

Requested Information about Bio-Plant and Pro-Plant



1.
**Training the
Farmers**

How Will the Farmers Be Trained?

[Click here](#) for a model format for training farmers nationwide.



2.

How to Use the Bio-fertilisers

Firstly: What Is Bio-Plant?

- It is a microbial, liquid bio-fertiliser for the soil. It is a concentrated bio-liquid full of dormant micro-organisms.
- It is made from fermented molasses and micro-organism cultures using bio-technology techniques.
- When the dormant micro-organisms awaken they multiply very rapidly; increase soil carbon; and restore the Soil Food Web and fertility of the soil.
- It provides the plants with an abundance of soil nutrients through microbial action.
- It is chemical-free, pathogen-free, and toxin-free.

How to Apply Bio-Plant

- **Seeds:** Soak the seeds in water mixed with Bio-Plant. The duration depends on the size of the seeds.
- **Method 1:** Mix Bio-Plant with water and spray or pour it along the planting ridges when the crop is planted and once a month for 2 months afterwards as well. Mulch the ridges afterwards.
- In the case of fruit trees spray or pour 1-2 litres of Bio-Plant mixed with water around each tree. Add mulch.
- **Method 2:** This method is for when the soil is in a very poor condition. Make compost with Bio-Plant and apply it along the planting ridges when the crop is planted and once a month for 2 months afterwards too. In the case of fruit trees spread the compost around each tree.

What is Pro-Plant?

- It is a liquid bio-fertiliser, which provides about 50 nutrients by foliar spraying the leaves. The nutrients are available immediately through the leaves.
- It stimulates the soil bacteria and fungi to supply more nutrients to the roots.
- It is made by fermenting fresh fish with bio-technology techniques.
- It coats the leaves with disease-protecting bacteria.
- It is chemical-free, pathogen-free, and toxin-free.

How to Apply Pro-Plant

- Mix Pro-Plant with water (1 litre with 1,000 litres of water) and spray it on the leaves with a fine spray before 9 a.m.
- 2-Month Crops: Spray every 7-10 days.
- 3-Month Crops: Spray every 10 days from Day 30.
- 4-Month Crops: Spray every 10-14 days from Day 30.
- Fruit Trees: Spray every 14 days during the budding, flowering, and fruiting period. Before then spray once a month.

A watercolor illustration of various green leaves and ferns, including monstera leaves, fern fronds, and small leafy branches, arranged around a central white circle. The leaves are rendered in shades of green, from light to dark, with soft, painterly textures.

3.

How to Make Compost

How to Make Compost with Bio-Plant

- All farmers will be trained how to make compost because this is key to transforming agriculture throughout Guinea.
- [Click here](#) for how to make compost with Bio-Plant.
- Workshop materials for the Trainers and the farmers are ready to be used.

