

# Gestation rations, sow health effect long-term success of piglets

Date: 2013-12-09

By Jeff Hoffelt

Proper feeding is crucial even before piglets are born. The sow's diet in gestation, at farrowing and through lactation creates ongoing benefits for the animal, its litters and the producer.



Purina Animal Nutrition

New research shows that the ration fed to gilts and sows during gestation can drive the success of the litter. Sows and gilts that are fed properly in gestation have a greater potential to produce adequately-sized pigs at birth who have greater growth rates throughout their lives.

Feeding pigs is more of a marathon than a sprint. The race to market weight can take nearly 200 days, and it all begins with a successful start. To successfully get piglets off to the best start possible, focus should be put on piglet growth prior to their birth, beginning with care given to the sow.

"The piglet spends about 50 percent of its lifetime in and with the sow, so what we're feeding in gestation and lactation can directly impact the long-term success of the pig," says Gawain Willis, Ph.D., director of nutritional services for [Purina Animal Nutrition](#). "Postnatal growth may be largely pre-determined during fetal development."

For enhanced pig performance, starting at birth, sows should be fed properly through all stages. Read on for industry advice and research on the impact of sow nutrition through fetal development.

## Pre-conception

[Sow nutrition](#) from weaning to breeding is where the success of the next litter begins. Nutrition during this period impacts the sow's fertility. For benefits in fertility and beginning to rebuild body condition, Willis recommends sows be full-fed from weaning to breeding.

"Full-feeding sends positive messages to the balance of hormones in the sow. This can lead to greater ovulation rates and, perhaps, more robust follicles," he says. "Fine-tuning the ration during this period can lead to greater ovulation rates, more eggs fertilized and greater survival of early embryos."

### **First and second trimester**

Once the sow is bred, the ration continues to be important for the early growth of her litter.

The sow's first instinct is to reproduce, so she will allocate nutrients to the litter no matter the ration. "If a poor ration is provided, the sow will sacrifice her body condition and longevity to support the litter," Willis says.

"While the sow can produce a 'normal' looking litter on poor nutrition, health of the newborn piglet will be compromised by lack of nutrition during development," he adds. "These issues can also lead to problems for the pigs later in life during the growing and finishing stages."

Underfed sows during gestation also have less potential to develop complete and normal mammary tissue, resulting in reduced lactation performance.

### **The key to early gestation feeding is a balanced ration.**

The key to early gestation feeding is a balanced ration. Under-conditioned sows may be unable to produce adequately sized piglets at birth, while over-conditioned sows can result in impaired mammary development, reduced feed intake during lactation and unnecessary ration costs.



### **Purina Animal Nutrition**

The success of piglets begins before farrowing. To set them up for adequate growth rates, breeding performance or carcass qualities, producers are encouraged to feed sows to maintain consistent body condition scores through gestation.

### **Third trimester**

Gestation nutrients are most critical to fetal growth during the final third of gestation, with a large percentage of the pig's placenta, heart, liver and gastro-intestinal tract forming during that time.

Bump feeding continues to be a debated feeding strategy for the third trimester, with studies showing variation in the benefits. If opting to bump feed, Jon Bergstrom, senior technical support manager for [DSM Nutritional Products](#), recommends that first-litter gilts' and under-conditioned sows' rations be increased by 1.1 to 2.2 pounds (0.5 to 1 kilogram) of feed per head per day beginning on day 90 of gestation.

"This is a period when the fetuses are developing rapidly and the sow needs an increased supply of energy and nutrients to support their growth," he says. "This added nutrition is especially important for maximizing pig birth weights."

### **Postnatal development**

The nutrients provided to the sow pre-conception and through gestation can impact birth weights at farrowing -- a number that plays a critical role in the future success of the litter.

Lighter-born pigs may be developmentally disadvantaged, have a greater risk for pre-weaning mortality and, generally, have reduced growth rates and poorer feed efficiency.

"While geneticists are developing breeding lines with improved piglet vitality, heavier birth weights and a reduced likelihood for pre-weaning mortality, these characteristics can only be realized today by providing the correct nutrients during gestation," Bergstrom says.

*References available upon request.*

*For more information on sow nutrition, contact: Purina Animal Nutrition at +1.800.227.8941, <http://swine.purinamills.com> or Jon Bergstrom at +1.785.317.9128 or [jon.bergstrom@dsm.com](mailto:jon.bergstrom@dsm.com).*

[http://www.wattagnet.com/Gestation\\_rations\\_sow\\_health\\_effect\\_long-term\\_success\\_of\\_piglets.html](http://www.wattagnet.com/Gestation_rations_sow_health_effect_long-term_success_of_piglets.html)