

MURSKA



Why it's worth to invest in crimping technology?

1. Economic benefits

- Energy saving.
Open Murska energy and emission calculator.
https://www.murska.fi/murskanet/index.php?option=com_content&view=article&id=159&Itemid=789
- Significantly lower investment costs than grain drying. Crush investment about 1/5 of the dryer investment.
- Improving work efficiency - in one step, ready-to-feed feed into a tube package.
- Silos and storage facilities are not required for storage in the tube.

Savings in energy costs of the crimped grain preservation method compared to grain drying



- Example calculation from Mehtälä farm in Haapavesi, which has a Murska 4000 mill in use.
- Calculate your customer's energy savings per year using a spreadsheet.
- The energy counter can be found on the Murska website:
<https://www.murska.fi/murskanet/>
- You can send the spreadsheet directly by email to your customer's email!

Name/Farm

Contact information

E-mail

Choose Language below

To feeding threshed tons	4000	Tn
Price of fuel oil	0,98	Price/L
Harvesting moisture	32	%
Price of preservative	3,00	Price/Tn
Electricity price	0,15	Price/kW
Tube price	3,12	Price/Tn
Silo covering approx.	0,60	Price/Tn

Drying and grinding

Drying expense/year	198 128
Drying expense/ton	50

Murska silo

Method costs total	22 662
Costs/tn	6
Savings per year	175 466

Murska tube

Method costs total	32 742
Costs/tn	8
Savings per year	165 386

Total CO2emissions

Murska	26,05	tCO ₂
Drying	548,08	tCO ₂

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2. Feeding and productivity benefits

- Studies show milk production increases by up to 11%.
- According to studies, the increase in beef cattle production is 6-10%.
- In addition to cattle, crushed grain can be used in feeding pigs and chickens, including broth.
- Crimped grain is better for digestion by ruminants than finer grain.
- The amount of toxins does not increase even if the grain is harvested earlier.
- Crimped grain is clearly tastier for livestock than dry grain.
- Crimped grain is especially suitable for compound feeding, it does not add moisture to the mixture and does not dust.

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3. Cultivation benefits

- The crimped grain method minimizes the risk of weather
- The choice of earlier and more productive varieties enhances cultivation
- Crimped grain also enables the cultivation of mixed grains
- The operating time of the combine capacity is extended and the operation becomes more efficient

Effects on livestock

Ruminants

- Beef cattle grow on crimped grain as well as on dried grain. In some experiments, growth results and feed efficiency have even been better than dried grain.
- According to the test results, crimped grain is well suited as feed for dairy cows.
- The dry matter composition, digestibility and feed value of crimped grain are the same as that of dried grain.
- Due to its high moisture content, the quantities of crimped grain to be distributed in compound feed and on the feeding table must be higher than in dried grain.
- Otherwise, crushed grain can be used like dry grain and can completely replace dried grain



Poultry

- Crimped barley without further processing is a tasty feed for poultry as well.
- The growth results in broilers have been at least equal to those of dried grain, but the feed efficiency has mostly been better. This is due to the energy value of crimped grain, which is about 25% better than dried grain.
- The change in energy value is due to the degradation of β -glucan during storage, which reduces the viscosity that impairs digestibility.
- In terms of energy value, crimping achieves the same advantage as enzyme addition.
- Crimped preservation also somewhat improves the digestibility of total amino acids. Of the individual amino acids, the digestibility of barley lysine and threonine has been better in experiments than dried grain, but in contrast, there is no difference in the digestibility of sulfur-containing amino acids.
- The phosphorus digestibility of grain preserved in crimped grain is also higher than that of grain dried in poultry.



Pigs

- For pigs, crimped grain is also useful as such and is particularly well suited for broth feeding.
- In practice, the variation in dry matter content can be 8-10% without significant differences in growth results or feed efficiency.
- The vitamin E content of crimped grain is lower than that of dried grain, so it is worth taking care of its supplementation in feeding.



The benefits of crimping in a nutshell

- No drying costs
- Lower labor costs
- Tasty safe and healthy feed
- Harvest is about 2-3 weeks earlier, when the nutrient content is at its peak and the mold levels are at a minimum
- Crimped barley has a 25% better energy value for poultry compared to dried grain
- With crushed corn, the milk yield of dairy cattle can be up to 11% better

The benefits of crimping in a nutshell



- Less dependence on the weather
- Longer threshing season
- Grain yield up to 30% higher (dry matter)
- Better straw feed value
- Possibility to use later more productive varieties
- Previous threshing significantly reduces the toxin levels in the grain