Open-front Systems

PANEL:
Dick Thompson, Boone
Steve Williams, Villisca
Greg Vogel, ISU Ag 450 Farm
Dave Serfling, Preston, Minnesota
(Jerry DeWitt and Shawn Shouse, moderators)

Because much of the following material was based on slides and overhead transparencies, coherence of some passages here may be compromised. — Ed.

(moderators’ comments:) Dave Serfling and his family live in Preston, Minnesota, which is just north across the border from Decorah. Dave graduated from ISU in 1981 in farm operations. Serflings have a 50 sow farrow-to-finish operation and 80 cows they feed out. They also have sheep, and they own about 350 acres. They love Iowa so much, Dave’s wife even works in Iowa, so thanks for helping the economy. (laughter)

Steve Williams and his wife live in Villisca, in Page County. Steve is a 1988 ISU business graduate. He has a total livestock operation with beef and a farrow-to-feeder pig operation. He feeds out a few. There are some interesting family ties and partnerships in Page County, and now his operation’s up to about 300 sows in a very productive and unique arrangement, which we’ll hear more about.

Greg Vogel represents the ISU AG 450 Farm, which is located southwest of Ames about a mile. This is actually a student-managed farm, and many of you are familiar with that concept that the students really manage it, for better or for worse. And they suffer all the advantages and perils of pure agriculture. Greg is the farm operator. He’s also an ISU grad (ag business, 1978) and finished a master’s in ag business in 1994. The farm is about 950 acres, and they have 200 sows out there. They run both outdoor and confinement operations.

Last we’ll hear from my good friend, Dick Thompson. Dick and Sharon, of course, farm in Boone County. Dick and Sharon recently were recognized as the 1996 Farm Agricultural Leaders of The Year by the Des Moines Register, which was a tremendous honor for them. Their farm is a little under 400 acres, they have been the driving force behind and the inspiration behind Practical Farmers of Iowa. Dick and Sharon have served as mentors for many, many farm families, not only in Iowa but nationwide. I know Dick and Sharon now have a cow-calf operation, and with their son, Rex, they have some of the facilities we’re talking about today, and they’re trying some new things in agriculture, so we’re pleased to have Dick here.

We’ve got a lot of diversity here, so let’s start with a small group discussion, then open it up to the whole room.

Swine System Options for Iowa

Open Front Systems: Discussion
(Greg Vogel now addresses the group.)

At the AG450 farm, we have about 40 new managers every semester. So we get a diverse group to work with and a lot of ideas. One of my jobs is to help the students sort through the ideas and come to profitable decisions. Over the last year, we’ve had to look at our swine operation; we had a fire last spring that destroyed most of our farrowing and nursery facilities, so we put the challenge to them: “Do you want to be in the swine business? And if you do, what do you feel it will take?” They decided they wanted to remain in the business. So currently we’re constructing facilities and remodeling facilities, and trying to be a swine producer. We really looked at our methods and facilities with the question in mind, “Can we be competitive?” One thing that we’ve all faced is that we need to make a leaner product for consumer preference. We’ve struggled, when looking at our facilities, and asked, “Can you raise the lean type hog that the packer and the consumer want in an outdoor system in Iowa’s weather?” Today I brought our cut-out sheets from the past year and a half to discuss improvements we tried to make and ask for feedback on how we improve those things. Because if you can’t put a product on the market that’s acceptable, then you won’t be in the business very long.

I visited with Steve about what he’s doing; I’d like to get feedback from everyone. One of our concerns was, “Can you lean [pigs] down so far they won’t live in the cold?” About three or four weeks ago (late January) we found out that they didn’t do real well. The viability was not that terrible, but they didn’t gain very much.

Could you honestly say that those pigs did worse? I mean, all pigs did bad. I’m not trying to pick an argument, but did they do worse than the older type, fatter hogs?

I think you might not notice much difference in gain, but to me they seemed to suffer more. I think we did a better job of bedding and keeping them dry; we did have some problems with the smaller pigs really piling in the back. And if I have one concern, it’s that we have the older Cargill-type units, but they’re the low-profile, modified, open-front facility. When we confined our nursery, we tried to oversize it. When we built it, they tried to get us into 2.2 square feet per pig. And what we decided to do was run it up to 3 square feet per pig, and hope that would give us the flexibility in cold weather to hold them in a little longer. And we had really great results with that. Turning a 65-75 pound pig out rather than a 45-50 pound pig probably saved us in that kind of weather. As I said, now we combine a little bit of confinement with the outside facility. The pigs adapt well to being a little older when they go out. How does yours work?

