowed sows</td>
<td>3.6</td>
<td>3.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Average age at weaning</td>
<td>19.6</td>
<td>18.1</td>
<td>18.2</td>
</tr>
<tr>
<td>Average female inventory</td>
<td>316</td>
<td>955.9</td>
<td>2828.8</td>
</tr>
<tr>
<td>Average gestation length</td>
<td>115.3</td>
<td>115.2</td>
<td>115.3</td>
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<tr>
<td>Average gilt pool inventory</td>
<td>14.2</td>
<td>41.6</td>
<td>157.6</td>
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<tr>
<td>Average mummies per litter</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
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<tr>
<td>Average pigs born alive/litter</td>
<td>10.5</td>
<td>10.4</td>
<td>10.7</td>
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<tr>
<td>Average stillborn pigs</td>
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<td>0.9</td>
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<tr>
<td>Average total pigs per litter</td>
<td>11.6</td>
<td>11.6</td>
<td>11.9</td>
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<tr>
<td>Culling rate</td>
<td>41.4</td>
<td>45.3</td>
<td>46</td>
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<tr>
<td>Death rate</td>
<td>7.5</td>
<td>8</td>
<td>9.5</td>
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<tr>
<td>Entry - 1st service interval</td>
<td>29.1</td>
<td>27.8</td>
<td>36.1</td>
</tr>
<tr>
<td>Farrowing interval</td>
<td>152</td>
<td>145.4</td>
<td>144.3</td>
</tr>
<tr>
<td>Farrowing rate</td>
<td>75</td>
<td>79</td>
<td>81.8</td>
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<tr>
<td>Litters / female / year</td>
<td>2.2</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Litters / mated female / year</td>
<td>2.3</td>
<td>2.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Old lits / mated female / year</td>
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<td>2.3</td>
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<tr>
<td>Old pigs wld / inv. female / y</td>
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<td>20.6</td>
<td>20.9</td>
</tr>
<tr>
<td>Percent &lt; 7 born live</td>
<td>11.4</td>
<td>11.6</td>
<td>10.8</td>
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<tr>
<td>Percent sows bred by 7 days</td>
<td>85.1</td>
<td>86</td>
<td>85.6</td>
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<tr>
<td>Pigs weaned / lifetime female</td>
<td>36.9</td>
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<tr>
<td>Pigs weaned per litter weaned</td>
<td>9.2</td>
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<td>9.3</td>
</tr>
<tr>
<td>Pigs weaned per sow</td>
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<td>9.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Pigs wld / female / year</td>
<td>19.5</td>
<td>20.8</td>
<td>21.3</td>
</tr>
<tr>
<td>Pigs wld / mated female / yr</td>
<td>20.4</td>
<td>21.8</td>
<td>22.5</td>
</tr>
<tr>
<td>PWM for farrowed and weaned</td>
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<td>12.1</td>
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<tr>
<td>Replacement rate</td>
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<td>55.4</td>
<td>56.5</td>
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<tr>
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<td>2700.9</td>
<td>7757.4</td>
</tr>
<tr>
<td>Weaning - 1st service interval</td>
<td>8.2</td>
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<td>6.7</td>
</tr>
<tr>
<td>Number of farms</td>
<td>55</td>
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<td>148</td>
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One of the most striking aspects of performance reported by the PigCHAMP benchmarking program is the large range of performance seen between farms. Not only is there often a lower average performance than we would like to see, there is also a large range of performance, which raises a red flag.

Figure 1 shows one such range for farrowing rates. These reported farrowing rates are annual rates across the farms in the PigCHAMP benchmarking project. These farms cover a range of production types and locales, but we should look more closely at explanations for the wide range of performance. If farms are in the lower end of the distribution, producers should be optimistic about real opportunities for improvement in this area. We often term this as “capability.” In other words, if there is a wide range of performance and a farm is at the lower end of that range, it should be capable of making improvements quite easily. If the farm is at the upper end, it is less capable of change.

Note that the distribution is in a skewed pattern. The distribution tails off towards the lower left and would suggest there are extra factors at play in the lower end of production. We should view this as an opportunity for improvement.

Figure 2 shows a more bell-shaped distribution of performance. We do not see the long tail on litter size as we do in farrowing rate. It suggests less factors are at play, and capabilities for change may be harder to find. Also, the range is smaller than for farrowing rate, but the effect on pigs per sow per year is more direct and may have a larger effect than farrowing rate.

Various studies on litter size indicate that it is difficult to implement interventions, other than genotype and lactational management. Conversely, the opportunities for improvement in farrowing rate seem to be very large. There are a number of different factors in play, including the skill of stockmanship, the application of good estrus detection and the management of sows during lactation.

As we analyze the variation of these two factors in more detail, we find the capabilities to change seem to differ for each factor. For litter size, the consistency of litter size within the herd over time is much more important than the consistency of farrowing rate within a herd. In other words, what you see within a farm is much more variation in farrowing rate than in litter size. Litter size shows up as more of a problem between farms, suggesting there is a stable factor, such as gilt-rearing methods or genotype, driving litter size. On the other hand, we continue see a wide range in farrowing rate performance even within the same genotype and gilt development unit.
IMPROVING NUMBER OF SOWS BRED BY SEVEN DAYS

The data shows lots of variation, both seasonally and between farms.

There are several different ways of looking at sow performance. One useful measure is the proportion of sows bred by seven days. Figure 1 shows the average performance across herds in the 2005 PigCHAMP benchmarking database of the proportion of sows that are unbred seven days after weaning. This was measured on a weekly basis and illustrates the seasonality of this performance indicator. This characteristic of the North American swine herd can be seen year after year. It may be more of a problem than we realize as it exhibits the problem in managing the inventory on the farm. There is approximately a 60% increase in the proportion of animals that remain unbred.

The cut off of seven days is not by chance. A number of different reports suggest that sows bred after seven days, particularly shortly after seven days, are less likely to perform well. In addition, there is often a problem of logistics on the farm. Capacities for open females are often limited and this 60% increase in sows open after seven days may create a challenge to some farms.

When we looked at seasonal infertility, and how it relates to the increased number of sows that are not bred after seven days, the effects are twofold. The first is the obvious one, that there are more of these sows. The second one is less obvious but is as much of a problem. The sows that are bred after seven days are less likely to maintain pregnancy. In our analyses, the likelihood of pregnancy maintenance goes down by approximately 11% during the summer.

The wide levels of variation between farms is certainly a concern. Some farms have very little increase in the number of sows not bred after seven days during the summer months. Other farms see a doubling of this rate during the peak summer months, reaching, in some cases, 25% of the sows during the peak weeks. This suggests an opportunity to reduce this rate, since some farms are doing much better in this area than others.

Not only is this a problem in and of itself, it also signals an overall challenge in reproductive efficiency and seasonal infertility. Producers should realize this particular performance indicator is one of the best early warning signals of problems in the herd. As can be seen in Figure 1, the increase starts in May and peaks in August and September. It is a much more contemporary signal than farrowing rate.

