



The First Power In Genetics

GENESUS

FEEDING GUIDELINES



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Genesis continues to focus on maximizing genetic improvement of economically important traits and optimum cost per pound of gain while maintaining a product that has the best eating experience.

Genesis has focused on maintaining feed intake at status quo and selecting for pigs that grow faster.

This allows the Genesis pig to improve on FCR, yet handle stress (i.e. diseases challenge, out of feed events, management, etc.) it encounters.

Understanding how to feed an animal to its appetite and nutritional needs is critical to profitability.

There are some very big differences between breeding companies in population average feed intake. Genesis knows from trials we have done compared with other breeding companies that our feed intake can be up to 20% higher than some of the competition! 20% higher feed intake is clearly very significant.

Feeding two different populations with same diets, is quite obvious going to give very different results!

Each breeding company has specific requirements that are a result of their breeding strategy. There is no 'common strategy' there is no 'one diet fits all'.

If you want to get the best performance from Genesis pigs, follow our diet specification and feed intake guidelines.



GILT DEVELOPMENT AND FEEDING OF THE GENESUS SOW



Genesis has historically and consistently placed a heavy emphasis on feed intake in the selection criteria for both their male and female lines. As a result, Genesis sows are readily able to accumulate body reserves and recover from successive lactations without excessive loss of body condition.

The high feed intakes exhibited by Genesis sows during lactation also promote longevity and lower mortality rates in the breeding herd.

GILT DEVELOPMENT

- Select the heavier gilts in the litter as potential replacements. Inadequate colostrum consumption often leads to reduced preweaning growth. This in turn can negatively affect reproductive tract development and puberty attainment.
- Feed a good quality nursery diet with commercial specifications to maximize growth during the nursery stage. Consult the Genesis Feeding Guidelines for nursery diet specifications.
- During the grow finish phase, feed Genesis gilts ad libitum using gilt developer specifications listed in Table 6, Nutrient Guidelines for Genesis Gilts and Sows.
- Ideal target breeding weight is 135-160 kg (300-350 lbs.). Gilts bred above this weight may have higher stillbirth rates at farrowing; gilts bred below this weight may result in reduced lifetime performance for total pigs born.
- Gilts should be a minimum of 30 weeks of age at first mating (preferably at 2nd estrus) to optimize first litter performance and sow lifetime productivity.
- If gilts are being bred in stalls, ensure an adequate acclimation period (at least 3 weeks) prior to breeding. Continue full feeding during this period as energy restriction at this critical time may reduce ovulation rate at first mating.
- After breeding, adjust daily feeding levels to those listed in Tables 1 and 2, using a gestation diet formulated to meet Genesis specifications for amino acid, macro and micro mineral, and vitamin levels. Consult the Genesis Feeding Guidelines for these specifications.

**SELECT
HEAVIER
GILTS**

**FEED
QUALITY
NURSERY
DIET**

**GROW/FINISH
FEED GILTS
AD LIBITUM**

**BREED AT
30 WEEKS
300-350 LBS**

**AFTER
BREEDING
ADJUST
FEEDING
LEVELS**



Breeding, Gestal Feeding Station, Genesis Multiplication Farm



GESTATION FEEDING



Picture source:
Dr. M. Knauer, NC State University

The basis of a successful gestation feeding program is an accurate assessment of the sow's body condition, and a disciplined approach to adjusting individual feeding levels according to that assessment.

Body condition is most accurately and consistently evaluated by monitoring sow back fat levels (a reflection of body fat reserves) and sow live weight (a reflection of body protein reserves).

Back fat levels can be measured using ultrasonic back fat testing equipment or a sow body condition caliper (pictured left). Live weight can be estimated from the parity number of the sow. Together, these two inputs can be used to construct a practical feeding chart for Genesus sows using high energy diets (eg. corn) or low energy (eg. barley) diets (Tables 1 and 2).