(another speaker) Well, mine go into a hot nursery. My brother buys most of my feeder pigs at 30 pounds, and we have a contract or I primarily farrow the feeder pigs, and I do keep some of my own, as Jeny said. But I have to get rid of the rest of them at 30 pounds (because my pig flow is so tight). My brother has an old
Cargill-type nursery. I think you have one, don't you, Dick? It's kind of miniaturized, and the finisher is 4 feet wide and a little bit narrower from the front to the back. That's different, but anyway they get along okay going out at that size, although I agree that's a critical age. And if I did it over again, I'd like to have a nursery where I can take pigs to 50 pounds. Then I think they'd really do fine outside, but I think there is a little lag there if they go out smaller than that.

**What do you farrow? What kind of farrowing?**
I want to show my farrowing system. It's really hard to explain if I can't show you what it looks like. [overhead transparencies shown here] In 1994 my wife and I left a hog operation partnership with my father to build our own hog operation, and of course we were debating whether we wanted to go to the new hog confinement. I've been working with Cargill units on the finishing end, and dirt lots with the sows. But turning sows in and out of a farrowing house was a new experience, and I just loved the fact that the sows could exercise, and so we thought of all the things we wanted to do, and we followed a plan that was in *Successful Farming* magazine—it's a Cargill unit where I have my gestation sows, and I feed by walking down between the pens [overhead transparency]. And my farrowing building is right below it, and this is just a sketch of part of it—it's a real long building; it's 6'6" in the back, because it has to be tall enough for me to walk back there, and it slopes—just a single slope up; the front is entirely open, except in the wintertime; the top 4 feet is a sheet of plywood, and the bottom 4 feet is another sheet of plywood with a hole cut in it with mud flaps on it so the sows can go in and out in the wintertime. In the summertime, that's lifted up and I have doors all the way along the back of the building that also open up. At the back of the building there's a 3 foot wide walkway I can walk along and access pigs. Each sow has an individual free-stall pen 4' by 8' with bumper boards, just an oak 2"x4" on each side. The pigs have a creep area at the back where it's a 2'x4' space and about 10" apart so the sow can get back there. There is an infrared propane heater above each two litters of pigs. This is a solid wall made out of oak board, and it comes up high enough so the sows don't jump over.

As these sows come outside (which they do all the time), they have access to a nipple waterer and a Smidley self-feeder, which I use to feed before farrowing. Four days after farrowing, I feed by hand, and then they're opened up so they can have all the feed they want. I have a manure alley out front, which I would have made wider for a Bobcat, but right now I just clean all this by hand, and I bed with straw. As soon as the sows come in the building, they get a lot of straw, and I just add straw on top. If I have a messy sow, I will clean it out, but I usually never clean it out until the pigs are weaned at 3 to 4 weeks. And then I pitch it out and haul it away with my manure spreader. Does anyone have any questions about this?
Can you talk about farrowing pen size?
This little “creep” area is only 4 feet wide, 2 feet deep. And I just put an oak 2”x4” six inches in from the end, and 6” in from the middle. I’d had trouble with the sows lying on the pigs. And Mark (Honeyman) suggested having a wider space. Ideally I would like to have a wider space so the sow could do more turning and milling, because it’s bigger than a farrowing crate.

And then it’s a one-slope building?
Right.

Higher in front than in back?
Yes. When you look at it in the winter from the front, it is solid. It’s solidly closed. The only thing you can get through is a little 18”-wide mud flap. In the summertime, it’s terrific because I can swing that entire 4’x8’ sheet of plywood off, hinge it up, and then open the back doors, and they’re solid. And I do have a cement retaining wall, which comes up about 3.5 feet or so feet in the back, and my doors to the back are insulated. My ceiling has a lot of insulation in it; my cement floor has insulation sandwiched in the cement from here to the back of the creep area, so I tried to do that after going through terrible cold a couple weeks ago. I’ve got the building split in half with a wall, and I’ll probably put an L.B. White heater in there just to maintain more warmth if I need to in the building, because right now all I have is just the individual hovers. And when a sow is farrowing, and she doesn’t happen to have her rear-end in the back, it’s in the front where I’ve lost the pigs. Wind also bothers me a little, but I can refine all those things.

So the back heating of that concrete floor is essentially under the farrow and creep area?
Right. As is true of any situation, I had to do it the way I could afford it, and the insulation comes in 8’ sheets. There’s plenty of room for the sow, and then it goes to the back of the creep area. I wanted to make sure it went all the way to the back. It was sandwiched in the cement; it was a bit difficult for the cement people to do it, and it cost a little bit, but it works. And I’ve got it in my gestating pens up here—these are all insulated, too. I didn’t bed any of my sows when it was 30° below last month.