Seasonal infertility, or the lack of it, really characterizes the successful reproductive herds. Maintaining a high level of performance during times of environmental challenge defines what many industrial design people call a “robust production system.”

How do you get to that robust level? Here are a few observations:

- Feed intake during lactation is a central concern during the summer. Moreover, feed intake problems are not necessarily a problem of average feed intake, but rather the proportion of sows that go off feed. Keeping sows on feed and maintaining sow health and comfort is exceptionally rewarding during the summer.
- Feed intake after weaning and before breeding is also particularly important during periods of seasonal infertility. Feeding multiple times or using ad lib feeders should be considered. Feed intake can be increased by good cooling methods and by minimizing fighting.
- Estrus detection is more difficult during the summer months as a sow’s behavior is inhibited by heat. Maintaining and expanding a skilled estrus detection program during the summer should be emphasized.
- Marginal sows are more likely to be maintained in the herd during the summer months to meet breeding targets. Keep in mind that these additional sows that might normally be culled are more likely to perform poorly.
- Watch the differences in performance between parities. If first-parity sows are particularly susceptible to this problem, look at reducing litter size for the sows.

Finally, look at your overall herd performance. If you work to minimize these problems in the winter, it’s likely your efforts will show a positive impact in the summer months. Rearing habits are difficult to change, and the best intervention may be to improve the overall emphasis on the factors listed above. It can be argued that it is actually more difficult to maintain the same level of stockmanship during the summer due to personnel factors, such as employee turnover, vacation and the effect of temperatures upon employee behavior.
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### PigCHAMP variables used

<table>
<thead>
<tr>
<th>Variable</th>
<th>CORN BELT (N=334)</th>
<th>EAST (N=100)</th>
<th>WEST (N=41)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent repeat services</td>
<td>11.66 ± 5.427</td>
<td>10.80 ± 6.10</td>
<td>13.60 ± 5.271</td>
</tr>
<tr>
<td>Total number of services</td>
<td>5052.01 ± 4460.167</td>
<td>3891.00 ± 9240.00</td>
<td>1123.00 ± 2244.81</td>
</tr>
<tr>
<td>Number of sows farrowed</td>
<td>4106.61 ± 3650.001</td>
<td>3154.50 ± 7999.00</td>
<td>911.00 ± 1778.57</td>
</tr>
<tr>
<td>Farrowing rate</td>
<td>78.96 ± 10.048</td>
<td>80.75 ± 71.20</td>
<td>78.71 ± 9.009</td>
</tr>
<tr>
<td>Average total pigs per litter</td>
<td>11.78 ± 0.703</td>
<td>11.80 ± 12.60</td>
<td>10.90 ± 12.23</td>
</tr>
<tr>
<td>Average pigs born alive/litter</td>
<td>10.52 ± 0.854</td>
<td>10.60 ± 11.30</td>
<td>9.70 ± 10.97</td>
</tr>
<tr>
<td>Litters/fem/yr * ave pigs born alive per litter</td>
<td>23.55 ± 3.218</td>
<td>23.88 ± 21.24</td>
<td>3.296 ± 24.46</td>
</tr>
<tr>
<td>Average stillborn pigs</td>
<td>0.93 ± 0.258</td>
<td>0.90 ± 1.30</td>
<td>0.60 ± 0.85</td>
</tr>
<tr>
<td>Average mummies per litter</td>
<td>0.26 ± 0.152</td>
<td>0.20 ± 0.40</td>
<td>0.10 ± 0.19</td>
</tr>
<tr>
<td>Pigs weaned per litter weaned</td>
<td>9.11 ± 0.914</td>
<td>9.20 ± 9.80</td>
<td>8.40 ± 9.63</td>
</tr>
<tr>
<td>Pre-weaning mortality</td>
<td>12.27 ± 3.828</td>
<td>11.90 ± 17.10</td>
<td>8.32 ± 11.96</td>
</tr>
<tr>
<td>Average age at weaning</td>
<td>18.28 ± 2.234</td>
<td>18.25 ± 20.40</td>
<td>16.40 ± 18.76</td>
</tr>
<tr>
<td>Pigs wnd / mated female / yr</td>
<td>21.60 ± 3.056</td>
<td>22.01 ± 24.50</td>
<td>18.50 ± 22.62</td>
</tr>
<tr>
<td>Pigs wnd / female / year</td>
<td>20.50 ± 3.144</td>
<td>20.90 ± 23.60</td>
<td>17.00 ± 21.20</td>
</tr>
<tr>
<td>Females entered</td>
<td>1104.60 ± 1153.662</td>
<td>776.00 ± 2314.00</td>
<td>187.00 ± 479.08</td>
</tr>
<tr>
<td>Culling rate</td>
<td>48.59 ± 26.479</td>
<td>45.05 ± 62.80</td>
<td>32.20 ± 57.29</td>
</tr>
<tr>
<td>Ave female inv - Ave gilt pool inv</td>
<td>1745.02 ± 1560.534</td>
<td>1318.25 ± 3111.40</td>
<td>393.20 ± 748.91</td>
</tr>
</tbody>
</table>

**USA-2005- YEAR END- REGIONS SUMMARY**

In this comparison, we have split the United States into three regions. The Corn Belt consists of Iowa, Illinois, Indiana, Kansas, Minnesota, Missouri, Nebraska, Wisconsin, Ohio, South Dakota and North Dakota. The East consists of Kentucky, Michigan, North Carolina, Pennsylvania, Tennessee and Arkansas, while the West includes Colorado, Montana and California.

We see there are more similarities than differences in this comparison of reproductive outputs for different regions of the United States. There is a tendency for Cornbelt farms to be larger and some of the differences in productive output can be explained by size differences as much as regional differences.

There is a tendency for Eastern farmers to be somewhat more productive, though the ranges of performance are similar across each area. There does not appear to be a difference in the climactic pressures in each area, as the capabilities are similar for each of these.

All in all, it appears that regional differences in the United States are minor, at best. It is evident through this data we have a broad and similar application of technologies across this area.

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**Benchmark Analysis**

### REGIONAL DIFFERENCES ARE MINOR

Good pork producers exist in all areas.
NURSERY SUMMARY 2005
Average daily gain shows wide range of performance.

A limited number of PigCHAMP benchmarking participants shared their nursery data for comparison purposes. These estimates are based on approximately 500 closeout groups. Table 1 shows the wide range of performance that we see again within the nurseries, though less than in grow-finish performance. Pigs start off at approximately the same starting weight, exemplified by a relatively low range of weaning age in the current industry. Average daily gain, however, is still an area of wide performance, as is feed cost per pig started. Some of the lower feed costs per pig suggest that not all costs of feed are included within the database.

It should also be pointed out that mortality rates show some range, but not as much range as was seen in the grow-finish records. Probably the most surprising range is the average daily gain distribution. With the same resources and quite similar genotypic capabilities, it appears that management, disease and other factors are at play in creating a wide range of performance. In addition, it is probable that some of this performance variation spills over into the grow-finish phase.

