Korean natural farming solutions. (KNF)

Korean natural farming has been used for more than forty years and leans heavily on the observations of ancient farming methods and development of the work of Master Cho Han Kyu. The base of all successful healthy crops is well formed healthy soil. To find the successful ways of achieving this, it is best to look at the natural ways this happens.

To get healthy levels of soil microbes, which are essential in plant health, there needs to be attention paid to what they need and supply what is missing.

To build the soil, some of the following can be used.

- Cooled compost
- Worm castings, highly effective and recommended.
- Worm tea on leaves and soil which encourages the mycorrhizal levels in soil.
- Compost tea on the leaves and as a soil drench.
- KNF solutions to build up the beneficial fungi and microbes.
- Rock dust for essential mineral content in deficient soils.
- Humus /humic acid which can last for centuries once it is applied.

KNF uses indigenous microorganisms such as
bacteria, fungi, nematodes and protozoa, to create fertile soils that yield high crop results without the use of herbicides or pesticides.

The two KNF solutions that are easiest to make are FPJ and LAB.

1. **Fermented Plant Juice (FPJ)** - from fruit, leaves or roots, uses osmosis to draw the essential elements out of plant materials. It takes just a week to make in two easy steps. It is used as a soil drench and a foliar spray at the concentration of 1:1000. It keeps well and is cheap to make.

2. **Lactic Acid Bacteria (LAB)**
   Made with fermented rice wash water and milk, this takes about ten days to produce and will accelerate the development of mycorrhizal fungi, and essential bacterial content in the soil. It helps to release nutrients so that plants can use them. Again, this is used at tiny concentrations (1:1000) on the leaves and soil.

Methods:

FPJ is made from plants/ weeds in your garden.

1. Collect the young leaves of one particular plant, early in the morning when the dew is still on the leaves and sunlight has not killed the overnight friendly bacteria on the leaves. Recommended plants include plantain, silver beet leaves & wild oats (great use for weeds).
2. If you gather a kilo of leaves you use a kilo of dark brown sugar and thoroughly mix the two together. Put into a container and fix a breathable cover on the top to keep the bugs out, then store it somewhere away from sunlight for seven days. Osmosis will set in and draws all the liquids out of the plant material. At the end of the seven days, pull out and compost the plant material. The liquid is now ready to use to feed your microbes and mycorrhizal life into your soil.
3. To stabilize this fluid, add more dark brown sugar to make a saturated solution. Store it away from light. Sunlight kills the friendly bacteria. Use this 1: 1000 in non-chlorinated water (rainwater, distilled water or put tap water in open topped containers and stand for three or more days).

LAB is made in two steps:

Step one. Take about a cup of raw rice and wash thoroughly with a small amount of water and keep the water that has come through the rice. Put this in a glass jar with a permeable cover to keep the bugs out. Allow this to ferment for three days away from sunlight.

Step two: Then take one part of rice water and add to ten parts of milk. Again, put a permeable lid on the jar and keep away from sunlight. Leave this for seven to ten days. The result will be that a cheese that rises to the top of the mix with whey forming at the base. The cheese is edible and can have chives or chopped olives and salt added. But the most important part is the whey which now is full of beneficial bacteria. To make this shelf stable, add brown sugar until no more sugar will dissolve in it. This saturated solution will keep for a long time kept away from sunlight and is to be used in small amounts.

To use this, make a solution of 1: 1000 of solution to non-chlorinated water. It can be used to saturate the ground around your plants and to spray the leaves under and over.