In industrial farming, pig feed is only made with plant products selected for their high nutritional quality. Pig food is mainly composed of pellets or mash cereals (wheat, maize and barley), of oilseed (soybean, sunflower and rapeseed), and minerals.

Two solutions are available to the farmer to feed his pigs:
- Manual distribution of cereals in collective troughs. This solution tends to disappear in favor of the following because it is random, time-consuming and costly labor.
- Automatic distribution of “soup” that offers several advantages, including control of doses supplied and watering pigs.

APPLICATIONS:
- Transfer of soup in individual pens.
The animals are penned by age or stage of development to enable a diet adaptation (recipe and quantity) and to adapt the useful space for their growth. This explains the construction of several buildings and partitioning into several pens.

Generally, there are 4 types of recipes served 2-3 times a day that is to say 12 day preparations.

1 • Dosing the recipe by category
Growing pig: The daily requirement is around 2.3 kg of pellets or mash cereals (dilution : 1kg cereals in 2.7 liters of water*)
Example of recipe: 60% corn, 15% barley, 22% soybean, 3% minerals

Gestating sow : 3 kg of pellets or mash cereals (dilution : 1kg cereals in 4 liters of water*).

2 • Mixing
Ingredients are dosed and mixed in the preparation tank.

3 • Recipe transfer
The preparation is transferred to the pen according to the specific recipe.

4 • Transfer played in a loop
The advantage is double, the loop circuit ensures a homogeneous distribution of soup without any settling. At the end of the distribution, it also allows to flush the pipes before the next recipe.

* variable (case studied)
2 TECHNICAL DATA & PROCESSING RESTRICTIONS

LIQUID FEEDING PREPARATION:
- Viscosity: around 1000 cpo
- Particles size: thin (except when using by-products)
- Abrasion: high
- Discharge pressure: from 5 to 10 bars
- Suction pressure: flooded (below mixing tank)
- Flow rate: 10.8 m³ (pipe DN65) – speed obligation 3 L/s.
- Temperature: room temperature

PROCESSING RESTRICTIONS:
- Lean manufacturing process: use of machinery 7/7 day & 24/24H - There are no days off for feeding and fattening pigs!
- The inability to stop the feed distribution: after few days, risk of cannibalism and loss of goods
- Installation of long lengths of piping related to the organization of space by category of growing, which creates strong pressure in the pipes.
- Necessary speed of 3L/s in the pipe to avoid any settling of cereals. This speed is also necessary to supply a sufficient flow whatever is the number of troughs fed (open valves).

3 EQUIPMENT & PROCESSING RECOMMENDATIONS

- Unlike centrifugal pumps, PCP technology offers the guarantee of a constant flow over long distances under pressure. Beyond 300 meters of pipes, PCP is essential.
- To withstand high pressure, piston pump technology needs a large pump. In addition, this technology has also the disadvantage of a pulsating flow and generates high costs maintenance.

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<th>PCP PCM</th>
<th>Centrifugal</th>
<th>Piston</th>
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<tbody>
<tr>
<td>Maintenance</td>
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<td>- actuator and piston</td>
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<td>Pressure</td>
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<td>Size (space saving)</td>
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25M12S / 40M12S

The Ecomoineau™ M pump is the most compact PCP in the market.

Specification recommendations:
- Monobloc construction
- Single mechanical seal
- Chromed rotor to deal with the potential abrasion and systematic use under pressure
- Polyisoprene IR stator (1562)

Flow rate (cases studied) (at 450 rpm):
- 25M12S:
  - 11.5 m³/h at 6 bars
  - 10.8 m³/h at 10 bars
  - 7.5 m³/h at 12 bars

- 40M12S:
  - 21 m³/h at 6 bars
  - 18.5 m³/h at 10 bars
  - 17.5 m³/h at 12 bars

Pressure (max):
- 12 bars

Do not forget to offer our pumps for transferring liquid manure before spreading.

For more information, please find your nearest contact: www.pcm.eu