Benchmarking nurseries is one of the most complex challenges in pig production. Nurseries are the bridge between the farrowing house and the grow-finish barn. The quality of pigs coming from the farrowing house must be addressed as well as creating pigs that perform well in the grow-finish stage. The measures of successful nursery management are probably poorly assessed with current record-keeping methods. More time should be spent on looking at pigs with marginal characteristics, particularly those at lower weights, both at entry and exit. A great deal of the success in managing nurseries is with the creation of consistent pigs. Efforts in creating new record-keeping systems are focusing on the quality of pigs.

Even with some of the limitations of current nursery records, outliers should be examined quite closely. Lower average daily gain feed conversion ratios and high feed costs should be examined in more detail. The most obvious deficiencies in many nurseries are climate control, higher mortality and morbidity rates and poor feed formulation. It exhibits the opportunities for improvement and further investigation.

### TABLE 1: NURSERY SUMMARY

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Upper 10 percentile</th>
<th>Lower 10 percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave starting wt</td>
<td>13.54</td>
<td>2.336</td>
<td>13.11</td>
<td>15.7</td>
<td>11.27</td>
</tr>
<tr>
<td>Ave days</td>
<td>46.5</td>
<td>8.21</td>
<td>46.76</td>
<td>56.83</td>
<td>36.26</td>
</tr>
<tr>
<td>ADG</td>
<td>0.84</td>
<td>0.252</td>
<td>0.89</td>
<td>1.05</td>
<td>0.69</td>
</tr>
<tr>
<td>Feed Conversion Ratio</td>
<td>1.62</td>
<td>0.219</td>
<td>1.62</td>
<td>1.86</td>
<td>1.39</td>
</tr>
<tr>
<td>Feed cost/pig started</td>
<td>7.4</td>
<td>2.064</td>
<td>7.56</td>
<td>9.89</td>
<td>4.58</td>
</tr>
<tr>
<td>Mortality</td>
<td>2.12</td>
<td>1.635</td>
<td>1.69</td>
<td>4.18</td>
<td>0.56</td>
</tr>
<tr>
<td>No. of pigs started</td>
<td>647.09</td>
<td>383.179</td>
<td>551</td>
<td>1119</td>
<td>142</td>
</tr>
</tbody>
</table>

Delivering Knowledge

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Specializing in extensive, up-to-date news and market content as well as other valuable information services and products for the pork sector.

With leading insight, expert analysis and commentaries our talented staff and contributors provide regular analysis and opinions on key issues.
DOES SIZE MATTER?
The data might surprise you.

One of the characteristics of the PigCHAMP benchmarking database is that it constitutes performance across a broad range of farm sizes.

The question is often asked if there are significant differences in farm performance between different sizes of farms. The answer is essentially no. Figure 1 shows a scatter graph of farm performance on pigs weaned per mated female per year across the benchmarking database. It shows a broad range of herd sizes and what statisticians often call a “gunshot pattern.” In other words, it doesn't look like there is much effect, if any, from herd size.

In most cases, we should leave the analysis at this point, but often instead of seeing the data in graphs such as scatterplots, we are given the results of statistical analysis. In statistical analysis, the test used in this case is called regression analysis. The results of a regression is that relationship can be called very significant, as the “P-Value” equals .0011, and the pigs per sow per year are estimated to increase by approximately .000325 pigs per sow per year with every extra sow in the herd. Such numbers describe a very small effect with some precision, as the database is exceptionally large.

We sometimes call this the “PigCHAMP problem,” as the large amount of data generated can end up describing relatively useless factors as having a high level of statistical significance.

With such analyses the major question is whether the factor of concern describes much of the problem. In this case the answer appears to be no. One other number from a regression calculation that is useful is called the R2. In rough terms, it describes the amount of variation in the performance indicator of concern, in this case pigs weaned per sow per year, that is controlled by the predictor of concern, in this case herd size. In this example, it appears herd size can predict approximately 1.6% of the variation. Even worse, it is probable that this 1.6% of variation may not be due to herd size but the uptake of other significant variables, such as genotype. So, the benefits of herd size are minor at best, when we view productivity in this database.

The search for predictable differences between smaller and larger herds has presented little to discuss. Probably the main point to make is that sometimes, smaller herds are more likely to contain some individuals that have poorer performance. Figure 2 shows a scatter graph of farrowing rate versus herd size. There seem to be more farms with less than 1000 sows that have an annual farrowing rate of less than 70%. The results of a regression is that relationship can be called very significant as the “P-Value” equals 0.000036, and farrowing rates are estimated to increase by approximately 0.0186% with every extra 100 sows in the herd. The R2 is estimated to be 3.6% of variation seen. This is not much of an effect and is not very predictable. As a result, herd size should not be used as an excuse on either end. It does illustrate, however, a capability to improve among all farm sizes.

Figure 1: Scatterplot of pigs per sow per year versus herd size

Figure 2: Scatterplot of farrowing rate herd size
A limited number of PigCHAMP benchmarking participants shared their grow-finish data for comparison purposes. A broad range of performance is evident in this database, as seen in Table 1. Grow-finish comparisons suffer from a lack of standardized production methods, and this makes comparisons difficult. As can be seen, there are wide differences in starting weights, group sizes and days to market. These factors can affect the final feed conversion ratios, along with mortality rates and financial success of various closeouts.

Nonetheless, a few generalizations should be noted. The first is the wide range of performance in mortality and pre-market sales. The coefficient of variation is greater than 100% in both cases, which suggests a great opportunity for improvement. Secondly, there is a wide range in feed costs, not all of which can be explained by feed conversion. This may be due to regional differences, but also to choices in nutrition. Both should be followed in more detail.

Finally, there is a wide range of performance within herds. With the large number of groups started in most herds, there is significant opportunity for internal benchmarking. Programs such as PigCHAMP aid in creating standardized estimates.

**GROW-FINISH SUMMARY 2005**

Significant performance variation is evident.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Upper 10 percentile</th>
<th>Lower 10 percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ave. starting wt.</td>
<td>63.97</td>
<td>30.277</td>
<td>58.45</td>
<td>78.6</td>
<td>42.81</td>
</tr>
<tr>
<td>Average daily gain</td>
<td>1.66</td>
<td>0.227</td>
<td>1.66</td>
<td>1.9</td>
<td>1.44</td>
</tr>
<tr>
<td>Days to market</td>
<td>131.12</td>
<td>21.483</td>
<td>131</td>
<td>157</td>
<td>110</td>
</tr>
<tr>
<td>Feed conversion ratio</td>
<td>3</td>
<td>0.53</td>
<td>2.91</td>
<td>3.33</td>
<td>2.62</td>
</tr>
<tr>
<td>Feed cost /pig started</td>
<td>34.72</td>
<td>7.354</td>
<td>35.76</td>
<td>42.31</td>
<td>27.15</td>
</tr>
<tr>
<td>Mortality</td>
<td>3.82</td>
<td>4.753</td>
<td>3.19</td>
<td>6.61</td>
<td>1.03</td>
</tr>
<tr>
<td>Number of pigs started</td>
<td>703.89</td>
<td>538.451</td>
<td>538</td>
<td>1231</td>
<td>177</td>
</tr>
<tr>
<td>Number of pigs sold</td>
<td>664.47</td>
<td>514.42</td>
<td>501.5</td>
<td>1170</td>
<td>156</td>
</tr>
<tr>
<td>Number of pigs from pre-market sale</td>
<td>13.7</td>
<td>30.624</td>
<td>2</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Percentage of pigs from pre-market sale</td>
<td>2.16</td>
<td>3.729</td>
<td>0.5</td>
<td>6.26</td>
<td>0</td>
</tr>
</tbody>
</table>

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NORTH AMERICAN COMPARISONS
Canada out-performs the United States in a number of areas; seasonal factors are evident.

