

PIPESTONE

System



Phone: 800-658-2523 or 507-825-4211 Fax: 507-825-3140

www.PipestoneSystem.com

OCTOBER 2009

FIND SELLING WEIGHTS THAT MAXIMIZE NET RETURN

BY DENNIS DIPIETRE, PH.D.



Ed. Note: Dr. Dennis DiPietre is an economist with KnowledgeVentures, LLC based in Columbia, MO.

You're looking at a group of pigs that haven't progressed at the same rate. And you're wondering how you should market them when you foresee variable outcomes. On top of that, you want to hit the sweet spot in the packer matrix and free your building for the next group in a reasonable time.

While producing a quality pig is a multi-dimensional issue (influenced by food safety and the absence of certain controlled residues), no matter when you sell a pig its carcass will always be evaluated in terms of weight and lean percent.

Packers have different valuing schemes directly related to their ability to market pork to their unique set of customers. They know customer preferences for pork attributes vary widely in the many countries to which pork exports are sent. This complex set of demands results in a pricing matrix...rather than a single price offered each day.

The matrix determines how a particular packer values each weight-and-lean combination. Hitting the sweet spot of this pricing matrix with the majority of production is a common goal for producers. Unfortunately, many things complicate efforts to maximize the net income from sales.

First, pigs are living creatures that grow at different rates even when they are perfectly healthy, fed the same diets, and come from the same genetics. The process of biological variation starts inside the sow as piglets are developing. You can observe this at farrowing: pigs from the same litter are born at different weights. Bigger, more robust pigs exploit their advantages by seeking first access to colostrum, boosting their immunity to disease, capturing the most

comfortable areas of the farrowing crate, and generally avoiding crushing and other accidental injuries that sometimes befall smaller pigs.

As they grow and are transferred to finishing barns the disparity in growth rates continues, sometimes accelerated by disease outbreaks and other challenges. By the time the first pigs are reaching marketing weights, the weight range within the barn from smallest to largest can be substantial.

MATCH PIGS IN A LOAD MORE EVENLY

The first and most important consideration in the marketing decision is how to find the weight which maximizes your net return. Like all economic problems, this one involves a tradeoff. You could keep the pigs an additional day (which isn't free) but what will the packer matrix serve up if you do (maybe a revenue reward or maybe a penalty)?

Though it would be easier to compensate for pig size if you marketed them individually, your industry moves pigs in truckload lots. The question of optimal weight becomes more complex when you have to factor in both Big Bruiser and his smallest pen-mate. Yet there are rules to help you avoid big errors.

Profit from a truckload of pigs is really the profit from each pig in the load added together. Since packer-matrix pricing penalizes pigs that are too light or too heavy, the more pigs in the load that match the average weight, the better your return.

The average difference of each pig's weight from the truckload average weight is called the standard deviation. You can reduce the amount of the standard deviation if your truckloads don't contain a variety of weights over time.

Over a few months the typical producer in the United States will market most loads with a standard deviation of 20-30 lbs.—or more. Reducing the gap between the smallest and the largest

Continued on Page 2

SWINE LINE

THE RIGHT THINGS TO DO RIGHT NOW



BY JOEL NEREM, DVM

That saying about the weather could easily apply to our current situation with H1N1: “Everybody talks about the weather but nobody does anything about it.” Novel H1N1 is spread human to human—not pig to human—much like the seasonal H1N1 that has been occurring for decades. There are things you can do to limit the spread of both novel H1N1

and seasonal H1N1 between humans and from human to pigs. We at Pipestone Veterinary Clinic offer you this overview of use actions you can take now.

We reviewed the information provided by the American Association of Swine Veterinarians and studied positions taken by the Center for Disease Control and other public-health organizations. Carefully weighing the animal-health options, the public-health recommendations, and the progress of vaccine development at this time, we developed a set of guidelines we hope will be useful to pork producers and employees.

We believe these are the right things to do right now but we’re not implying any guidelines are set in stone. We continue to closely monitor this issue.

SHOULD YOU BE VACCINATED?

