LIGNOFEED®

Functional Fiber in Late Gestation and Lactating Sows: The Case for LIGNOFEED®

The Role of Dietary Fiber in Peripartum Sows

In late gestation and lactation, sows undergo significant physiological and metabolic changes. Fiber plays a critical role during this phase by:

- Supporting **gut health and motility**
- Modulating **fermentation** in the large intestine
- Improving **satiety** and **behavioral welfare**
- Contributing to **smooth farrowing**
- Enhancing **colostrum and milk production** indirectly through improved feed intake and digestive efficiency

However, the type of fiber is essential. While soluble fibers such as pectins (e.g., from sugar beet pulp) promote fermentation and SCFA production, their high fermentability and water-holding capacity may increase gut viscosity, leading to:

- Reduced nutrient absorption
- Increased gas production and discomfort
- Risk of **constipation** and **reduced appetite**

These effects are particularly undesirable around farrowing, when feed intake and intestinal motility are critical for both the sow and her piglets.

Limitations of Sugar Beet Pulp in Sows

Sugar beet pulp (SBP) is often included as a fiber source due to its fermentability, but it comes with risks:

- High **soluble fiber** content increases **intestinal viscosity**
- Potential for **uncontrolled fermentation** and gas accumulation
- Risk of **reduced gut motility** and **constipation** in late gestation
- Variable **microbiological quality** and possible **mycotoxin contamination**
- Requires **higher inclusion levels** to meet fiber targets, reducing formula space for other nutrients

Le informazioni contenute in questo documento sono intese come guida e non costituiscono una garanzia.

LIGNOFEED® A Safer, More Functional Alternative

Lignofeed P and **Lignofeed P+** are advanced fiber concentrates designed to overcome the drawbacks of traditional fibrous byproducts. Their formulation is based on:

- **Insoluble fiber** (78–84% of total fiber)
- **Neutral detergent fiber (NDF)**: 72–78%
- **Low crude protein content (2.0–2.2%)**
- **Prebiotic components**: Fructooligosaccharides (FOS) such as kestose, nystose, and fructofuranosylnystose

This composition offers a **dual mechanism of action**:

- **Insoluble fiber** enhances motility, reduces constipation, and improves fecal consistency—especially important to avoid farrowing complications.
- **FOS** support **selective fermentation** in the large intestine, promoting the growth of **Lactobacillus** and **Bifidobacterium**, stabilizing the microbiota during the peripartum transition.

Benefits of LIGNOFEED® in Late Gestation and Lactation

Physiological Effect	Impact of Lignofeed
Gut motility	Stimulates peristalsis, reduces risk of constipation
Intestinal microbiota	Supports beneficial bacteria through controlled prebiotic action
Satiety & sow behavior	Increases satiety, reduces stress and stereotypies
Farrowing process	Promotes smoother parturition via improved digestive tone
Milk production support	Indirectly via better feed intake and gut function
Formula efficiency	Low inclusion levels due to concentrated fiber

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Nutritional Comparison: SBP vs Lignofeed

Parameter	SBP (NRC)	LIGNOFEED P	LIGNOFEED P+
Crude Protein (CP)	8.9	2.0	2.2
Crude Fiber (CF)	19	51	53
Water-Insoluble Walls	65	84	78
NDF	47	78	72
ADF	24	65	60
ADL	2.7	23	22

This highlights **LIGNOFEED®** superior **fiber concentration** and **purity**, enabling lower inclusion while maintaining effectiveness.

Conclusion

In late gestation and lactation, **LIGNOFEED®P and LIGNOFEED®P+** offer a practically effective solution to meet the fiber needs of sows. Unlike conventional fiber sources, Lignofeed:

- Enhances **gut health without increasing viscosity**
- Reduces **constipation risk** pre-farrowing
- Stabilizes **intestinal microbiota** with prebiotics
- Promotes **feed intake** and improves **welfare**
- Has a **low inclusion rate**, freeing space for energy and amino acids

This makes it a valuable tool for optimizing **maternal performance**, **reproductive outcomes**, and **lactation success**.

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