While it is difficult to find regional differences within the United States, that is not the case when comparing the United States and Canada. There are real and, in some cases increasing differences between the United States and Canada in terms of reproductive performance. Several factors create these differences, including structural differences and cultural, financial and historic pressures. Nonetheless, the trends are obvious.

Figure 1 shows the difference most clearly in terms of pigs weaned per mated female per year. The differences are relatively consistent across quarters, though greatest in the fourth quarter. The mean difference of approximately 1.6 pigs per year can be described in terms of differences in constituent reproductive output. However, it is also useful to note that seasonal differences are accentuated in the U.S. herds as well. The letters above the U.S. quarters designate which quarters have different levels of output. We see that the first and third quarters are approximately the same, but that the second quarter is higher and the fourth quarter is considerably lower (p<.05). This change in productivity reflects overall throughput trends as well.

Figure 2 shows the farrowing rates as seen within these herds. Differences are also evident in this chart, with U.S. farrowing rates lowest for sows that farrow in the fourth quarter. This differs from the Canadian herds, where the lowest performance is seen in the first quarter. It has been stated that farrowing rates are most affected by seasonality through changes in daylight. Changes in daylight are actually more accentuated in most regions of Canada than in the United States, but the differences are similar over the year. It’s important to note the farrowing rate difference for the fourth quarter is exceptionally large, at over 7%.

Litter size also has a pattern of seasonality, though it is more affected by changes in temperature over the season and thus, expected to be greater in the United States. This is not seen, however, with litter size differences appearing to be more seasonal in Canadian herds. Figures 3 again shows the improved performance of Canadian herds in these particular indicators. Once more, performance is lowest in the first quarter for Canadian herds while it is lowest for U.S. herds in the fourth quarter. It also appears that differences in litter size between Canadian and U.S. herds are increasing from year to year; it is now approximately .45 pigs per litter.

Such broad comparisons are both useless and useful. It is difficult to improve an individual herd based on a comparison to a broad range of performance in a different geographic region. Many of the differences shown in this comparison can be attributed to factors out of a person’s control. However other factors should be considered. It may be that improved performance in Canadian herds is due to greater economic pressures. It may be due to a greater emphasis on reproductive characteristics in genetic selection. Another possibility is that it may be due to a difference in the availability of skilled employees to detect estrus and breed sows. Nonetheless, trends and changes should be closely followed.
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By 2010, there will be an estimated shortage of 10 million people in the labor market, and by 2015, that number will escalate to 40 million. The impetus to acquire, train and maintain a high-performing workforce has never been greater. Fortunately, there are effective ways to find, develop and keep a high quality team of employees, and methods to help your team grow and prosper.

The success of any business is completely dependent on the ability of its leaders to recruit and develop suitable individuals into team players with a common goal, explains Roy Hildebrand of Elite Swine. As an owner or manager, part of building a strong team is having a clear picture of each position and how the person in each position is expected to contribute to the success of the team, he says. “Normally it will be relatively easy to identify the need, but it will take a little more thought and review to understand what type of individual is required to ensure the success of the team,” suggests Hildebrand. “Although successful teams may share some common strengths, each team is unique. The hiring manager must have a good understanding of the functionality of the team, as well as the individual character of the team and its members.”

A good first step is to have a comprehensive job description for each position, believes Hildebrand. A good job description will usually define the position. However, since every team is unique and situations vary, define the particular nuances of the team to decrease the risk of hiring an unsuitable employee.

Turnover is generally quite high in the North American hog industry. Normally, this would be considered a negative but it can also be viewed as a positive opportunity to build and improve. Successful teambuilding includes continually striving to upgrade in every position, notes Hildebrand. “Never stop being a builder,” he states.

Along that line, most successful companies make it a priority to build their knowledge pool and hire individuals who have demonstrated their progressive nature through a history of continual learning. Hildebrand says, “Although not every position requires a university degree, the future of the pork industry depends on its ability to employ progressive learners at every level.”

**BE PROGRESSIVE**

To attract intelligent young people into the industry, agribusinesses must collectively stay at the leading edge of technology and continuously strive to operate with utmost integrity and responsibility, points out Hildebrand. “We must raise the profile of every position in our industry so young people will recognize the opportunities and wish to be part of a thriving industry. We should keep the general public well informed about the important issues surrounding our industry and continually strive to demonstrate our commitment to growing a sustainable industry.”

Almost any job can become mundane and leave employees feeling unhappy. Hildebrand feels the challenge for every employer is to stimulate employees with innovative ideas and methods to stay at the leading edge of its industry. Employers need to be open to new ideas and establish an environment conducive to learning for all employees.

How you brand your business is also vital to hiring top candidates. “Employer branding is an emerging phrase throughout the recruiting arena and has become a critical issue that the agriculture industry needs to take note of and act upon,” says Eric Spell, president of AgCareers.com. “As college enrollment rates in agriculture programs continue to decline and we are faced with an aging population in the workplace, recruiting talent into our organizations is going to be fiercer than ever before.”
“Employer branding begins with building from within,” continues Spell. “Identify ways to ensure that your current work force is proud and happy to be a part of your organization.

If people hear good things about your business, they’ll be much more likely to pursue employment. To keep progressive people, a company must display leadership. A “dream team” will be made up of leaders and individuals who want to be associated with leaders.

PUT THE RIGHT PEOPLE IN THE RIGHT JOBS

When looking for the right people to fill positions, “keep all doors open,” says Hildebrand. “Never presuppose that you won’t find the right individual through a particular source or background. Conversely, never assume that one source will always yield the people we need to be successful.”

A key to putting people in the right position is to allow for a trial period. Although not always feasible, a trial period of a few days, weeks or possibly a three-month term position (summer employment), will allow time to make a fair and accurate assessment. Many companies have had great success bringing in young people through a summer employment program, which allows for exposure to the environment of a position. Assign a leader in the company to act as a mentor during the trial period so there is constant communication with the new employee and ongoing encouragement through the learning process, suggests Hildebrand.