**ASSESS BODY
CONDITION ON
DAY 1/60/90
OF GESTATION**

**SPOT CHECK
VOLUMETRIC
FEED DROPS**

**DO NOT
BUMP FEED
UNLESS THIN**

**DO NOT FEED
LESS THAN 1.8
KG 4 LBS PER
DAY**

**MONITOR
ANNUAL
GESTATION
FEED DELIVERY
VOLUMES**

- Assess body condition and set feeding levels on all sows at weaning. (use Table 1 or 2 as a guideline, pg. 5)
- Reassess body condition at days 60 and 90 of gestation and adjust feeding levels accordingly. The goal is to have at least 80% of females in ideal body condition by day 90 of gestation.
- Spot check volumetric feed drops routinely to verify actual weight of feed dispensed.
- The daily feeding allowance for Genesus sows does not need to be altered according to stage of gestation. The feeding level guide (Table 1 or 2) can be used throughout the gestation period.
- Bump feeding is NOT recommended (increased feeding levels over the last 30 days of gestation) for Genesus gilts or sows, unless in thin condition. The energy provided by the extra feed will be used almost exclusively by the sow to increase her own body weight and back fat at farrowing, with no significant impact on piglet birth weight. The extra sow weight and back fat resulting from bump feeding lead to lower lactation feed intake and colostrum yield, and higher still birth rates.
- Do not feed sows less than 1.8 kg (4 lbs.) per day without consulting a qualified nutritionist. Feeding allowances below this level may result in deficiencies in daily intake of some essential nutrients such as vitamins and amino acids.
- A diet with similar energy levels but elevated essential amino acid levels may be fed during the last trimester (5 weeks) of pregnancy. Consult a qualified nutritionist for this option.
- Actual daily gestation feeding levels on farms can be verified by monitoring annual gestation feed delivery volumes and referencing Table 3 to determine apparent daily intakes.

Recommended Gestation Feeding Levels for Genesis Females

TABLE 1

Low Energy Diet¹

P2 Back fat, mm:	<13	13-18	>18
Caliper Reading:	Thin	Ideal	Fat
Parity	Daily Feed Allowance, kg (lbs.)		
Gilts	2.2 (5.0)	2.0 (4.5)	1.8 (4.0)
P1-P2	2.5 (5.5)	2.2 (5.0)	2.0 (4.5)
P3+	2.7 (6.0)	2.5 (5.5)	2.2 (5.0)

1. Diet net energy level of 9.62 MJ/kg or 1045 kcal/lb.

TABLE 2

High Energy Diet²

P2 Back fat, mm:	<13	13-18	>18
Caliper Reading:	Thin	Ideal	Fat
Parity	Daily Feed Allowance, kg (lbs.)		
Gilts	2.0 (4.5)	1.8 (4.0)	1.8 (4.0)
P1-P2	2.2 (5.0)	2.0 (4.5)	1.8 (4.0)
P3+	2.5 (5.5)	2.2 (5.0)	2.0 (4.5)

2. Diet net energy level of 10.45 MJ/kg or 1135 kcal/lb.

TABLE 3

Apparent Daily Gestation Feed Intakes³ Based on Feed Deliveries

Annual Gestation Feed Amount Delivered Kg (lbs.) per Female in Inventory	Herd Ave. Non-Productive Days	
	50	75
	Apparent Gestation Intake, kg (lbs.) per day	
600 (1325)	1.9 (4.2)	1.7(3.8)
650 (1435)	2.1 (4.6)	1.9 (4.2)
700 (1545)	2.25 (5.0)	2.0 (4.5)
750 (1655)	2.4 (5.3)	2.2 (4.8)
800 (1765)	2.55(5.6)	2.3 (5.1)

3. Assumes 2.3 litters/yr. and a lactation length of 21 days

**SWITCH TO
LACTATION DIET
3-4 DAYS PRIOR
TO FARROWING**

**FEED 6-8 LBS
PER FEMALE
PER DAY**

**FEED WITHIN
6 HOURS OF
THE ONSET OF
FARROWING**

**FEED
AD-LIBITUM
STARTING DAY 1**

**CHECK
WATER FLOW
MINIMUM 1 LITRE
PER MINUTE**

**KEEP ROOM
TEMPERATURE
BELOW 19°C/66°F**

**FOCUS ON
PARITY 1
FEED INTAKES**

FEEDING PRE-FARROWING

■ Switch gestating females to a lactation diet 3-4 days prior to farrowing. This diet will support the increased nutrient demand for colostrum synthesis and mammary tissue development of the sow at this time.

■ Feed this diet at a rate of 3-4 kg (6-8 lbs.) per female per day.

■ Recent information shows that providing feed within 6 hours of the onset of parturition reduces farrowing duration, the percentage of sows requiring farrowing assistance, and stillbirth rate. If possible, divide the daily feeding allotment into 4 equally spaced meals to ensure sows are fed within 6 hours of the onset of farrowing.

LACTATION SOW FEEDING

Genesis female lines are highly prolific, often producing litter sizes of 15+ pigs born alive. To support these large litters, a high daily energy (feed) intake is necessary, as milk production represents 65-80% of the lactating female's energy requirement.