When you leave, do you leave the pigs in those beds?
No, within the hour they go right out to a hot nursery. And it would work, but the pigs jump out, and especially when you wean them, they immediately start looking around for mom. And if it’s cold, you get one that’ll jump out and doesn’t know how to jump back in. In the summer they go in and out very freely. My nipple waterer has two nipples—one 4” off the ground, and one for the sows—so the pigs will drink a lot in the summertime out there. They go out and find the water.
Did you just build this? What does it cost per sow space?
About $1200. And I’m not a construction person. I “invested” (contracted)
everything—dirt work, feeders, waters—and as I said, I used oak for my bottom
board, and my solid wall is oak. My boards to the back are oak, anything to the
south you can get a hold of is oak, so I spent a little money on that but that’s well
worth it because the sows will chew when they want to farrow. But that’s
everything, and I like to say that’s about half, because I think farrowing units are
about $2400 per crate for confinement.

You say you don’t like to clean between farrowings in the back. Do you
have problems with pigs in the creep area making a mess, or do they keep
it clean?
Steve: Well, almost never because the creep area is always warmer, the front area
is colder, and it’s just a natural tendency for the pigs to dung in a colder area. But
I’ve had sows that are terrible, that make a mess all the time, and I just have to
clean those out. But I’m on my fifth litter now and it seems they have learned,
because I don’t have as much trouble. The moisture is a problem in the
summertime, with sows coming out here to get away from pigs. And if this area
outside isn’t cleaned every day, it just gets wet and they lie in it and then they
won’t go back, and the pigs come out to nurse. When they get messy in the
wintertime, I don’t clean it every day, but in the summertime, it really should be
cleaned every day. I do a lot of pitching; I have 300 sows and I do this all myself,
plus take care of the cows, so I don’t do any of the feed grinding. I have all the
feed delivered. I don’t own any machinery beyond a manure spreader and a small
tractor, so I call the co-op and tell them which feeders need to be
filled, and they
come and drop it off for me. It works well.

Do you power-wash it in between?
I never have, and I don’t intend to. But I have some scours trouble just as I did in
the farrowing house, and I have been able to manage that with the vaccine to the
pigs. In other words, I don’t think it’s any worse than having a farrowing house.

How many farrowing pens are there?
I have groups of 5 here. I wanted basically 3 rooms, and when I got over here I
would’ve had needed to do a lot of dirt work, so I have one building with 52 in it
and another one with 25 in it. The small one stays warmer because it is smaller,
and I went ahead and put a wall in it as I did in my big one in the middle, and that
helped. The air in the wintertime—on those really cold days when the air wasn’t
blowing—was nicer in there than it was when it was 30 ° and very windy, so the
wind was a factor more than anything.

How early are you weaning?
The oldest pig could be 4 weeks in a group of 20 to 24. I’ve gotten my groups
pretty tight; my boars are all in a small, miniaturized Cargill—they each have their
own little pen that’s very insulated because I use a pretty lean boar. My pigs are
all pretty lean. But I’ve got breeding pens out front for them, and I handbreed everything. I wean all 24 on the same day and breed them in about 3 days.

**Are you using artificial insemination?**
Not yet.

*(Dick Thompson addresses the group next.)*

I have to have all the crutches available *(laughter as he turns on slide projector).* Just because I have slides doesn’t mean I have all the answers, and I’m too close to home so I can’t quite vouch for anything. And this system is not perfect, but there may be some new ideas you haven’t been exposed to, so here we go. This facility was built in 1979. I used to farrow at the home place with a central farrowing house, using antibiotics in the feeding water, and we got into such a hole that we couldn’t even raise hogs. And that’s because we didn’t have anything left to use. So when we came up here we started this program without antibiotics in the feed or water. We’ve been doing that for 18 years. Nursery, isolits, finish. We had the barn, so we made some pens here. *You have to use what you have.*

This *(windbreak)* is very important: putting a Cargill unit up in the middle of a corn field, you’re asking for disaster. You need to slow the wind down and stop the snow from coming in. This winter was probably the worst one we’ve been through. We had a lot of snow in these pens, but in the finishing unit and in the nursery, we had no drifting. We didn’t clean it out until we did normal cleaning. Taking manure from farrowing pads and dumping it in with the pregnant sows is an old idea. They build immunity to the organisms and the little pigs will, too.