TRAINING, BOTH INITIAL AND CONTINUOUS

Train individuals in the philosophy and culture of your company. “Although it’s important to have a well-defined training and orientation program for new employees to learn the various aspects of their position, the teaching of philosophy, culture and values must supersede all other aspects of training,” emphasizes Hildebrand. “Each employee must embrace the vision statement of the company.”

Initial training and on-going skill development help ensure tasks are properly performed, and that employees are able to adjust standard procedures to special procedures when unique circumstances demand it, notes Dennis DiPietre, a management consultant and owner of KnowledgeVentures LLC, Columbia, Mo. “This means high quality farms go beyond training, which is focused on techniques; to education, which focuses on the “why” of techniques. When employees understand how to do their various tasks and why they are done, over time they develop expertise rather than simply skill. Most farms simply train employees on procedures. By omitting the ‘why,’ they omit education and the development of expertise and therefore often stifle long-term job satisfaction.”

When DiPietre is involved in training and education on farms, he focuses on the financial impact of doing a task appropriately. “Most employees have no idea of the impact of their area on overall profitability,” he states. “For instance, very few finishing managers or finishing contract growers can tell you the financial impact of reducing finisher mortality by 1%.

When people believe they can substantially impact the financial outcome in their area of the operation, it can serve as a powerful motivator by reinforcing to them the importance of what they do each day.”

LEAD BY EXAMPLE

One of the biggest challenges of a business owner, manager or supervisor is to “keep the game face on” and be consistent in setting an example of integrity, commitment and vision, Hildebrand says. “For leaders, there is no room for failure in exemplifying what it takes for the company to be successful.

“In addition, provide opportunity for employees to show their own leadership qualities. While it’s important for leaders to assume responsibility, it is equally important to transfer responsibilities to team members. If you wish to be surrounded by the best people, make it your purpose each day to make the people around you better,” he notes. Finally, it takes leadership to openly acknowledge employees for work well done. “Remember, every person at every level needs encouragement,” asserts Hildebrand. “Perhaps the most critical ingredient to the success of a team is for each leader to develop the habit and skill of being an encourager.”

DISCIPLINE CORRECTLY

Every team will experience a player who is falling behind or not participating adequately. In such cases, Hildebrand says it is critical for the team leader to deal with this employee on an individual basis. “The leader must carefully study and review the facts surrounding a situation to take appropriate action. If the response of the individual is less than desirable, the leader must take action, so the team doesn’t experience a long-term negative impact.

COMPETITIVE COMPENSATION

In some industries it’s expected that individuals will work for minimum wage with little chance for significant increases, Hildebrand explains. Many employers hire only part-time employees to avoid providing benefits like a group insurance plan. “The agriculture industry must offer wages high enough to support a family and provide fair benefits for employees at every level,” stresses Hildebrand. “To recruit and keep good people, we must be competitive with other industries that also wish to attract the best people.”

DiPietre agrees: “Keeping high-performing employees requires they be adequately and fairly compensated for their work,” he emphasizes.
While salary is not the largest motivator, for an employee who feels he or she is being compensated unfairly, it can be one of the leading de-motivators with the longest impact on overall motivation, notes Spell with AgCareers.com. "Negative recognition also has a similar effect on motivation in the workplace. To keep top employees, it is important to not only recognize what motivates them but also what de-motivates them," he states.

**MUTUAL RESPECT**

Even though everyone wants a fair salary, DiPietre points out that very few people leave a position for another opportunity simply because it offers more pay. "When people believe the work they do has value and is important, when they gain the satisfaction that comes from conquering a problem or creating value because of an achieved level of expertise through education and experience; when they work with people they enjoy being around; when they know the work they perform is genuinely appreciated by management or ownership; they rarely consider other firms, even if the salary is higher," he stresses.

Spell agrees. He says, "While most feel that salary is the leading motivator among employees, actually achievement and positive recognition are mentioned most often. Reports show that salary has less than half the satisfying effect on employees compared to achievement and positive recognition."

Hildebrand believes a high level of participation and expertise is a huge factor in employee retention. He points out, "Every player on a successful team must be allowed to participate. Any member of a team that is mostly observing and not allowed to participate will soon be looking for another team. No one likes to stay on the bench."

Another aspect of respect is the ability of management to recognize and be sensitive to the needs of the group, adds Hildebrand. Undoubtedly, employees will go through hardship from time to time, and it is essential for a business owner, manager or supervisor to be sensitive and caring with respect to personal matters.

DiPietre says he regularly visit farms where it is immediately evident that the people like working with each other. "They have developed a certain camaraderie borne out of mutual respect, and the satisfaction that comes from accomplishing something important with people whom they both like and respect," he notes. "This is something that cannot be engineered by management, but it can be destroyed by management. When everyone respects the unique contribution of others, the likelihood of true team formation is enhanced. Management cannot create high-functioning teams; these teams form organically when the right conditions and people are present."

Achieving these standards among employees will determine the big winners in the next decade. It will separate the farms that must continually review and perform the basics from those farms that attain excellence and its reward, which is long-term profitability.■
The Minnesota farm business management groups recently completed financial analyses of 2,399 Minnesota farms for fiscal year 2005. These farm financials are compiled into the FINBIN database maintained by the Center For Farm Financial Management, University of Minnesota.

Of the 2,399 farms, 99 were categorized as "hog farms," having generated 70% or more from sales of pigs, and 109 were categorized as “crop and hog farms,” with 70% of revenue from a combination of crops and pigs. Consistent with industry contraction, the number of Minnesota hog farms in the database has decreased from 143 hog farms and 278 crop and hog farms in 1996.

**A PROFITABLE YEAR**

2005 was a very profitable year for Minnesota hog farms. The “Hog farms” category in FINBIN includes various types of producers, from farrowing and selling weaned pigs to grow/finish operations and everything in between.

One way to benchmark these farms is based on the Farm Financial Standards recommended financial metrics. For the second year in a row, the average hog operation earned a net farm income of $294,615 in 2005, far higher than any other type of farm.

The hog operations tend to be bigger than other types of farms in FINBIN, so direct comparisons of net farm income can be deceiving. Rate of return on assets (ROA) and rate of return on equity (ROE) are better benchmarks. The average ROA for hog farms for 2005 was 16.5% and for crop and hog farms, 11.3%. Again, these figures are higher than any other farm type. Assets were valued at adjusted cost basis, using economic depreciation for these measures. In fact, hog farms out-performed other farm types in almost every financial metric. The combination of profitable per-unit production and volume for these farms made 2005 a very good year.

**SIZE OF OPERATION**

Large Minnesota hog operations made higher returns, on average, than smaller operations in 2005. When “Hog Farms” and “Crop and Hog Farms” are grouped together, those that grossed over $1 million earned a 16.3% ROA. Even the smallest size group, those grossing between $100,000 and $250,000 earned an 8.1% ROA which is still profitable by industry standards.

There has not always been that big a difference between large and small hog operations. When FINBIN was queried for hog operations over the past ten years, the $1 million-plus group averaged an 8.9% ROA compared to 5.7% for the $100,000 to $250,000 sales group.

