

# SCI for Sustainable Sugar



## Proposing a Satellite Controlled Incentive System for Sustainable Sugar Beet Production



### INTRODUCTION

The project aims to increase yield and root quality efficiency in the sugar beet production while encouraging sustainable agricultural production habits. This incentive system will provide fertilization/irrigation guidelines to farmers to reach higher scores, meaning better rewards. Scores will be primarily estimated via satellite observations. Integrating satellite control to incentive system will convince farmers to follow guidelines with greater care.

Project Time: 17 April 2023 – 16 April 2025 (24 months)

### OBJECTIVES

- 1. Increasing Extracted Sugar (Sucrose):** The correlation between fertilization/irrigation practices and yield/root quality will be examined using satellite/drone observations.
- 2. Cost-Effective Sustainable Production:** Via satellite/drone-based early warning system abnormalities will be monitored and producers will be notified via web/mobile app.
- 3. Production Forecasting:** Satellite/drone observations will be used for yield and root quality estimation. Sugar factory experts will be able to use the software to achieve field-by-field examination, and forecast the total amount of expected production.
- 4. Dissemination of Technology Use among Farmers:** Distribution of satellite monitoring tools among farmers freely and engaging with them via KSF field experts, hopefully, will break that barrier of technology adoption with by farmers.

### EXPECTED RESULTS

#### ECONOMIC:

- Irrigation reduction by 20% (115 Mn m3 water)
- Fertilization reduction by 25% (~6250 tons)
- YEARLY SAVINGS: Irrigation ~€ 8.3 Mn; Fertilizer ~€ 1.4 Mn

#### SOCIAL:

- Promoting sustainable farming practices via incentives
- Increasing awareness of farmers about digital tools

### METHODOLOGY

- 72 da of land for fertilization and irrigation experiments. (3da/region)x(2 irrigation type)x(4 fertilization trial)x(3 repetition)
- Irrigation types (drip, sprinkler),
- Fertilization trials (6, 12, 18, 24 kg N/da)



### PARTNERS



4 Partners - 3 countries (Estonia, Turkey, Turkey Israel)



### CONTACT

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### FIELD WORK & DISSEMINATION OF KNOWLEDGE