**When do you do that, Dick? How many weeks prior to farrowing?**
Dick: We do it all the time. Whenever we clean up the iso-lit pad, we bring some of it over here and dump it in there.

**That barn opens to the east, right?**
Yes, and that’s not the way you build it. The barn was there [to begin with] and it works beautifully in the summertime; it’s the coolest place you could have for sows. But in wintertime, it doesn’t. As for the isolits, this is an all-in, all-out automatic setup. We wean at 5 weeks—same brothers and sisters, same feed, same house. *You’ve heard several times that that’s a good practice.* And then we’ll move the litter out when they’re 8 weeks. One thing about this system: don’t go after the last nickel. Don’t try to wean at 3 weeks or try to push things. This is more of a natural system and you have to flow with it. Usually we can get by without cleaning those isolits until we take the pigs out. Because if you had to clean those everyday, they’d probably be burned down a long time ago. *(laughter)*

We tried to teach the sows when they were back in the gestation. When you feed by hand, they know to come out in the morning. And they get fairly good
bathroom habits. The bathroom’s out here, and the bedroom’s in there, and the pigs learn from the sows. So these isolits have never been disinfected. I don’t plan to do it, unless something tells me I have to. I’m trying to keep a balance on the organisms. We’ll scrape those clean and put in a 5 gallon pail of aglime, and put some cobs in, and put another sow in. So I need some input. I want to build better isolits. What I’m hearing today is that they need to be a little bigger, and I’d like to make that out on an A-frame, insulate it, and put steel topside and inside. Mark, I’m going to pick your brain on that one. I’d like to have an A-frame because it’s a triangle, and it has a good structure, or an arch. This thing we’ve got to replace; it’ll eventually fall down because it’s a box. It’s a poor structure.

Is there heat in those, Dick?
Yes, we have gas heaters for wintertime, and we use heat lamps during spring and fall. If we can put straw in this isolated air A-frame, maybe we can get by without the gas heat.

What type of seal and why on the inside?
So the sow can’t chew up the wood. You see, they really raise Cain on the inside of that.

How about plastic? Plastic liner?
I’ve got some old corrugated steel which was free.

You mentioned that the pigs stay in there. Do they have creep feed?
We used to have a creep feeder, and there was one in there, but forget it.

So they don’t get any supplemental feeding?
They use the sow-feeder. They’ve done better eating sow feed than when we were trying to feed them the creep feed.

Is there a lid on the feeder?
Yes.

And they raise the lid?
No, they learn that.

So when you wean them, do you have to go out there and put a little feed on the floor?
No. When they’re five weeks, they know what to do. They know where the feed is.

Swine System Options for Iowa

Open Front Systems: Discussion
How big is the floor of the isolit?
It's about an 8'x8' building. And that probably should be a little bigger, for a farrowing house, than what I'm hearing today. I'd like to have an A-frame that I could walk into.

Do you access from the back? To look in there, do you have to look in that flap?
No. There's a door here, beyond the other side. There is a door there, because the creep area for the pigs is right inside here. And there's a door that doesn't show.

(Steve) That's what I like about mine. In the winter I can go back there and process pigs inside.

We tried some gas heaters for the nursery; that didn't work. This is the next set—Dave Williams told me about hanging burlap sacks, and that works. They get to chewing around the bottom, and then you have to put new sacks and new pigs in there at the same time. You can't put new sacks in with pigs that have been in there, or they'll chew them up first. So the person who was working for us came up with this idea to use mud flaps. I think I told Dave, and we exchanged ideas.

A lot of people have tried to mess with Cargill grower-finisher design, and got themselves in trouble. We throw straw in there, and throw some ag lime in too, every other day, and that inside is only cleaned once a year. If you had to clean that every week, you couldn't get anything in there. And then you'd have to bend over with a pitchfork, and you'd have burned it down a long time ago.

How many pigs do you put in each one of those bays?
It depends on their size. We start opening up one hutch. I can explain that better with the next slide. The herdsman we had several years ago came up with this idea, and it's the key to making this work. You open up one unit, which usually would take all the pigs in wintertime—and they can lie out, and they're comfortable. When they get too big, they start sleeping out here. We now put bedding out here in the wintertime. So then you open up one, then this half. You start with one, then one and a half, and when one and a half is not enough, you close this one up, and open up this one. Then you have two; you go from two to two and a half, then from 2 and a half to three, then to three and a half, and that makes it work.