Repeat Layering

5m

TOP - layer leaves

greens - wet

browns - dry

manure or soil

greens - wet

browns - dry

manure or soil

greens - wet

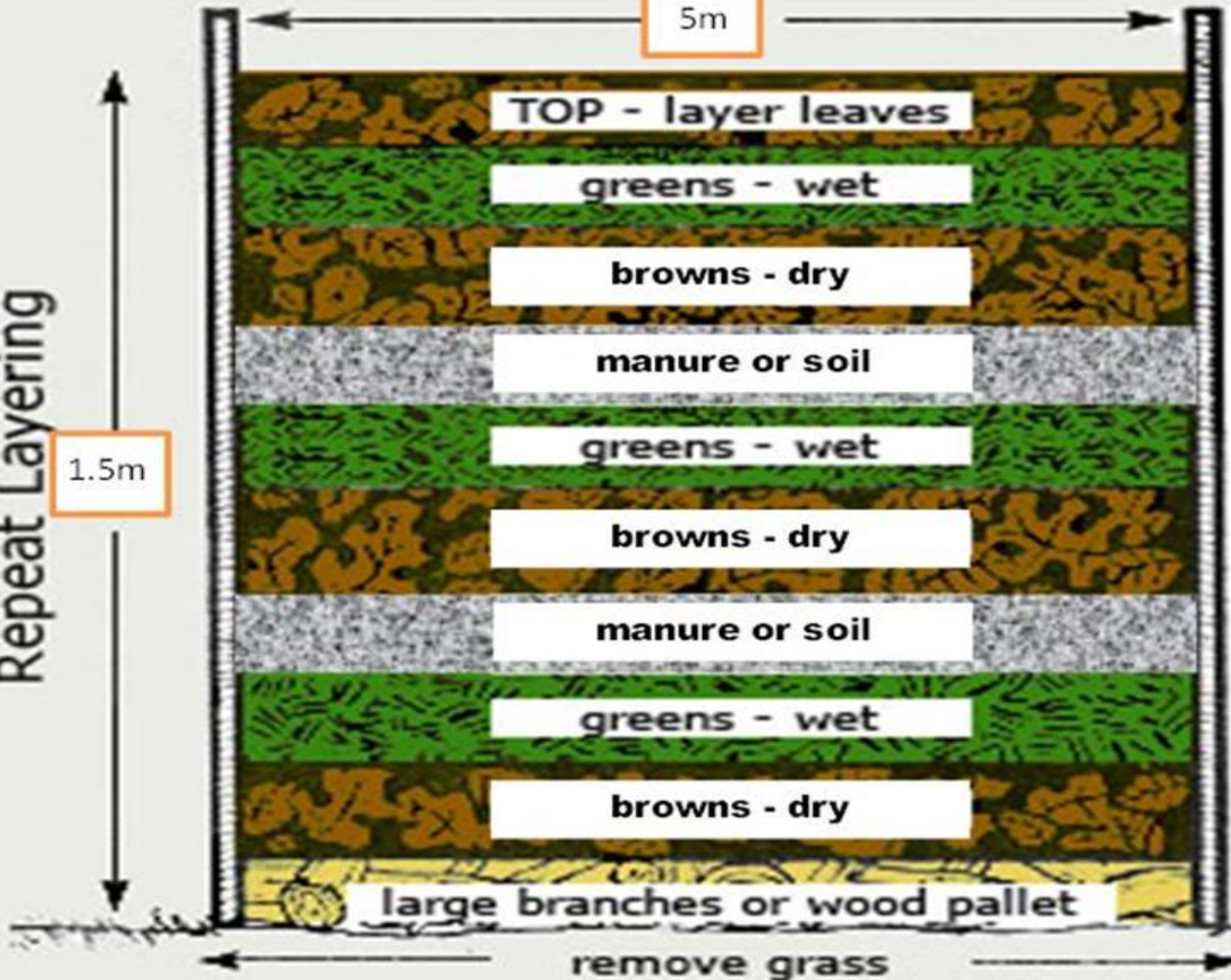
browns - dry

large branches or wood pallet

remove grass

1.5m

The Layers of
a hot Compost
Pile



Notes

Layer 1: Brown - Dry

Layer 2: Green – Wet

* Add Soil / Manure to Layer 2

Ventilation stick

Cover of soil and/or large leaves

Water with Bio-Plant
Layer 1

Water with Bio-Plant
Layer 2 (Cover with Earth)
Water with Bio-Plant

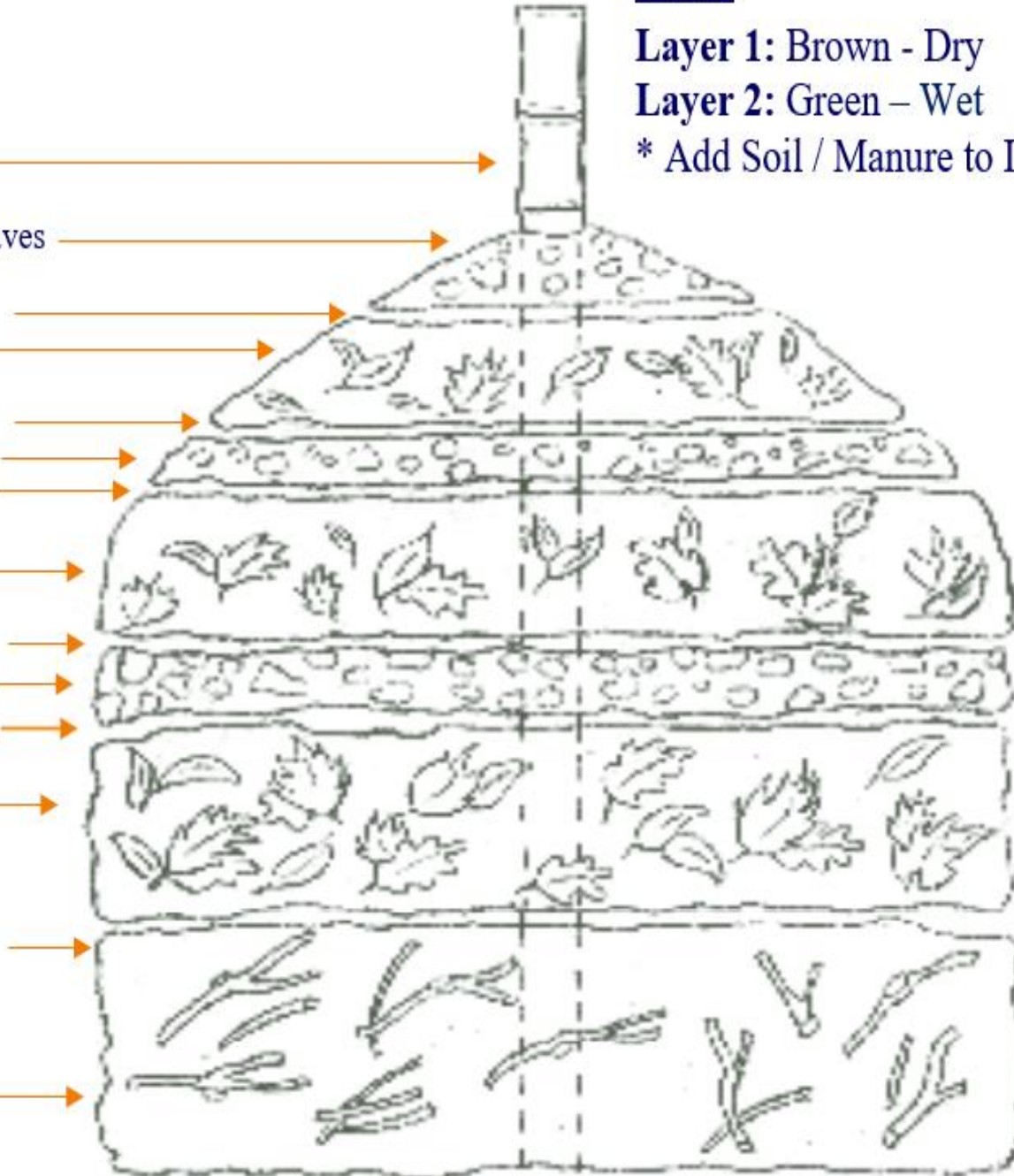
Layer 1

Water with Bio-Plant
Layer 2 (Cover with Earth)
Water with Bio-Plant

Layer 1

Water with Bio-Plant

Foundation layer with dry
plant materials.



**The Layers of a
hot Compost
Pile and Where
to Apply
Bio-Plant**



4.
Safety Issues

Are Bio-Plant & Pro-Plant Safe to Use?

- Both Bio-Plant and Pro-Plant are 100% natural, chemical-free, and free of toxins and pathogens.
- You don't need to wear a mask or gloves. The bio-fertilisers are perfectly safe for use. There has never been a problem since the first time the bio-fertilisers were used in the late-1980's.
- [Click here](#) for the MSDS file for Bio-Plant and Pro-Plant.



5.

Quality Control in the Production Process

The Bio-fertilisers Are Microbial

- The bacteria are obtained from fruit using our own biotechnology techniques and strengthened to withstand very acidic soil and extremes of temperature (cold and hot).
- They are added to the fermentation tanks during the fermentation process.
- Bio-Plant: Fermented sugarcane molasses.
- Pro-Plant: Fermented fresh fish.

Some of the Fermentation Tanks





A 24-Head Bottling Machine





















The Production Volume

- We can produce, bottle, and package up to 2 containers per day. 1 container equals 12,240 litres.