Energy intake is particularly important in the first 10 days of lactation when milk production increases threefold. Genesis females exhibit an aggressive appetite after farrowing and by day 10 after parturition, have attained 85% of their peak daily energy intake (Figures 1).

To realize the Genesis female's full feed intake potential during lactation, practice the following:

■ Ensure that gilts and sows are in the proper body condition during gestation. Target 80+ percent of females to be in ideal body condition (13-18 mm back fat) by day 90 of gestation, and less than 10 percent to be in fat condition (> 18 mm back fat).

■ Allow lactating females ad libitum access to feed throughout their lactation period, monitoring residual build-up in the trough as an indicator for managing feed delivery.

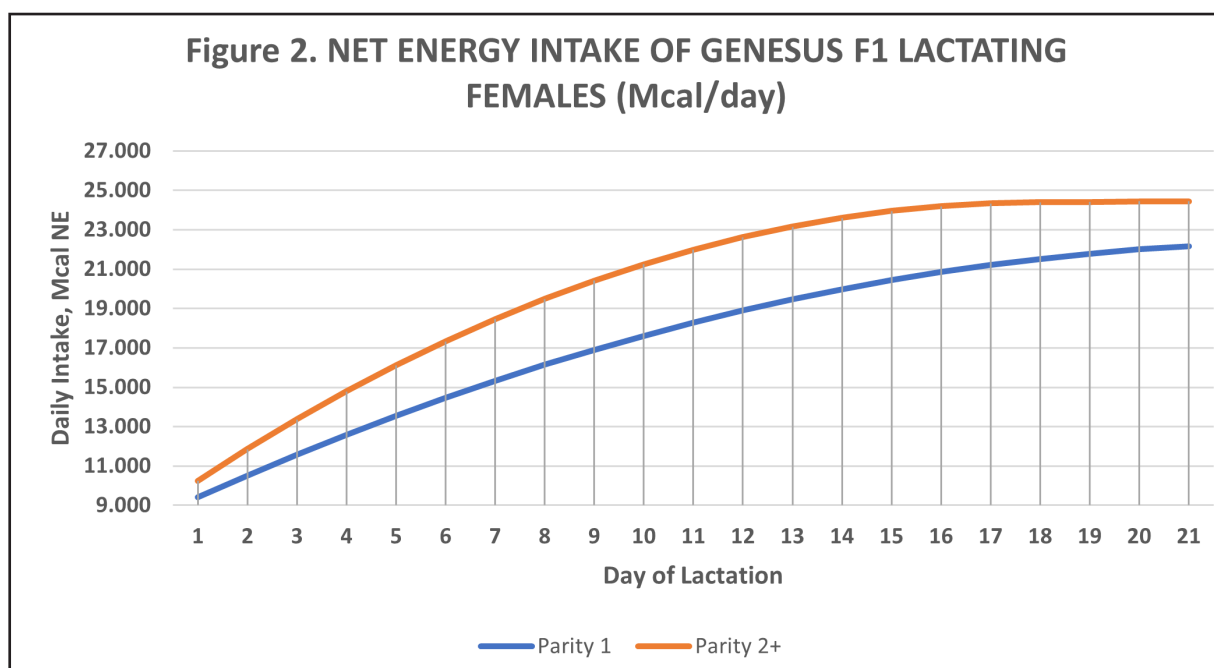
■ Ensure adequate access to water. Water nipple flow rates should deliver 2 litres (8 cups) of water per minute.

■ Strive to maintain farrowing room temperatures below 19°C(66°F). Sow feed intakes decrease by 350 g/day (0.75 lbs./day) for every 2°C (3.5°F) above this temperature.

■ Focus on gilt (first litter) lactation feed intakes. Genesis data show that a female's average longevity increases by 0.26 parities for each additional 1 kg (2 lbs.) of daily feed consumed during her first lactation.

■ If possible, consider the use of a separate lactation diet to address the enhanced nutrient requirements and lower feed intakes of first litter females. Consult a qualified nutritionist for this option.



FIGURE 1**Net Energy Intake of Genesis F1 Lactating Females (Mcal/day)****TABLE 4****Expected Lactation Feed Intakes of Genesis F1 Females ⁴**

Parity	Ave. Daily Feed Intake, kg (lbs.)			
	Week 1	Week 2	Week 3	Wks. 1-3
1	5.0 (11)	7.3 (16)	8.6 (19)	7.0 (15.3)
2	5.9 (13)	8.6 (19)	9.5 (21)	8.0 (17.7)
3+	6.1 (13.5)	8.8 (19.5)	9.8 (21.5)	8.2 (18.2)

4. Based on a diet containing 10.46 MJ/kg (1134 kcal/lb.) net energy

THE IMPORTANCE OF HIGH SOW FEED INTAKE

1. Increased Milk Production

Higher lactation feed intake will increase milk production which in turn leads to heavier weaning weights. Research done by Genesus shows for every 1kg (2.2 lb.) increase in daily feed intake for the sow in lactation, litter weaning weight increases by 3.66 kg (8.1 lb.).