That's a solid panel in that half of one from the roof down to the floor?
Yes.
(comment from Greg) We had trouble in cold weather in ours. We had a small one like this, Dick, where with a bigger pig, they should've had three bays. And in that cold weather, they all stuff themselves into two. We had some suffocation problems in the back end. Do you have anything to help that or are you just at the mercy of weather?

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Open Front Systems: Discussion
I think that the half of a pen idea may help that. I know that's a problem when you go from two to three. And if it's warm weather, they'll use the 3, but if it gets cold they'll go back, and that's too much. Maybe the 2 and a half would've done it. I can't make any promises. We haven't had any piling in the back.

So when it's warm out you're letting them have 2 and a half and when it gets colder you're taking that half and shutting it off?

It all depends. We'll try. If the weather stays fairly constant and it's cold, you move from 1 to 1 and a half, and 1 and a half to 2. You try not to make too big of a jump. We've never used a sack here. That never needs to be closed; it's facing south. Without those mud flaps, this was not working very well. If you get a wind coming out of the northwest and then it turns around and comes out of the southeast, it's got moisture with it.

That cold hard south wind doesn't cool that down too much?

One thing that's going to happen in that nursery is there are going to be cement walls dividing the pens, and that'll help some. In the finishing unit we violated Cargill's specs. They call for 2 8-foot bays in a 16-foot run. And people told us that you have a hard time knowing how to manage them. So we change the number of pigs. These are cement walls for pen dividers. Dave probably doesn't agree with me, I found out. Further south it's too hot in the summer, and I understand. We have to turn the sprinklers on. We have a wind tunnel that comes down between the Des Moines River and the Skunk River, and the wind's always blowing through there. So when, say on a cold day, there are 30 pigs in there, they'll be inside, and it warms up to 50. They kick some of this bedding out, and they lie out here, and they have some protection. But if you notice, you've got to keep the pigs crowded so that they go outside, and the bedroom's on the inside.

We use lime as a balancer on cattle floors. And on these hog floors we use bedding. You can't do this without bedding. If you don't want to deal with bedding, just forget it. Go to some other seminar, not this one. (laughter) So we push the bedding into these hutches with a loader. Now with the walls, we're dumping more on the outside, so that if the weather's nice, some of them can sleep out there. And they'll decide whether they want to be inside or outside. Next (slide), here's the bay. The bedding board has to be a 12"—6-inchers wouldn't work, didn't work. Pigs like it.

How often do you bed?

About every two weeks. This is what it looked like: they've worked the bedding out here in two weeks. With the cement walls, when the weather was fairly decent, they went to the end of the run to dung. The colder it gets, the sooner they turn around before they get clear down to the end.
How much bedding every 2 weeks do you put in there?
A couple of loader buckets.

In each 8-foot bay?
You mean 12" deep? Yes, they get in there and mess around.

The building is 10 feet wide, how deep?
It is 16 feet deep. We dump the manure in a box, which goes to a bunker on a side hill, where we store it. We take it out of here twice a year. In fall, we’ll take the manure out of here and put it on the hay field and plow it under. We have to go someplace with it in the spring, and it goes on a field that’s going to grow corn, and then we cover it up.

As I said in the beginning, this system is not perfect. Like other systems we’re talking about today, they didn’t cause the uproar in Iowa. It’s expansion and environmental concerns [that are the causes for uproar]. I’m not interested in building another one; one of these in a lifetime is plenty. And I don’t feel that this system has put my neighbor out of business. This system uses bedding, which reduces odor. And I think it’s a sensible program. This is an aerobic system that does not smell (whereas an anaerobic system stinks). My point is that we’ve done this for 18 years without antibiotics, and I think it’s a new opportunity. If we can get enough producers to do this kind of thing and get a packing plant that will process the pigs [then there may be a market for these kinds of pigs].

(Dave Serfing now addresses the group)

Well, I’m not sure if I’m in the right room. (laughter) We farrow three times a year, twice on pasture, and once in an old barn, in crates and on bedding. And I turn the sows in and out right behind the crates, but inside the barn itself—they never go outside. Until they’re 2 weeks old, we take the back off the crates, let the sows come and go into the crates, and the creeps are still there. And the pigs go out and mingle with the sows. We’ve been weaning at 5-6 weeks, and I’ve been experimenting this last year weaning at 8 weeks, kind of doing the opposite of what everybody else is doing. But it seems to be working well. When someone asks me how I raise pigs, I always say, “We raise pigs the fun way.” The kids come with me out to the pasture and sit on top of the huts when I take care of the pigs. It’s really a fun way to do it. We’re gestating our sows, and we ring them. And if we’re giving Mark a wish list, I’d like to add a self-feeder that a sow can work with. We feed them by hand twice a day on cement, so they don’t have any waste, and it’s nice to check things anyway. It’s a fun way to raise pigs.