- For higher daily volumes we can open a dormant second factory.
- On average for 3-month and 4-month crops on 1 hectare of land a farmer needs 2.5-3 litres of Pro-Plant and 2 litres of Bio-Plant (4.5-5) litres.



6.

**Crop Yield
Comparison with
Chemical
Fertilisers**

Yield Results Compared to Chemical Farming

- The crop yield and crop quality is always better than in the case of chemical farming crops. By how much? This varies greatly and can even be equal to a 100% increase when the soil's fertility is very poor.
- The farmer's costs are reduced very noticeably, even more so now that chemical fertilizers have become so expensive.
- This applies to both bio-chemical and 100% organic farming.
- [Click here](#) for the links to some of the many field tests that have been carried out. The crop yield increases can be found there.



7.

**Advantages over
Other Fertilisers
in Ethiopia**

Comparison with Fertilisers in Ethiopia

1. Chemical Fertilisers

- The use of chemical fertilizers like Urea, DAP, and NPK is the common practice in Ethiopia. These acidify the soil, reduce the count of soil bacteria and fungi, and damage the soil's microbial life and the Soil Food Web significantly. Their use globally has become unsustainable for food security and climate-smart agriculture that protects the soil during droughts, for example.

Comparison with Fertilisers in Ethiopia

2. Foliar Sprays

- Foliar sprays are commonly used, such as Agro Feed, Wuxal, and Eco Green. They provide a limited range of nutrients, perhaps only about 10. Agronomy recognizes that plants need 42 nutrients. Pro-Plant provides 47+ nutrients.
- Consequently, the commonly used foliar sprays are inadequate for proper food nutrition in the population.

