

## **Executive Summary**

- The Kazakhstan still depends on import food products, especially canned vegetables and mushrooms
- Kazakhstan has real potential to become one of world's food hubs
- Special emphasis of the Government is placed on the transition to the production of high-value products.
- Food security is a major global challenge defined by four key pillars food availability, food accessibility, food utilization and food stability
- The recent COVID 19 pandemic has exposed the weaknesses in food dependency especially where logistics networks are disabled and export bans placed by partner countries
- This project seeks to develop the first fully integrated canned mushroom facility in the Kazakhstan
- The project investment is US\$ 44.2 with an IRR of 37% and non discounted payback period of 2.9 years
- The market segments to be served by the project are Kazakhstan retail markets via supermarkets, hotels, restaurants and catering (HORECA), exports to Russia and CIS, optionally: MENA, Africa and Western Asia
- The project partners namely Mirak Agriculture's senior team has 100 years of combined experience of managing and operating successful agricultural facilities in the UAE and overseas. The construction team has 62 years of proven experience in building agricultural plants

## Concept:

- 1. Food security is a challenge globally, including Kazakhstan
- 2. Canned mushroom farming will be an important contributor to the food security and import targets
- 3. We are sure that selected technology and the total concept is the best to establish a canned mushroom production
- 4. USD 44.2 m CAPEX investment is required to establish the full cycle canned mushroom production facility
- 5. Production of canned mushrooms could start after 24 months post funding start
- 6. Selected 45ha land plot in Almaty region is acceptable for plants allocation.

# Food security is a major global challenge defined by four key pillars – Availability, Accessibility, Utilization and Stability

Overview food security



Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life,"

World Food Summit



Availability in sufficient quantity and appropriate quality, supplied through domestic production or imports



Access via adequate economic and physical resources for individuals to acquire foods appropriate for a nutritious diet that meets all physiological needs



**Utilization** towards a nutritious diet to **meet** all individuals' **physiological needs** while **minimizing food waste** and **natural resources** 



**Stability** through uninterrupted availability, access, and utilization at the population, household, and individual level

### Kazakhstan has an ambitious strategy to become a world leading hub in food security based on five key strategic pillars

"According to the Food and Agriculture Organization of the UN, Kazakhstan, along with the USA, Australia, Brazil and Argentina, is considered the country with the greatest potential in the agricultural sector. Our country has real potential to become one of the world's food hubs,"

**Source:** http://www.government.kz/en/news/kazahstan-imeet-realnyy-potencial-stat-odnim-iz-mirovyh-produktovyh-habov-a-mamin-264188

#### Strategic pillars of the KZ food strategy

To build up a high-quality and affordable raw material base



Increase productivity, and accelerate the transition to the production of high-value products



Reduce food loss and waste



Sustain food safety and improve nutritional intake



Enhance capacity to respond to food security risks and crises



Canned mushroom production

## Canned mushroom is one of the cheapest sources of protein and can be stored for up to three years

Why canned mushroom



Canned mushroom expires only after 3 years and therefore any type of transportation is applicable



(White) Mushroom contains2-4g protein per 100g





### Mushroom is cheap

1kg of canned mushroom will cost around USD 4<sup>1)</sup>



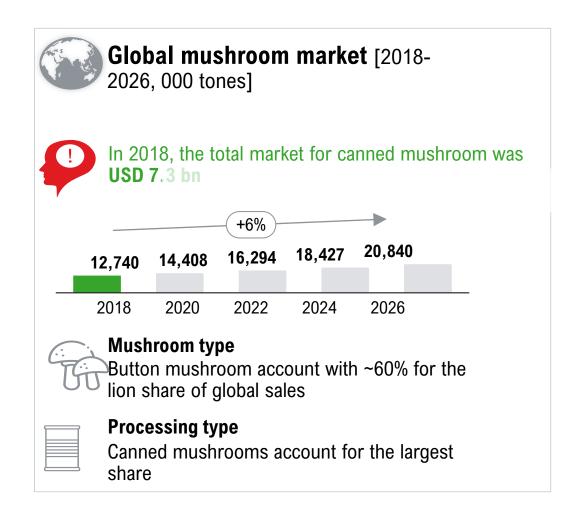
In additional to being a great source of protein, mushrooms also contain

- > Vitamins (C and B)
- > Fiber (soluble fiber and beta glucan)
- > Calcium
- > Minerals
- > Antioxidants (selenium)



### Mushroom is a growing market globally

Overview canned mushroom market [USD m, tones m]



## Starting from the chopped wheat straw, all raw materials & production steps for canned mushrooms can be localized in the KZ

