

# The innovative proposition

to attract investors and buyers

## 1. Name of innovation

**THE COOLING SYSTEM OF SMALL SEEDED CROPS WET GRAIN**

## 2. Intellectual Property

Select the appropriate position, put the mark «+». Write relevant information.

- Patented Innovation countries: Ukraine
- Filed for a patent countries: \_\_\_\_\_
- License agreement or Exclusive rights. Exclusive rights
- Other (specify) \_\_\_\_\_

## 3. Type of innovation

Select the icon by replacing from "-" to "+"

<input type="checkbox"/>	Product
<input type="checkbox"/>	Technology

<input type="checkbox"/>	Result of R&D
<input type="checkbox"/>	Other (discussed separately)

## 4. Areas of innovation

Select one or more applications innovation by replacing from "-" to "+" .

<input type="checkbox"/>	Automobiles, transport and logistics
<input checked="" type="checkbox"/>	Agriculture and food technology
<input type="checkbox"/>	Aerial and space technology
<input type="checkbox"/>	Biochemical technology
<input type="checkbox"/>	Building
<input type="checkbox"/>	Military Industrial and Safety
<input type="checkbox"/>	Energy and Energy Saving
<input type="checkbox"/>	IT-technology, ICT industry and services
<input type="checkbox"/>	Light industry
<input type="checkbox"/>	Marine industry and services
<input type="checkbox"/>	Environment
<input type="checkbox"/>	Nano- and Micro Technology
<input type="checkbox"/>	New materials
<input type="checkbox"/>	Medicine and Health
<input type="checkbox"/>	Creative industry
<input type="checkbox"/>	Tourism and cultural heritage
<input type="checkbox"/>	Other. (Please specify below the scope)
<input type="checkbox"/>	

## 5. Novelty

*What does innovation superior (in digits or qualitatively) already existing? (The answer should be clear and concise - three main arguments in support of the use of promising innovations in domestic and/or foreign markets)*

The actuality of the use of artificial cold in the storage of grain is determined by the following factors.

Firstly, the use of high-performance grain harvesters and specialized vehicles in recent years has significantly reduced the harvesting time, but has created problems related to the storage of large volumes of wet grain. Often, the existing drying technology is not enough to handle all incoming grain in a short time, however, the increase in thermal capacity in most cases is economically unjustified.

Secondly, the traditional methods of storage (pre-cleaning, drying, final cleaning and storage in the elevator or grain storage) are associated with grain losses at each stage. At the same time, as practice shows, the use of artificial cold is ultimately 25 to 30% more economical than heat treatment of grain - the loss of dry matter during the respiration of grain at 20 ° C is three times more than at 10°C.

Chilled grain is not subject to self-warming, it does not develop pests, there is no need to move it from one container to another, i.e. no additional waste, less power consumption and equipment wear.

Third, traditional drying in Ukraine and CIS countries, as a rule, is carried out with a mixture of flue gases and air, which causes contamination with carcinogenic substances. Thus, even in high-grade flour, benzopyrene is found, despite the fact that the grain in flour mills is treated with a large amount of water (2 liters of water per 1 kg of grain). At the same time, the cooled grain remains environmentally friendly (pollution by hydrocarbons, soot, sulfur and nitrogen oxides, heavy metals, nitrites and nitrates is excluded) and qualitative (no denaturation of the protein).

Fourth, bread, cereals and flour products are the main food products of the population of Ukraine.

## 6. Stage of Innovation

*What is innovation's stage of development? Select the icon by replacing from "-" to "+"*

-	The concept, proof of concept
-	The prototype, which tested and available for demonstration
+	The technologies for small-scale production
-	The technology is ready for industrial application
-	Commercialized

## 7. The presentation innovations

*Select one or more forms by replacing badge from «-» to «+»*

-	The demonstration model
+	Multimedia presentation
-	Report

## 8. Information about the participants, which apply innovation

	<i>If innovation is filed away</i>
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