

## DICTIONARY & GLOSSARY : “CLIMATE SMART FARM GUIDE”

Term	Definition
Aquaponics	The symbiotic cultivation of fish and vegetables in a soilless environment.
Algae	Grows with nutrient water and sunlight and feeds the fish. Must be controlled to prevent algae blooms in ponds.
Azolla	A tiny floating pond plant that is a micro-fern useful for feed and limiting light exposure and evaporation in ponds. Also called mosquito fern.
Battery Box	A container used to keep batteries and electrical connections dry
Ball Valve	A PVC valve used to control water coming in to the system. Also called the “Inlet”.
Bulkhead Fittings	A watertight way to plumb a drain outlet with flexi-tubing. Also called drain bottoms and are most often used with a cover to prevent grow medium from clogging the drain.
Channels	Long rows, often raingutter or pipe, that is watertight and used as the place to grow crops rows in the field. Channels may have grow medium or not depending on the grow technique used.
Charge Controller	Limits the rate at which electric current is added to or drawn from electric batteries. It prevents overcharging and may protect against overvoltage, which can reduce battery performance or lifespan, and may pose a safety risk. Also called charge regulator or battery regulator.
Closed-loop	A system not relying on matter exchange outside of the system, as opposed to open loop.
Coconut Coir	The outer husk of the coconut that is chopped into chips and used as the preferred grow medium for aquaponic vertical farming due to being the most lightweight, best wicking, and most surface area.
Common Pond Snails	Contributes to the ecosystem by controlling algae and detritus and providing protein and calcium for the fish in the pond.
Detritivores	An animal that feeds on dead organic material, especially plant detritus.

Deep Water Culture (DWC)	A hydroponic technique of plant production by means of suspending the plant roots in a solution of nutrient-rich, oxygenated water.
Ebb & Flow	A hydroponic technique that is known for its simplicity, reliability of operation and low initial investment cost. Pots are filled with an inert medium which does not function like soil or contribute nutrition to the plants but which anchors the roots and functions as a temporary reserve of water and solvent mineral nutrients. The hydroponic solution alternately floods the system and is allowed to ebb away.
Expanded Clay Pellets	A lightweight grow medium made by heating clay to around 1,200 °C in a rotary kiln. The yielding gases expand the clay by thousands of small bubbles forming during heating producing a honeycomb structure. Excellent for vertical farming.
Fingerlings	A small young tilapia fish 3 - 5 cm in size.
Flexi-Tubing	Flexible tubing used for hydroponics or irrigation.
Fry	A very small and newborn tilapia fish 1 - 3 cm in size.
Garden Pool Method	A closed-loop ecosystem approach to agriculture that is aquaponics based and can also include animal husbandry and soil-based agriculture. The innovative method focuses on being productive, resilient, and sustainable.
Shadehouse	A structure enclosed by shade cloth or any other woven material to allow required sunlight, moisture and air to pass through the gaps. It creates an appropriate micro climate conducive to the plant growth. It is also called shade net house or net house.
Growing Medium	Materials that plants grow in. Growing media is specifically designed to support plant growth and can either be a solid or a liquid.
Hens	Female chickens that are kept to lay eggs.
Inlet	The point where nutrient water enters the grow medium or channels, usually through ball valves.
Lemna	A tiny floating pond plant is useful as feed and limiting light exposure and evaporation in ponds. Also called duckweed.
Mosquitofish	A small livebearing fish found chiefly in vegetated ponds and lakes and brackish waters.
Nutrient Film Technique (NFT)	A hydroponic technique wherein a very shallow stream of water containing all the dissolved nutrients required for plant growth is re-circulated past the bare roots of plants in a watertight channels.
Outlet	The point where nutrient water leaves the grow medium or channels, usually through bulkhead fittings.

Plant Propagation Area	A seed start or cloning area used to create more plants.
Pond	A small body of still water that is used to stock mature fish.
Power Inverter	Converts 12 Volt DC electricity into 120 Volt AC.
Shade Cloth	A woven fabric that limits, ideally, 40% - 50% of the sun exposure.
SketchUp	A program by Trimble to create digital 3D designs.
Solar Panels	A panel designed to absorb the sun's rays as a source of energy for generating electricity to power the system.
Submersible Water Pump	A water pump that sits on the bottom of the pond to pump water to the Inlets.
Vertical Farming	Growing food in vertically stacked layers, vertically inclined surfaces and/or integrated in other structures.
Water Hyacinth	A free-floating tropical American water plant that blooms purple flowers.
Water Lettuce	A tropical aquatic plant of the arum family that forms a floating rosette of leaves.
3D Design	Digital designs made on SketchUp that can be viewed on computers, in Virtual Reality, or 3D printed.
3D Printer	A machine allowing the creation of a physical object from a 3D digital model, typically by laying down many thin layers of a material in succession.