We only have 3 stages of production—what I call a starter building that I built in ‘89. I have the plans here if anyone’s interested. And then we have a finisher that we built in 1964; a modified open front, kind of a cross between the Cargill and the hoops, I think. There are 4 walls all the way around it, but every wall has
doors in it. And there’s a fence-line feeder on one wall, with doors above that. And then there’s a bedded area; this winter I was using up to 6" of bedding in it. There’s a 7’ wide gutter that you clean with a loader tractor every other day. And I calculated quickly when Mark (Honeyman) spoke earlier about how much straw is used. We’re using about half the straw that deep-bedded systems use. And my building holds 200 pigs at a time. They have 3 pens, so we can adjust up to 3 sizes. We spend about 45 hours of labor cleaning the building and hauling it out for a group of 200 pigs. It works great. Throughout the year, dunging habits are important. We manipulate the size of the pen just as Dick does. We keep them manuring in the gutter, instead of in their beds. The only time it doesn’t work is during the hottest parts of July and August—then they lose their dunging habits. So we manipulated our farrowing dates so the building sits empty during the heat of the summer; it’s the one time we clean it out. We use the building 10 months out of the year, and get along really well.

Tell us about your starter building.
Our starter building is the same design, except we tried to work some of the design problems out of it. Besides, there are doors on all 4 walls, and in the old building there’s also a naturally ventilating open ridge in the center of the building, and we put it right over the top of the gutter on the starter building. And we insulated much better; we put 6" in the roof, and 6" in the walls. And went with 4 pens instead of 3 pens, and I moved some of the sows out of the crates and free stalls into the starter building because I had some room. That worked really well, and they used the gutter. A couple advantages I see over the hoop is that we get the manure out of there every two days, so there isn’t any smell at all after you clean it out, and there’s no decomposing. With the gutter system, you swing the gates when you clean the gutter, and lock the pigs up, and it makes sorting when it’s time to sell very easy because you’ve got the natural holding pens, a natural sort alley, and you can open up the pig door in the trailer, shove them in, close the big door, and you can go to town. It takes a lot of the work out of sorting pigs. That’s a big advantage of our system.

When you farrow three times a year, what do you have? Two groups?
We have two groups of gilts in the summertime, and farrow one in the middle of May. We’ll start the 15th of May and then we farrow into the 15th of August, and then when the 15th-of-May group is ready for breeding again, we’ll stagger them out, so they farrow the first of December. And the second group of gilts went to town after they farrowed.

So you have a 1 litter system and a 2 litter system.
That’s one thing I dispute with the Swedish people: the gilts work extremely well in huts and pasture farrowing; I think they work better than old sows, because they’re much nicer and don’t get confused. They seem to do well. But there’s some tax advantages to turning your sow herd every year, and your generation interval’s short; it’s easier to feed them when they’re all the same age and size.
What breed rotation or what are you using for a genetic program? Are you sacrificing anything for meat-producing ability, or are you producing something for lean meat?
My genetics professor at ISU spent a lot of time on this. The reproductive traits aren’t very highly heritable, but I always remember him saying they are so economically important that they’re still the most important traits to select for, so I’ve been selecting for number born alive every year since I graduated from Iowa State. And any breed works. Durocs, Hamps, Yorks—and they all work outside and they all work in huts and we just got our records back from this year, and they figure them a bit differently in Minnesota than they used to. We ended up with an average 10.1 pigs weaned per litter from those gilts and second litter sows, and our cost of production was 28.3 cents a pound this year. So it works, and it’s fun.

General discussion
As Mike Duffy was saying, so what if profitability is up there but our health’s in jeopardy and we hate the job?

And if you can’t take your kids with you during chores, and you have dust or odor problems, why do you have the kids on the farm? If you have to keep them in the house, they won’t come back.

So you’re farrowing around 75 litters a year?
Yes. That’s not our only source of income, it’s just part of our diversified farm, part of our whole system.

Speaking of that lean genetics thing, we sell everything to Farmland grade and yield, and they are changing their previous structure. It used to be backfat and yield, and they’re now going to percent lean. And I don’t know if this is totally true, but as one guy said, they were selecting for backfat but that didn’t mean that it was meaty. There are people who’ll be wild and try to go to 0.2 inch backfat, but why? If they’re paying for meat, who cares if it’s got 0.6 or 0.8? Your pigs are surviving, and mine are 0.6 of an inch, so hopefully I won’t go any lower, but I think the packers aren’t going to make us go any lower.