2. Increased Performance of Subsequent Farrowing

Secondly, higher feed intake has a significant effect on performance of subsequent farrowing. For every 1kg (2.2 lb.) extra daily feed intake, total number born in subsequent farrowing increases by 0.27 piglets.

3. Reducing Sow Mortality and Sow Cull Value

Lastly, higher feed intake has a positive effect on reducing sow mortality and increasing sow cull value. Dead sows have no salvage value to help offset the cost of a replacement gilt. Furthermore, about 45% of mortalities occur while the sow is pregnant, resulting in additional litter production losses. In many parts of the world, current average sow mortality rates range from 13 to 15%, with many farms experiencing rates over 20%. Genesus females outperform the industry average, with our latest results showing a sow mortality rate of 5.04%*.

*Average representative of all Genesus Sow herds that submitted data for 2021 year.

SOW FEEDING POST-WEANING

The high feed intakes achieved by Genesus sows result in minimal losses of body condition during lactation. A back fat loss of 1.5 mm and a net bodyweight loss of 3-4 kg (6-8 lbs.) at weaning is typically experienced in multiparous females. Table 5 illustrates expected changes in sow body weight and back fat thickness of the Genesus sow over her reproductive lifetime in the herd.

Genesus sows do not require a special post weaning diet to restore body reserves. Furthermore, minimal body condition losses mean that Genesus sows require less feed to regain ideal body condition in subsequent gestation periods.

Feed 3-4 kg (6-8 lbs.) per day of the gestation diet from weaning to rebreeding to replenish lost body reserves. If possible, use individual feeders and water nipples for newly weaned animals to ensure adequate feed intakes during this time. After breeding, transition to the appropriate level of gestation feed as dictated by Tables 1 and 2 (pg. 4)

TABLE 5

Body Condition Changes of the Genesus Sow Over Successive Parities

Parity	Change During Lactation ⁵			Bodyweight at Weaning	
	Weight Loss		Back Fat Loss,		
	Kg	Lbs.	mm	Kg	Lbs.
1	9	20	3.2	195	430
2	3	6	1.5	220	485
3-5	3	6	1.3	255	560
>5	3.5	7.5	0.6	275	605

5. Based on a diet containing 10.46 MJ/kg (1134 kcal/lb.) net energy



TABLE 6**Nutrient Guidelines for Genesis Gilts and Sows**

Nutrient Levels	Gilt developer (75-120 kg, 165-265 lbs.)	Gestation	Lactation
NE, kcal/kg	2300	2300	2500
SID Lysine: NE, g/Mcal	2.87		
SID Lysine, %	0.66	0.60	0.95
SID Met+Cys: Lysine, %	58	70	53
SID Threonine: Lysine, %	66	76	64
SID Tryptophan: Lysine, %	18.5	19	19
SID Valine: Lysine, %	66	71	64
SID Isoleucine: Lysine, %	56	58	57
SID Leucine: Lysine, %	100	100	100
Ca, %	0.85	0.9	0.90
Ca: Ne g, Mcal	0.37		
Av P %	0.40	0.45	0.43
STTDP %		0.45	0.45
Ca: Av P	2.13	2.00	2.09
Na, %	0.20	0.20	0.20
Zinc, ppm	120	120	120
Iron, ppm	150	150	150
Manganese, ppm	50	50	50
Copper, ppm	15	15	15
Iodine, ppm	1.0	1.0	1.0
Selenium, ppm	0.3	0.3	0.3
Vit A, IU/kg	12000	12000	12000
Vit D, IU/kg	1500	1500	1500
Vit E, IU/kg	70	70	70
Vit K, mg/kg	4.5	4.5	4.5
Vit B12, mg/kg	0.04	0.04	0.04
Niacin, mg/kg	45	45	45
Pantothenic Acid, mg/kg	35	35	35
Thiamine, mg/kg	2.0	2.0	2.0
Riboflavin, mg/kg	10.0	10.0	10.0
Biotin, mg/kg	0.45	0.45	0.45
Folic acid, mg/kg	2.0	2.0	2.0
Choline, mg/kg	600	650	650
Pyridoxine, mg/kg	3.5	3.3	3.3