Symbiosis
A Shared Life Partnership

Symbiosis Farm, Poly tunnel Auaponic Water cress production

Symbiosis Farm's polytunnel aquaponic watercress production sounds like an innovative and sustainable agricultural practice. Aquaponics combines aquaculture (fish farming) with hydroponics (growing plants in water) in a symbiotic environment where fish waste provides nutrients for the plants, and the plants purify the water for the fish.

To grow watercress using aquaponics in a polytunnel, you'll need to set up a system that includes:

1. **Polytunnel Structure:** A polytunnel is a type of greenhouse made with polyethylene that helps control the environment, including temperature and humidity, to support plant growth. It protects the crops from harsh weather and pests.
2. **Aquaponics System:** This system comprises tanks for fish and beds for watercress. Fish like tilapia or trout produce waste rich in ammonia. The water containing fish waste is circulated to the watercress beds, where beneficial bacteria convert the ammonia into nitrates, which serve as nutrients for the plants.
3. **Watercress Beds:** These are essentially containers or growing areas where the watercress is planted. The water from the fish tanks is pumped or circulated through these beds, providing the plants with nutrients. The plants' roots help filter the water, which is then recirculated back to the fish tanks.
4. **Monitoring and Maintenance:** Regular monitoring of water quality, pH levels, nutrient content, and temperature is crucial. Maintaining the balance of the ecosystem is essential for the health of both the fish and the watercress.
5. **Harvesting and Distribution:** Watercress is typically harvested when it reaches a mature size. It can be distributed to local markets, restaurants, or consumers directly, depending on your business model.

This system is beneficial because it maximizes space, uses less water compared to traditional soil

farming, and creates a closed-loop ecosystem where the waste from one element becomes nutrients for another.

For Symbiosis Farm's success in polytunnel aquaponic watercress production, it's important to have a good understanding of aquaponic principles, knowledge of watercress cultivation, and a commitment to maintaining a balanced ecosystem for healthy plant and fish growth. Additionally, market research and a well-defined business plan are essential for selling the produce to consumers or local markets.