The big difference that jumps out in 2005 between large and smaller operations is Asset Turnover (or revenue per dollar of investment). Those in the largest size group generated 55 cents of gross revenue per dollar of investment, compared to 44.5 cents for those that grossed $500,000 to $1 million, lower still for each smaller size of operation. This indicates that the difference between these groups was not so much in how efficient they were, but in how much throughput they generated.

The high return enterprises had 2.18 litters/sow/year, while the low return operations had only 1.43 litters/sow/year. Throughput is a major difference.
FINBIN includes enterprise level data for virtually every type of hog enterprise. As would be expected, there are fewer farrowing enterprises than in years past. The hog enterprises in the database tend to be much larger than before, but are generally not the largest by industry standards. While the whole farm data provides benchmarks that can help operations diagnose profitability, liquidity or repayment problems, the enterprise data is more prescriptive in showing the differences between operations.

There were 65 traditional farrow-to-finish operations in the 2005 Minnesota farm database. One of the most common comparisons used in FINBIN is to look at the most profitable enterprises vs. the least profitable, to get an idea of what made the difference. FINBIN categorizes enterprises into five net return groups. These comparisons often show that the more profitable farms out-perform the less profitable farms in almost every area, leading to the conclusion that they did a better job of managing just about every factor of production. The 2005 Minnesota Financial Standards Measures (Farms Sorted By Gross Farm Income)

<table>
<thead>
<tr>
<th>Number of farms</th>
<th>Avg. Of All Farms</th>
<th>100,001 - 250,000</th>
<th>250,001 - 500,000</th>
<th>500,001 - 1,000,000</th>
<th>Over 1,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>208</td>
<td>19</td>
<td>63</td>
<td>54</td>
<td>67</td>
<td></td>
</tr>
</tbody>
</table>

Liquidity

<table>
<thead>
<tr>
<th>Current ratio</th>
<th>2.06</th>
<th>2.05</th>
<th>1.65</th>
<th>1.86</th>
<th>2.23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital</td>
<td>305,020</td>
<td>70,795</td>
<td>92,852</td>
<td>197,302</td>
<td>679,974</td>
</tr>
</tbody>
</table>

Solvency (market)

<table>
<thead>
<tr>
<th>Farm debt to asset ratio</th>
<th>45%</th>
<th>42%</th>
<th>42%</th>
<th>44%</th>
<th>46%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm equity to asset ratio</td>
<td>55%</td>
<td>58%</td>
<td>58%</td>
<td>56%</td>
<td>54%</td>
</tr>
<tr>
<td>Farm debt to equity ratio</td>
<td>82%</td>
<td>74%</td>
<td>74%</td>
<td>80%</td>
<td>86%</td>
</tr>
</tbody>
</table>

Profitability (cost)

<table>
<thead>
<tr>
<th>Rate of return on farm assets</th>
<th>14.20%</th>
<th>8.10%</th>
<th>9.20%</th>
<th>13.40%</th>
<th>16.30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of return on farm equity</td>
<td>22.00%</td>
<td>9.60%</td>
<td>12.20%</td>
<td>20.70%</td>
<td>26.20%</td>
</tr>
<tr>
<td>Operating profit margin</td>
<td>28.60%</td>
<td>24.10%</td>
<td>22.70%</td>
<td>29.80%</td>
<td>29.60%</td>
</tr>
<tr>
<td>Net farm income</td>
<td>214,976</td>
<td>47,744</td>
<td>82,381</td>
<td>172,943</td>
<td>456,278</td>
</tr>
</tbody>
</table>

Repayment Capacity

<table>
<thead>
<tr>
<th>Term debt coverage ratio</th>
<th>287%</th>
<th>185%</th>
<th>208%</th>
<th>243%</th>
<th>336%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital replacement margin</td>
<td>159,944</td>
<td>29,828</td>
<td>49,494</td>
<td>112,390</td>
<td>350,061</td>
</tr>
</tbody>
</table>

Efficiency

<table>
<thead>
<tr>
<th>Asset turnover rate (cost)</th>
<th>49.70%</th>
<th>33.70%</th>
<th>40.60%</th>
<th>44.80%</th>
<th>55.10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating expense ratio</td>
<td>74.40%</td>
<td>61.80%</td>
<td>68.00%</td>
<td>68.20%</td>
<td>77.10%</td>
</tr>
<tr>
<td>Depreciation expense ratio</td>
<td>4.10%</td>
<td>7.80%</td>
<td>6.30%</td>
<td>5.00%</td>
<td>3.50%</td>
</tr>
<tr>
<td>Interest expense ratio</td>
<td>3.10%</td>
<td>8.20%</td>
<td>4.90%</td>
<td>4.20%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Net farm income ratio</td>
<td>18.30%</td>
<td>22.20%</td>
<td>20.70%</td>
<td>22.50%</td>
<td>16.90%</td>
</tr>
</tbody>
</table>

FINANCIAL STANDARDS MEASURES (Farms Sorted By Farm Type)

<table>
<thead>
<tr>
<th>Number of farms</th>
<th>Avg. Of All Farms</th>
<th>Crop</th>
<th>Dairy</th>
<th>Hog</th>
<th>Beef</th>
<th>Crop and Dairy</th>
<th>Crop and Hog</th>
<th>Crop and Beef</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>983</td>
<td>506</td>
<td>99</td>
<td>69</td>
<td>107</td>
<td>109</td>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>

Liquidity

<table>
<thead>
<tr>
<th>Current ratio</th>
<th>1.58</th>
<th>1.44</th>
<th>1.63</th>
<th>2.2</th>
<th>1.42</th>
<th>1.88</th>
<th>1.87</th>
<th>1.44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working capital</td>
<td>105,181</td>
<td>91,890</td>
<td>52,549</td>
<td>415,798</td>
<td>86,454</td>
<td>110,339</td>
<td>204,406</td>
<td>94,422</td>
</tr>
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</table>

Solvency (market)

<table>
<thead>
<tr>
<th>Farm debt to asset ratio</th>
<th>48%</th>
<th>49%</th>
<th>47%</th>
<th>47%</th>
<th>54%</th>
<th>41%</th>
<th>43%</th>
<th>49%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm equity to asset ratio</td>
<td>52%</td>
<td>51%</td>
<td>53%</td>
<td>53%</td>
<td>46%</td>
<td>59%</td>
<td>57%</td>
<td>51%</td>
</tr>
<tr>
<td>Farm debt to equity ratio</td>
<td>90%</td>
<td>95%</td>
<td>90%</td>
<td>87%</td>
<td>116%</td>
<td>68%</td>
<td>76%</td>
<td>98%</td>
</tr>
</tbody>
</table>

Profitability (cost)