Does anybody agree with that?
We recently spoke with a buyer from Farmland, and his contention was as you said: they’re going to pay for meat. If you take them up to 260 or 280 and get to that inch backfat, maybe that loineye is going to be a 6 or 7 inch loineye, and if you get it down to 0.5 and 240 or 250 pounds, maybe you’ll only have that 5 and a half inch loineye, but it was their idea. They wanted to pay for lean meat.
How can they measure meat unless they use a different machine than they do now?
That’s the only way I know. A fat-meter measures backfat and loin depth. The backfat is still going to be in the equation, isn’t it?

And your “loin depth” is variable on different hogs.

If you select for backfat alone and you’re feeding *ad libitum*, you’re also selecting for pigs that limit their own appetite, and they’ll grow more slowly. So there’s a trap there. You know, you can have lean pigs without muscle, and you can also have lean pigs that grow slower. And I think history will prove that we’ll overdo the leanness thing. We’ve overdone other things. Take tall cattle. You’ve been around the show ring, you’ve seen all of them.

Instead of trying to take all the fat off them with genetics, I think there are things we can do with diet. Because we raise corn and beans in Iowa, we think that’s the only thing we can feed, but there are some ways to slow the pig down a little.

**By slowing the pigs down, aren’t you reducing the amount of turnover?**
I’ve been experimenting with feeding 10% alfalfa-hay in the finishing ration from 4 months on, and studies say that you sacrifice feed efficiency, but I think I’m taking off almost a tenth of an inch of backfat, and I’m losing hardly any days to market. So with the price of corn being what it is, it makes really good sense.

Those higher fiber diets in these colder buildings are going to work really well in the winter. I couldn’t believe how well they came through in the last winter; they didn’t pile up once, they just spread out.

There’s more heat of digestion when you’ve got oat fiber or alfalfa in that gut. And I think it’s particularly true for a gestating sow.

**As you add the hay do you modify it?**
Actually, I’ve reduced my purchased calcium and phosphorus and lowered my protein %—I mean, lowered my additional soybean meal. So I’ve been able to save some purchased inputs that way, too.

Your total meal assets are probably as high or higher, particularly if you’re using good quality hay.

**You’ve tested so you know what levels you’ve got?**
Nope. (*laughter*) The alfalfa hay has lots of minerals. I don’t think the minerals are going to change much; maybe the protein percent will.

The other thing is, you’ve got alfalfa in your rotation and there are other benefits

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to raising that alfalfa than just for pigs. It’s a circle, a balance that we forget about.

Earlier, in Kansas, you could feed gestating sows basically 100% alfalfa hay diets. I’m convinced the gestating sows do better when they have more fiber in their diet.

If you just feed them the hay, could they tear it apart enough to use it or would it be too much for them?

Carmen Fernholz up in Minnesota built a device where you just dropped a square bale into a grid of hog panels, and the sows would reach in there and pull it out, like a hay-self-feeder for hogs.

We cut up a round bale and throw a little in the pen every day.

Hogs love hay.

**What kind of bedding are all of you using?** Dick uses stacked cornstalks. I use straw. I went to paper last year and caught my building on fire, so I stopped. *(laughter)*

You’re not supposed to light it!

A sparrow builds a straw nest on top of my infrared heater now every day, and I’ve been gone a day, so hopefully it’s not on fire. But the paper was flammable enough that it was scary. Since I’ve stopped that, I’ve never had any trouble.

**You said you had some carcass data from the last year and a half?** *(Greg)* I’ve got last year’s data.

**What genetics have you changed? How has it affected your carcass data?** *(Greg)* What we found is that when I first came to 450 farm around 1992, we were running about 1.2, 1.3 backfat. And we were selling everything to IBP at that time, but the students decided that a cooperative system was a good move, so we joined Farmland. Farmland encouraged us to do this, saying that in 3 to 5 years, we’d have to lower our standards, so they encouraged us to look for leaner genetics. We sat down and said, “If you want to be a competitive producer what do we need to do?” So the students decided to either depopulate and repopulate, or they were going to try to bring new genetics in. Well, what we found was that they’d been raising pigs out there since 1943, and when I first started in 1992, the state vet said we should just get out of pigs there because the disease load was so high that we’d never raise enough pigs on this farm.