Canned mushroom production value chain

### Raw material



- > Chopped wheat straw
- > Chicken manure

#### Phase 3 compost

- > Existing mushroom farms in the Russian Federation, UAE currently import frozen compost from e.g., Netherlands, Baltics.
- > Hence, local compost production will decrease the import dependence
- > Furthermore fresh compost (vs. frozen) increases the yield per sqm by ~110 kg per year

### Compost production



- > Phase 3 compost production
- > Only ~45% of the produced compost will be used in the production, 55% can be used for other mushroom farms in CIS and other countries

### Mushroom farming



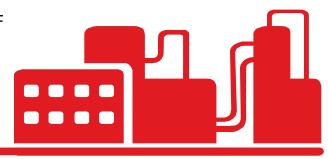
- Growing and automated harvesting of mushrooms
- > Harvest cycle 6 weeks
- > ~5,500 tonnes mushrooms per year (2,9% of estimated RF demand)

## Mushroom canning



Store & Deliver

- Automated canning of mushrooms into cans or glasses
- > Packaging of cans/glasses for delivery



# Realizing this untapped potential, Alma Agri Industries has developed a plan to establish a canned mushroom facility in Almaty region

Project overview

#### **Business idea**



- > To establish an integrated canned mushroom production facility consisting:
  - Mushroom compost production
  - Mushroom growing rooms
  - Mushroom canning

#### Aims and objectives



- To develop a self-sustainable and profitable operation with a short payback period
- > To develop segments that can be utilized by the introduction of additional products (e.g. canning)
- > To encourage local startups as an anchor in the industry

#### **Products for sale**



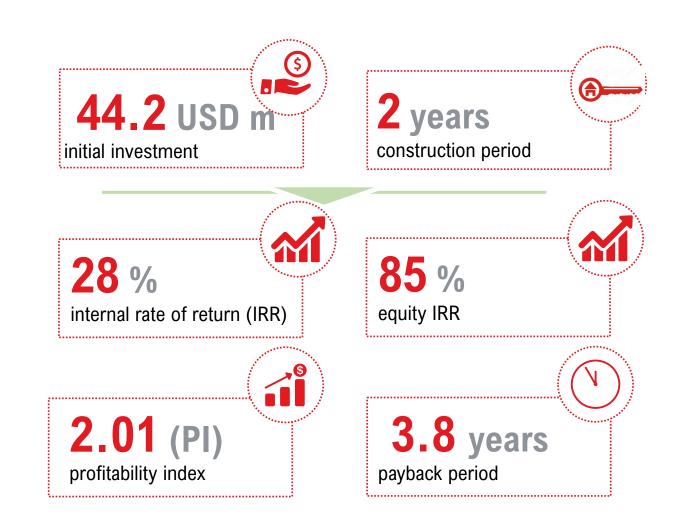
- 1. Canned mushroom in assorted sized
  - Primary output will be canned mushrooms with a shelf life of 3 years, sold in various sizes

#### 2. Mushroom compost

 Excess production of mushroom compost can be sold to local producers

# Our preliminary financial analysis indicates a strong investment opportunity

Key metrics



# Total investment of USD 44.2 m will be required for construction & equipment for a canned mushroom facility

Investment requirements



Total investment required [USD m] 35.7 ~8,5 Other1)

<sup>1)</sup> Including office construction and pre-construction costs and non construction cost such as consultancy fees, incorporation costs, working capital, contingencies etc.

Mirak Group as the oldest farming company in the UAE will join the project as: EPC-Contractor and the main shareholder and founder of MIRAK will enter into the project company in order to share its knowledge and expertise.

Why Mirak



UAE based and family owned. Founded by Mir Abdulla Khoory



Founded in 1983



Annual production volume of >12,000 tonnes



Farming facilities across 3 different countries



Mirak exports to more than 10 countries globally

Equipment and technology supplier for the Project is Christiaens Group.



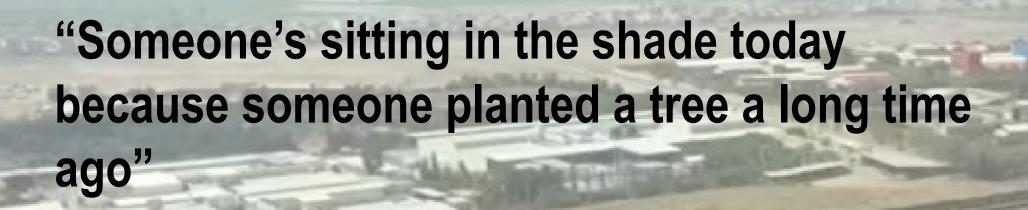




Mirak is a strategic partner of Christiaens Group, the world's leading manufacturer for mushroom farming equipment and facilities.

Alma Agri Industries contributes the land plot in Almaty, Ily Region, Kazakhstan as illustrated in the attached land drawings and site plan with an area of 45 hectares.





Warren Buffett

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