<table>
<thead>
<tr>
<th>Rate of return on farm assets</th>
<th>9.00%</th>
<th>7.50%</th>
<th>9.30%</th>
<th>16.50%</th>
<th>5.60%</th>
<th>8.40%</th>
<th>11.30%</th>
<th>7.80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of return on farm equity</td>
<td>12.40%</td>
<td>9.20%</td>
<td>13.10%</td>
<td>26.40%</td>
<td>6.50%</td>
<td>10.20%</td>
<td>16.40%</td>
<td>10.30%</td>
</tr>
<tr>
<td>Operating profit margin</td>
<td>19.00%</td>
<td>14.80%</td>
<td>20.50%</td>
<td>31.00%</td>
<td>20.40%</td>
<td>19.00%</td>
<td>24.90%</td>
<td>19.40%</td>
</tr>
<tr>
<td>Net farm income</td>
<td>92,745</td>
<td>72,737</td>
<td>92,985</td>
<td>294,615</td>
<td>40,642</td>
<td>94,928</td>
<td>142,643</td>
<td>68,786</td>
</tr>
</tbody>
</table>

Repayment Capacity

<table>
<thead>
<tr>
<th>Term debt coverage ratio</th>
<th>185%</th>
<th>164%</th>
<th>160%</th>
<th>332%</th>
<th>184%</th>
<th>205%</th>
<th>232%</th>
<th>199%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital replacement margin</td>
<td>49,975</td>
<td>34,235</td>
<td>39,230</td>
<td>227,510</td>
<td>27,276</td>
<td>52,821</td>
<td>98,576</td>
<td>43,288</td>
</tr>
</tbody>
</table>

Efficiency

<table>
<thead>
<tr>
<th>Asset turnover rate (cost)</th>
<th>47.60%</th>
<th>50.30%</th>
<th>45.20%</th>
<th>53.10%</th>
<th>27.70%</th>
<th>44.10%</th>
<th>45.40%</th>
<th>40.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating expense ratio</td>
<td>72.70%</td>
<td>72.50%</td>
<td>71.20%</td>
<td>76.70%</td>
<td>80.70%</td>
<td>68.40%</td>
<td>69.30%</td>
<td>73.50%</td>
</tr>
<tr>
<td>Depreciation expense ratio</td>
<td>4.90%</td>
<td>5.20%</td>
<td>4.90%</td>
<td>3.30%</td>
<td>3.30%</td>
<td>6.60%</td>
<td>5.90%</td>
<td>5.10%</td>
</tr>
<tr>
<td>Interest expense ratio</td>
<td>4.90%</td>
<td>5.80%</td>
<td>5.20%</td>
<td>2.50%</td>
<td>4.90%</td>
<td>5.00%</td>
<td>4.50%</td>
<td>5.30%</td>
</tr>
<tr>
<td>Net farm income ratio</td>
<td>17.50%</td>
<td>16.50%</td>
<td>18.70%</td>
<td>17.40%</td>
<td>11.10%</td>
<td>20.00%</td>
<td>20.40%</td>
<td>16.10%</td>
</tr>
</tbody>
</table>
farms are consistent with this trend. The most profitable farms produced more gross revenue per litter with lower feed costs and lower total costs. They produced 2,268 lbs. of pork per litter compared to 1,904 lbs. per litter for the low net return farms, and it took them $92 less in total costs to do it. The most profitable farms had an average cost of production (cost to produce a live hog) of $0.34/lb. The low return group had a cost of production of $0.48/lb. The big difference was in litters per sow per year. The high return enterprises had 2.18 litters/sow/year, while the low return operations had only 1.43 litters/sow/year. Again, throughput was the major difference.

**ENTERPRISE SIZE**

Larger Minnesota farrow-to-finish operations were generally more profitable than smaller ones in 2005. Those that produced over 1,000 litters had an average cost of production of $39.22 per cwt. of live hog. The highest cost group was one of the middle-sized sub-groupings, those farms producing 201 to 500 litters, with a cost of production of $44.02. The price received for market hogs was not significantly different between categories. Again, the largest difference was in litters per sow, ranging from 2.22 for the larger enterprises to 1.55 for the smaller ones.

**HOW DATA IS GATHERED AND ANALYZED**

This benchmarking data is compiled through a strict set of procedures and standards and it is reviewed and screened on a number of levels for errors and omissions. In short, it provides a true look at what is happening financially on a set of real farms. These are farms facing similar challenges.

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**MORE ABOUT THE PROGRAMS**

Farm Business Management Education Programs are offered through the Minnesota State Colleges and Universities (MnSCU) to provide education to owners and operators of farm businesses. They assist students (farmers) in making managerial decisions to achieve their business and personal goals, which is best accomplished through the use of quality records and sound business decisions. Instructors in Minnesota’s Farm Business Management Education Programs deliver the program using a variety of methods, but primarily through individualized instruction at the producer-student’s business. Each instructor meets with a student on a regular basis to evaluate his/her business and develop individual educational plans. Instruction is also delivered in the traditional classroom, small group meetings, field trips and tours. These programs are administered through eight MnSCU colleges at 71 campus and off-campus sites across the state. Ninety Farm Business Management Instructors provide instruction for 3,500-plus students enrolled in the programs. The Minnesota State Colleges and Universities is a system of 34 state colleges and universities located in 46 communities serving 240,000 students annually in credit-based courses and 95,000 in non-credit courses.

**SOME STRENGTHS OF THE PROGRAM INCLUDE:**

- Increased rate of survival of farm businesses through program participation
- Program available only to farm business owner/operators
- Primary mode of instructional delivery is at the farm business site
- Students with more than three years of enrollment in the Minnesota Farm Management Education program say they receive an improved net farm income benefit of nearly $5,000 each year. An average benefit of this size translates into a possible annual benefit of $20 -23 million for all 3,500-plus farm operators enrolled in Minnesota’s FBM programs.
- Program objectives strongly endorsed by students
- Strong support by agricultural lending community; clients are referred for enrollment. In fact, some lenders require enrollment in a FBM program.

**2005 STATE FARM BUSINESS MANAGEMENT EDUCATION PROGRAM DATABASE**

- The information is unique to Minnesota and provides a wealth of information for farmers, the agriculture businesses that support those farmers, educators and other interested individuals.
Who you do business with can be just as important as the business you do.

At AgStar Financial Services we understand the importance planning for the future plays in the success of your business. We understand the many opportunities and challenges today’s swine producers face.

See us for:
• Facility leases and loans
• Real Estate Loans
• Operating Loans
• Term Loans

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877-4-AGSTAR

The process generally starts with the farmer becoming part of an educational program through the community college system or cooperative extension service. In this program, farmers work one-on-one with an instructor to help them meet financial and business goals for their business and personal life. Instructors work with each person in a variety of areas, including his/her record keeping skills. At the end of the year, each farm completes an accrual farm analysis using FINPACK software. The procedures to complete the accrual analysis have been improved over the years. A Closeout Manual has been developed to assure the consistency and accuracy in the data itself, preparation and completion of the analysis. This analysis serves as a cornerstone to help producers make more knowledgeable and better financial decisions for their farming businesses.

