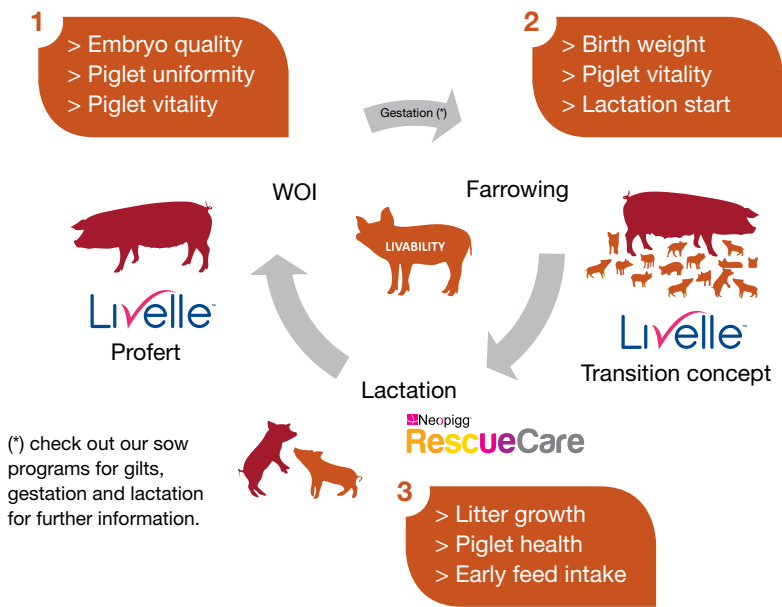


Improving piglet livability
Livelle and Neopigg®RescueCare programs have been developed to help to achieve the potential of the swine unit through improved piglet livability. They target three key periods in the breeding cycle.



Piglet livability cycle

Supported with the nutritional programs
Livelle and Neopigg® RescueCare



Livelle™ is a sow nutrition program designed to enhance sow nutrition and performance in highly prolific breeding herds.

Product	Critical period	Product features	Benefits
Livelle™ Profert	Sows from weaning until oestrus	Glucogenic components stimulate reproductive hormones and embryo quality Rich in micronutrients stimulating embryo development	Embryo quality Piglet uniformity Piglet vitality
Livelle™ Transition	Sows entering the farrowing house until the start of lactation	Essential micronutrients and feed additive, such as Proviox™, to support sow metabolism and foetus development Provilyt™ to stimulate the liver and enhance sow energy efficiency at birth and in early lactation Rich supply of minerals and fermentable fibre to help sow comfort and lactation onset	Piglet weight Piglet vitality



Neopigg® RescueCare is an automatic liquid feeding system designed to improve piglet performance from birth to weaning. It is particularly valuable in large litters.

Product	Critical period	Product features	Benefits
RescueCare system	Piglets from birth until four weeks of age	Automated liquid feeding system, easy mixing and cleaning. Supplies RescueCare Milk and Smooth 24/7	Feed intakes Growth rates
Neopigg® RescueMilk	Piglets - birth to 14 days old	Specially formulated milk replacer, which meets the piglet's protein and energy requirements and stimulates the development of the digestive system	Livability
Neopigg® Smooth	Piglets - from 10 days old	Unique liquid prestarter to stimulate feed intake and prepare piglets for weaning	Feed intake Growth rate Gut conditioning pre weaning

Provimi™ is a brand of Cargill®

Provimi™ is brand of Cargill®, a family-owned company with more than 150 years' experience in developing food and feed ingredients. Cargill® develops result-oriented nutritional solutions and feeding programs, which help producers and their suppliers grow their business. Premixes and concentrate feeds for ruminants, swine and poultry are produced under the Provimi™ brand as well as specialty feeds, such as piglet feeds, calf milk replacers and additives.



**Farm Efficiency
Today & Tomorrow
for Swine**

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Improving swine farm efficiency

Sow productivity and piglet livability go hand in hand. They are key drivers for sustainable swine production.

Piglet livability and sow productivity

Two factors play a large part in determining farm efficiency; piglet livability and sow productivity. These have been the focus of new nutritional strategies developed by Cargill®.

- Piglet livability is the sow’s ability to rear more piglets to weaning.
- Sow productivity is determined by the number of piglets weaned per year.

Both are affected by litter size

Larger litters require new nutritional programs

Improvements in genetics, nutrition, herd health and the environment have contributed to larger litters globally.

This has also brought challenges that can affect piglet liveability:

- greater demands on the sow at farrowing and during lactation.
- lower and less uniform piglet birthweights

Adopting new programs can help the sow meet the nutritional demands of her litter and improve piglet and sow performance.