Each year the healthcare system produces seasonal-influenza vaccines for use in the human population. Public health officials strongly recommend inoculation this year, especially for those most at risk—the very young, the elderly, and those with medical conditions that put them at risk for flu complications.

A vaccine against novel H1N1 influenza is currently in production. Public health professionals are recommending people receive this vaccine once it becomes available, with the understanding that



supplies will be limited initially and its use will be prioritized.

For their own wellbeing, and to safeguard the livestock population, we recommend that our customers, shareholders, swine farm workers, and employees be vaccinated for seasonal influenza as well as the novel H1N1 when it becomes available.

Check with your health insurance provider regarding coverage for these inoculations. (Our EMP SERV employees are fully covered for both influenza vaccines under the \$500 Employee Wellness benefit of their Blue Cross/Blue Shield plan.)

WHAT ABOUT VACCINATING PIGS?

At this time no swine influenza vaccines contain the novel H1N1 flu strain. Now, as before, we recommend all sow herds and replacement breeding stock be vaccinated with a commercially licensed or quality autogenous swine influenza vaccine.

We don’t recommend vaccinating growing and finishing pigs for swine influenza. So far there is no evidence that vaccinating for this disease will consistently reduce its clinical effects in growers or finishers.

In the event a commercially licensed novel H1N1 influenza vaccine becomes available, its use in grow-finish barns and for breeding stock would need to be carefully considered. At such time we will thoroughly evaluate the product and share our findings with our management employees and shareholders.

All of us at Pipestone Veterinary Clinic are ready to help you work through appropriate decisions for your pork production operation and your staff. Please contact your PVC veterinarian if you have questions regarding novel H1N1, seasonal H1N1, and vaccination. ■

FIND SELLING WEIGHTS THAT MAXIMIZE NET RETURN

Continued from Page 1

pigs marketed to 18 or 19 lbs. (which is achievable on most farms) could improve profits.

TRY MOVING TOWARD THE CENTER

While there are too many variables for me to tell you precisely what your own optimal marketing weight should be, if your marketing weight exceeds the national average marketing weight and your standard deviation is high, you are probably marketing too heavy.

In that case, try some lighter loads and see if net cash flow from those loads increases. Your check from the packer will be smaller but so will your feed bill. Ultimately you are looking for more profit, not worrying about revenue by itself.

If, however, your current marketing weights are below the national average but your pigs are consistently tightly grouped by weight, you may be able to market at higher weights to garner more net income. In that case you can determine effectiveness by trying higher weights for a few loads while carefully accounting for net return over feed cost. ■

CHANGING THE WAY WE LOOK AT WEANING AGE

A CONVERSATION WITH DR. RODGER MAIN, DVM, PH.D.



Ed. Note: Dr. Rodger Main recently assumed new duties as Director of Operations at the Veterinary Diagnostic Lab in the College of Veterinary Medicine at Iowa State University. He spent many years in pork production, most recently with Murphy-Brown, LLC, the livestock production subsidiary of Smithfield Foods, Inc.

SWINELINES: *The Pipestone System recently reduced sow herd numbers and now increased weaning age is another option on the table. What does your experience tell you about weaning age?*

DR. MAIN: Of all the things an individual producer or production system can do, adding lactation time is always a financial winner. I can cite a series of studies that demonstrate the very clear and consistent effects of increasing weaning age post-weaning performance. In fact, when all other factors hold constant, these effects are extremely linear.

Since responses to later weaning progress sequentially, these biological rates of change can be used in system-specific economic models to help producers understand the net financial implications of altering weaning age within a production system.

SWINELINES: *Will our shareholders be able to see measurable results in their barns if weaning age increases?*

DR. MAIN: The improvements in post-weaning growth-performance associated with increasing weaning age seem to be largely driven by increasing weaning weight. Pigs commonly grow at a rate of approximately half-a-pound per day in the crate. Thus it is often desirable to redesign a lactation schedule based on effects per pound of increasing weaning weight.

Essentially, pigs do better all through their lives the longer they stay on the sow—this is very repeatable biological data. In the chart I've provided, it's easy to see how a specific weaning weight increase would result in an expected post-weaning performance response.