The individual analysis includes both a whole farm section and individual enterprise sections for each operation. Data is summarized in the whole farm section to give a big picture overview, much as it is in the PigCHAMP Benchmarking program. Overhead data for the whole farm section is then allocated out to the individual enterprises in the enterprise sections. Individual fields and enterprises can then be compared.

The individual farm analyses are compiled using RankEm software, which like FINPACK, is copyrighted software of the Center for Farm Financial Management, University of Minnesota. The compiled data is again reviewed for errors and omissions based on a standard set of procedures. The data is then used to create the benchmarking standards used in the industry.

FINANCIAL BENCHMARKING WITH FINBIN
FINBIN is made available to data providers and the public to provide financial benchmarks for agricultural producers (www.finbin.umn.edu). Data is actually available from seven states but only Minnesota data was available for 2005 at the time of this writing.

FINBIN provides a rich set of financial benchmarks for just about any common agricultural operation. There are a lot more ways to look at the data than there is room in this article. Queries are easy and extremely flexible. If a query does not return a minimum number of observations, results will not be displayed to protect the confidentiality of contributing producers. Contact the Center for Farm Financial Management at cffm@umn.edu for more information.

Editor’s Note: The information for this article was contributed by Peter Scheffert, Dean of Management Education Programs, Riverland Community College, Austin, Minn.; Dale Nordquist, Associate Director, Center for Farm Financial Management, Department of Applied Economics, University of Minnesota; and John Murray, State Director of the Minnesota Farm Business Management Association.
New Products

LandMarketer.com Creates Website for Real Estate Agents and Buyers to Meet

The LandMarketer.com website is dedicated to advertising farm and rural properties across North America and around the world. It presently has more than 403 active farm listings for a total of 194,152 acres, which buyers can search online for free. LandMarketer.com provides on-line marketing tools to its real estate members, enabling them to manage listings on-line; access detailed current and historical data on farm property listings, and prepare custom email or printed portfolios of property information to clients, among other features. Real estate agents pay a small monthly fee to post all of their farm and rural property listings for buyers to see. For more information, go to www.landmarketer.com or contact LandMarketer.com manager Denise Faguy at email: denise.faguy@farms.com or call 1.877.438.5729 ext. 5028.

M&F Trading Offers New Management Service

M&F Trading now offers swine production management services to producers interested in the financial advantages of maintaining ownership of their inventory. From feeder pig/SEW marketing to nursery/finisher placement and management, M&F Trading has the tools to assist you with your needs. If you would like to take advantage of regional market and production opportunities, M&F has a roster of efficient nursery and finishing contract producers. For more information, contact Chris Gehl at 877.438.5729 or Doug Reisburg at 712.659.3655.

New PigCHAMP Care Grow/Finish Software Now Available

The new Care Grow/Finish programs combine the latest development technology with PigCHAMP power and flexibility. The Internet version allows for multiple users from multiple locations to enter data simultaneously. It also provides real-time data reporting for ease in managing operating costs. The stand-alone version provides all the features you rely on from PigCHAMP DOS in an easy-to-learn program with a Windows-like interface.

This new program complements the Windows-based Care reproductive program, the most advanced swine breeding record-keeping system available today. Care allows for simplified data entry, either manually or through IDS handhelds. Its fully customizable data entry field and reporting functionality give you the power to track the data you need to manage herd performance and financial performance. Care handheld computer systems (Instant Data Systems) can increase productivity and enhance data integrity. In addition, these systems can validate entries and help producers avoid duplication of effort and information. The IDS handheld computers also reduce turnaround time of vital data feedback.

The Benchmarking program provides additional benefits from your PigCHAMP software. By adding to the benchmarking database of over 2,000,000 sows, you can compare your operation to others in the business. You will receive quarterly summaries that show your herd’s productivity against the averages of other users. Customized reporting is also now available for a variety of key specific performance indicators. For more information, contact PigCHAMP at 1.866.774.4242 or go to www.pigchamp.com.

New E-Solutions Available for Shippers and Carriers of Ag Commodities

The AgFreight.com website, in operation since 1999, helps truckers find loads to run their operations more efficiently. Shippers of agricultural commodities, such as grain, feed and fertilizer can post loads on the website at no charge, and truckers contact them to arrange for more efficient transportation of their products. The website has a large searchable database of load listings and is used by hundreds of shippers and truckers across North America. There is also an extensive list of information such as commodity prices, highway conditions and fuel prices. Log on to www.AgFreight.com to learn more about memberships and services, or call 1.877.438.5729 ext. 5042.

AgCareers.com Targeted Online Job Board Attracts Job Seekers and Employers

AgCareers.com provides jobseekers and employers within agriculture and related industries an excellent resource to connect through a targeted online job board. It is the leading online job board and human resource provider for agriculture, food, natural resources and biotechnology. In 2006, the AgCareers.com website has exceeded one million page views monthly.

While the job board is the main focus, the company also provides training and educational opportunities. AgCareers.com is now offering a special web course – “Excellence in Leadership – A Personal Enhancement Series.” This three-session workshop will share the skills necessary to become a dynamic leader within your organization. Visit the website – www.AgCareers.com for complete details. For more information about AgCareers.com, e-mail agcareers@agcareers.com or phone 800.929.8975.

AgForLife Opening the Door to Agricultural Opportunities

AgForLife is a new initiative that increases awareness of career opportunities in agriculture. Recently introduced by AgCareers.com, AgForLife.com brings attention to the diverse career opportunities in agriculture, food and life sciences among middle school, high school and college students. Edward Romero and Pablo Ramirez at Texas A&M University developed the visual model for the virtual career guide, which depicts the numerous career opportunities in agriculture.

Visit www.AgForLife.com to learn how your organization can get involved. To become an individual supporter of AgForLife, visit the ‘Professionals’ section and select ‘Support AgForLife.’ For more information, e-mail: info@agforlife.com or phone AgCareers.com at 800.929.8975.

AgFreight.com Sign up for 60-Day Free Trial Offer – Hog Market Outlook Newsletter

The AgFreight.com Risk Management experts write an informative and action-oriented weekly newsletter that investigates what factors influence market prices for finished market hogs. The newsletter is designed for all pork producers who want the information and instructions on how to sell for more money and purchase feed inputs for less using the CME and CBOT tools to manage their risk of volatile commodity prices. Visit riskmanagement.farms.com for more information or call 1.800.821.7418 and ask for Moe Agostino to sign up.
Sharpen your focus. Discover the difference by accessing our global nutrition expertise. We provide solutions to energize your business. Explore our approach at cargillanimalnutrition.com or connect with us by calling 800.262.8856. Experience worldclass solutions.
YOU’LL FIND MANY OF YOUR SOLUTIONS INSIDE OUR BOTTLES.
AND THE REST INSIDE OUR SUPPORT TEAM.

A lot of companies sell products. Pfizer offers solutions. Whether they arrive in a bottle, a bag, or in shirt and jeans, our solutions address the challenges you face every day. You get just what you need — and it’s always backed by exceptional service and support. To learn more, contact your veterinarian or Pfizer representative.