

Invertuneles Systems

Using Macrotunnel Systems to Maximize Agricultural Profitability

Executive Summary

In an increasingly demanding agricultural landscape vulnerable to extreme climate changes, adopting protected agriculture technologies has become a strategic necessity. The macrotunnel, as a crop-covering structure, represents one of the most profitable, accessible, and effective solutions for producers aiming to protect high-value crops and maximize their profitability per hectare.

What is a Macrotunnel?

A macrotunnel is a lightweight structure made of steel and covered with plastic film or mesh, designed to create a semi-controlled microclimate that enhances plant performance. Its main objective is to protect crops from adverse environmental conditions, minimizing waste and production costs to ensure consistent, high-quality yields that translate into greater profitability.

Why Invest in Macrotunnels?

1. Increased Profitability per Hectare

Macrotunnels enhance both the yield and quality of crops, resulting in higher selling prices per box and increased harvest volumes per cycle.

2. Protection Against Extreme Weather Events

Unusual rainfall, hail, moderate frost, strong winds, or high temperatures can severely impact crop productivity. Macrotunnels act as a shield that protects crops from physical damage and reduces climatic stress, lowering losses. They also deter attacks from insects and birds.

3. Extended Growing Season

Thanks to the semi-controlled environment inside the tunnel, it is possible to plant earlier or harvest later than in traditional open-field conditions, giving farmers access to markets during more profitable periods. Depending on the crop, 2 to 3 production cycles per year can be achieved, increasing annual revenue.

4. Reduced Use of Agrochemicals

The semi-closed structure helps retain fumigation treatments longer, improving pest and disease control. This allows for reduced pesticide usage, lowering production costs and supporting certifications for export or organic markets.

5. More Efficient Use of Water and Resources

By partially blocking the wind, macrotunnels reduce plant water stress, thus lowering water usage. When paired with irrigation systems, they help prevent excessive evaporation and runoff. In a country where water is a scarce resource, this translates into significant savings and long-term sustainability.

6. Practical and Accessible Solution

Macrotunnels can be adapted to various types of terrain and are quick and easy to install. The structures are durable, movable, and require minimal maintenance.

What Crops Are Ideal for Macrotunnel Use?

Recommended for high-value crops, including:

1. Berries: Strawberry, Raspberry, Blueberry, Blackberry
2. Vegetables: Tomato, Cucumber, Pepper (including chili and bell pepper)
3. Asian Crops (Chinese vegetables)

4. High-value Floriculture

Why Choose Invertuneles?

At Invertuneles, we constantly ask ourselves: **How can we bring value to our agricultural community in facing both local and global challenges?** We don't just sell structures — we listen to growers and offer tools with specialized technology and expert guidance, all focused on **maximizing profitability per hectare.**

Our vision is clear: to make a positive impact on each farmer with **efficient, profitable, and scalable solutions.**

Speak with a member of our team — we are here to help you protect your future.

References:

1. Rapoport, H. F. et al. (2021). *Protected Agriculture in Mexico: Development and Impact*. International Journal of Agricultural Research.
2. SIAP México (2023). *Economic Impact of Weather Events on Fruit Crop Production*.
3. FAO (2020). *Good Agricultural Practices for Protected Agriculture*.