Improving piglet livability

Improvements in the management and nutrition of the sow and of the piglet from birth to weaning will impact positively on piglet livability. Fewer stillbirths, through improved sow care, and a reduction in pre-weaning mortality will boost the piglet livability score.

Liveability =
$$100\% - \frac{\text{\# stillborn} + \text{\# pre-weaning mortality}}{\text{\# piglets born}}$$



Nutritional programs for swine

Cargill® has focussed its research program on developing nutritional programs and products that can support the sow and the piglet from birth to weaning. The insights from the research provide a solid base to work together with producers in:

- diagnosing current farm performance
- creating a bespoke nutritional strategy
- implementing programs and monitor success

Two specific programs have been developed:

Sow program: Livelle™

The Livelle™ program is designed to improve sow productivity, with a particular focus on piglet livability in two critical periods.

Livelle™ Profert is added to diets from weaning to oestrus. Profert can improve embryo quality, leading to improved litter uniformity and piglet vitality.

Livelle™ Transition is included in sow diets from the start of farrowing to the onset of her lactation. It is a high-specification combination of feed additives, functional ingredients and essential micronutrients, specially formulated by Cargill®.

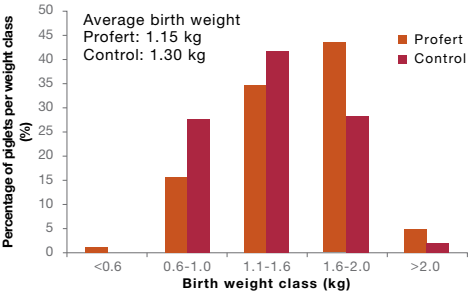
Livelle™ Transition can enhance sow comfort and improve piglet weight and vitality. This has a positive effect on piglet livability.

Piglet program: Neopigg® RescueCare

Neopigg® RescueCare is an automatic liquid feeding system. It supplies fresh ad-lib liquid feed, 24/7, to piglets in the farrowing crate, and has raised standards on many progressive units in the past decade.

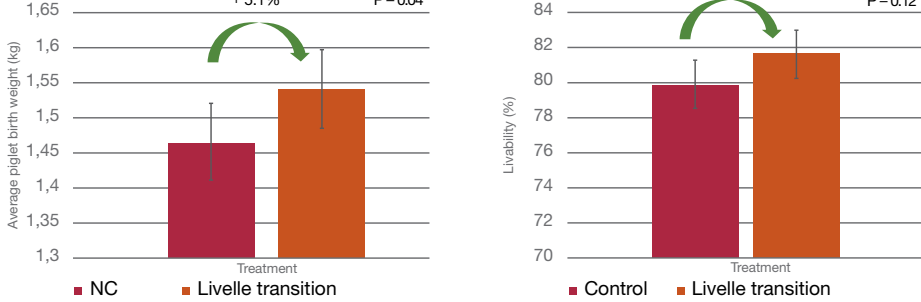
Neopigg® RescueMilk 2.0 compliments the sow’s milk and is followed by the liquid prestarter **Neopigg® Smooth 2.0**.

Effect of Livelle™ Profert on piglet birthweight



Livelle™ Profert has been shown to increase average piglet birth weight by 11.5%, and to reduce the proportion of small piglets in the litter by 40%.
Source: Cargill research, Netherlands, 2014

Effect of Livelle™ Transition on birth weight and livability



Livelle™ Transition has been shown to increase average piglet birthweight by 5.1% and piglet viability by 2.1%, equivalent to an extra 0,3 piglets per litter.
Source: Cargill research, CSIC 25L, USA, 2016

Neopigg® RescueCare: Effect on piglet performance

KPI	Unit	Control	Neopigg® RescueCare	Diff
Total born	nb/litter	15,2	15,2	0,0
Still born	nb/litter	1,1	1,1	0,0
Pre weaning mortality	%	11,0	7,0	-4,0
Weaned / litter	nb/litter	13,4	14,2	0,8
Weaning weight	kg/pgl	6,0	6,5	0,5
Litter weight	kg/litter	80,4	92,3	11,9
Livability	%TB	81,8	85,8	4,0

Source: Cargill field research, Denmark 2015

Cargill's nutritional programs offer the latest advances in sow and piglet nutrition, along with on farm advice from its technical team. Success on farm can be measured in improvements in piglet livability and sow productivity. This leads to greater farm efficiency and a healthier business.