That predictable response also gives you some rules of thumb. Increase weaning weights by a pound and your sale weights will go up five pounds. The total number of pounds you'll market also goes up because pigs weaned later—pigs that spend more time with the sow—also have better survival rates.

SWINELINES: *So we could expect more pigs per sow?*

DR. MAIN: As pigs born alive and pigs weaned per litter have increased rather significantly in recent years, it is not uncommon that weaning weights per

day-of-age have decreased. To illustrate: the average litter of 19-day-old pigs tallies nine pigs weaned per litter. But those pigs are likely not the same weight as 19-day pigs weaned at 11 pigs per litter.

The effects of increasing weaning age and weight, correspondingly (shown on the chart as Growth & Economic Performance) are most evident in the first six-to-seven weeks post-weaning, with some smaller incremental improvement carrying out into the finishing stage.

Also increasing lactation time offers a carry-over effect for the next litter from that sow because the longer you allow the mother to lactate the more pigs she will have the next time—up a one-tenth of a pig per day. Lactate five days more and your production is up half a pig per sow.

SWINELINES: *Would you describe what we see in this table?*

DR. MAIN: As I said, the rates of change are important, first of all. A pound at weaning is 3.5 pounds out of the nursery and roughly five pounds at slaughter. There is a cost to increasing lactation length at your Pipestone System sow farms—Dr. Gordon Spronk and I have talked about those issues. So I suggest this table to help everyone understand the possible payback.

The table tracks growth by both age and pounds. You'll notice the balance of impact from increased lactation occurs in the nursery phase with some carry-over into performance during finishing. In short, the chart tells us it is important how the pigs start.

I'd say fewer sows in a barn give employees the ability to focus on extended weaning times with a benefit that extends all the way to the finishers. ■

LINEAR RATES OF CHANGE AS WEAN AGE INCREASES FROM 15 TO 21.5 DAYS AT (\$40/CWT) LIVE-WEIGHT MARKET PRICE¹

ITEM	RATES OF LINEAR CHANGE	
	PER DAY OF AGE	PER 1 LB @ WEANING DUE TO INCREASING WEANING AGE
ALLOTMENT WEIGHT, LB ²	0.56	1.0
42-DAY POST-WEANING WEIGHT, LB	1.96	3.5
GROWTH AND ECONOMIC PERFORMANCE, ASSUMING LIMITED GROW-FINISH CAPACITY ³		
OFF-TEST WEIGHT, LB	2.8	4.9
WEIGHT SOLD PER PIG WEANED, LB ⁴	3.70	6.6
COST PER CWT, (US\$)	-0.19	-\$0.33
INCOME OVER COSTS PER PIG WEANED, (US\$)	0.58	\$1.03
GROWTH AND ECONOMIC PERFORMANCE, ASSUMING NON-LIMITED GROW-FINISH CAPACITY ⁵		
POST-WEANING DAYS TO COMMON MARKET WEIGHT	-1.73	-3.07
WEIGHT SOLD PER PIG WEANED, LB ⁴	1.10	0.89
COST PER CWT AT COMMON MARKET WEIGHT, (US\$)	-0.14	-\$0.25
INCOME OVER COSTS PER PIG WEANED, (US\$)	\$0.39	\$0.69

Linear rates of change as wean age increases from 15 to 21.5 days at (\$40/cwt) live-weight market price²

1300 South Highway 75
PO Box 188
Pipestone, MN 56164



TIME TO CONSIDER WEIGHTY MATTERS



*Dr. Luke
Minion, CEO*

Weaning weights and market weights: those are two of the weighty topics we chose to consider in this issue of our newsletter. Read on and you'll find we consulted Dr. Dennis DiPietre and Dr. Rodger Main—a well-known economist and an experienced production expert—who give you some ideas to chew on.

Meanwhile H1N1 is still on the table. Dr. Joel Nerem of Pipestone System recently put together our policy statement on flu vaccinations so we asked him to tell you how we arrived at our positions.

Everything we discuss in this issue carries weight because we're focused on steps you can take to improve your financial situation. Your success matters to everyone in Pipestone System. If you find yourself chewing on some of these issues while you're on the combine or hauling grain to town, feel free to call us. ■