Now, according to you folks, and based on my experience with any farm that I’d worked on up until that point, one should try to absolutely minimize any kind of antibiotic use. So with the students we tried to cut back the antibiotics. At that
point I think we were grinding CTC into almost every load of feed, and we went to
a rotation or nursery of 6 months on neo-tetramycin, 6 months on apralan, and
then 6 months on meadox and just rotated it, and right now we’re using maybe
150 pounds of CTC a year, just in weather changes. So we cut back that much,
and just on rotational programs. As far as genetics goes, we maintain a whiteline
crossbred sow. We select everything because we feel they build up immunity to
what we have. We do bring boars in—all our boars are bought through the test
station at Ames. We bring whiteline boars in to maintain the whiteline in our sow
herd, and then we rotate between a crossbred—half-large white, half-Hamp/half-
Duroc, and then we bring back a straight Duroc, and then a straight Hampshire.
Right now we just bought two Hampshire boars from Dave Martin at Marion; the
average backfat is 0.52, loineye is 8.2. So we’re looking for lean meat, and we’re
looking to stay in that 0.8 to 0.9 backfat. We don’t think we need to go any lower
than that, and we’re getting very good performance data back. Our last load of
hogs wasn’t great, because we’re still sorting through hogs, but last year in January
we were at about 48% lean and running about 1.1 backfat; this year we’re about
0.9 backfat and running about 51% lean.

So in a year’s time we’ve managed to rotate that far, and I’ve encouraged the
students to take a look at that. We purchased a lean-meter for gilts, and we’re
going to scan gilts that we select back for ourselves, and try not so much to jump
the backfat down but to get that loineye area up with boar selection this next year,
just because Farmland—our packer of choice—has decided that they want the
higher feeding quality. We’re trying to do all the natural things we can do. We’re
still remodeling the farrowing house and farrowing inside; we’re not going back to
the pasture yet. But we weaned a 10 average this last time while we were in the
process of remodeling. What we found works best for us in farrowing building is
a flush pan system, where they’re flushed twice a week, and yet we get all the
manure away from them. We do have kits in the farrowing house, so the flush pan
allows us not to have any odors drift up through to the pigs, and I think that’s a
little healthier factor. Because of the system there, we were on wire, but we
noticed we were getting some knee abrasions off that and some joint problems,
so we’ve gone to a plastic-covered flooring. We’re getting away from heat bulbs,
which tend to create hot pockets. We’ve gone into what they call a “sweet
heater”—a kind of fiberglass, carbon heater that goes the length of the pig mat,
and it really stretches the pigs out nicely. And you might want to look at those
instead of your infrareds. They’re pretty pricey, about $70 dollars, but one
supplier says his research has shown that between a half to a full pig per litter less
is lost to crushing by the pigs spreading out.

What kind of hut would it take to farrow year-round, outdoors, floorless, in
Iowa or Southern Minnesota, without supplemental heat? Can it be done?
Steve: I think it needs to be airtight. From my experience, that’s what kills me—
any kind of draft.
The draft is worse than the temperature?
Yes.

When we were switching over when I first came here, Mark (Honeyman), you remember the east wing of the barn? It was probably about 20 feet wide, and 40 feet long, and we used to deep-bed with two six-foot cornstalk bales, and I farrowed in February in there, and they were fine, but it was closed up tight. No heat, no nothing. But you had to have deep bedding, and you had to keep the wind out. I think they’ll survive if you keep the wind out.

We had about six sows in that big of an area. And they cornered themselves off. We did put an end creep area in so that the pigs did have an area to get away from, but I couldn’t see where our average in there was any worse than the average in the farrowing house.

I think for outdoor pig production to really be competitive, we have to be able to go at least 10 months of the year in Iowa, and that really means year-round because we could have our cold weather snap just as well in November as we can in March or January!

I just wonder—if you go out on frozen ground, assuming you can get the snow off of it, and you set a hut down, with no floor in it, you’re going to need a lot of bedding to insulate that newborn pig from frozen ground.

A slab of concrete is just as cold as frozen ground, right?
Worse. I read an article about 2 years ago—I think it was in *National Hog Farmer*—and these guys had a bunker silo, and they took a track out of a hay loft, and they put a roof over it, and they just deep-bedded it. And they farrowed everything in that bunker silo year-round, and then they had a trolley cart fit on that, and everyday they’d go out there and they’d pick all the pigs up from all the litters, and process them all out, even them out amongst the sows, and then they’d transfer them. But they farrowed everything out in there, so I think you can farrow in there, Mark, but the question is: how big an area do you have to get on a roof to give them enough area each.

If you’ve got an individual farrowing hut and you make it too big, then that’s more volume of air that the sow is trying to heat up with her body. You can make them too big!