Comparison with Fertilisers in Ethiopia

2. Foliar Sprays

- **Another Problem:** By ruining the soil's microbial life, the long-term use of chemical fertilisers has resulted in 80% of chemical NPK being unavailable in the soil because of the damage done to the Soil Food Web.
- Foliar sprays cannot make this 80% available to the roots. The soil needs a microbial bio-fertiliser, such as Bio-Plant, to restore the Soil Food Web so as to make the 80% available to the roots AND all of the nutrients in the foliar sprays.

Comparison with Fertilisers in Ethiopia

3. Protection from Pests

- Bio-Plant and Pro-Plant are microbial.
 - Pro-Plant protects the leaves from fungal attacks.
 - Bio-Plant increases the soil microbial life that protects the roots from viruses and pathogens and increases the plant's immune system.
- The use of both bio-fertilisers restores the fertility of the soil and the Soil Food Web, which in turn increases the vibration of the crops, which in turn signals to insects that the plants are not food. This is why crops grown with the bio-fertilisers have little to no problems with insect pests. [Click here](#) for more information.



8.

**A Comparison
with the Effects
of Chemical
Fertilisers**



Microbial life is killed. CO₂ is released. Organic matter is lost.



Land becomes degraded. CO₂ is released. Organic matter is lost.



Soil structure damaged. Soil erosion. Top soil is lost. Leaching occurs.



Microbial life is killed. The land is degraded. CO₂ is released. Health.

General Effects of Chemical Farming on the Soil



General Effects of Chemical Farming on the Soil



“A nation that destroys its soil, destroys itself.” Franklin D. Roosevelt

Soil Degraded by Chemical Agriculture





Chemical farming destroys the mycorrhizal fungi that feed and protect the roots.



**Chemical
Sprays Kill
the Microbial
Life of the
Soil**

- Bladder Cancer ● Bone Cancer ● Brain Cancer
- Cervical Cancer ● Mouth Cancer ● Eye Cancer
- Gallbladder Cancer ● Kidney/Renal Cancer
- Larynx Cancer ● Leukemia ● Lip Cancer
- Liver/ Hepatic Cancer ● Lung Cancer
- Lymphoma ● Melanoma ● Colorectal Cancer
- Multiple Myeloma ● Neuroblastoma
- Oesophageal Cancer ● Ovarian Cancer
- Pancreatic Cancer ● Prostate Cancer
- Soft Tissue Sarcoma ● Stomach Cancer
- Sinonasal Cancer ● Testicular Cancer
- Thyroid Cancer ● Uteran Cancer

Some Cancers Caused by Pesticides

***“Anyone for
chemical
farming?”***

Healthy Soil is the Key to Food Security and to Feeding the Population



What Does Bio-Plant Do?

- Bio-Plant contains micro-organisms, which:
 - Enhance the efficiency of the Carbon and Nitrogen cycles.
 - Act as a bio-fungicide and as an antifungal.
 - Degrade organic matter and release nutrients.
 - Fertilise the soil.
 - Enhance the structure of soil and makes it crumblier and looser.
 - Increase the uptake of minerals.
 - Degrade pollutants and toxins, and carry out bio-remediation.
 - Disinfect the soil.
 - Produce enzymes and other organic compounds, which plants need to grow well and healthily.

Which do you prefer?



9.

**Some Benefits of
the Bio-fertilisers
for Ethiopia's
Agriculture**

The most serious problem is providing food security for the population during climate change.

What the Bio-fertilisers Make Possible

The bio-fertilisers can:

1. Ensure food security despite climate change.
2. Increase crop yields, quality, and health through the use of regenerative 100% organic methods. *(Economic)*
3. Improve nutrition and public health. *(Social)*
4. Enable Ethiopia to become a producer and exporter of 100% organic food & horticulture products. *(Economic)*
5. Increase the income of farmers. *(Social-Economic)*

1. They Protect Against Climate Change

- Healthier soils rich in soil microbes produce higher crop yields, hold water more effectively, sequester more carbon, and allow for increased agricultural productivity.
- Soil microbes help plants tolerate hot temperatures and drought brought about by climate change.
- Research has shown that soil rich in microbes helps crops to withstand drought via different mechanisms.

How Does This Happen?

- Plants in soil with a healthy Soil Food Web have a deeper root system and their shoots grow more quickly.
- Consequently, under drought stress, plants can take up water more effectively from drying soil and maintain near-normal shoot growth rates resulting in increased crop productivity.
- Soil microbes increase plant defences against insect pests whose populations are expected to increase due to the changing climate.

2. They Will Increase Yields and Exports

- Coffee (100% organic, improved taste, safer)
- Soybeans (100% organic, non-GMO, safer)
- Sugarcane (100% organic, higher sugar content)
- Fruits (100% organic, sweeter, safer)
- Groundnuts (100% organic, safer)
- Grains (100% organic, safer)
- **Note:** The crops will also be more nutritious, have an improved taste, and be non-GMO and chemical-free.

3. They Will Increase 100% Organic Cocoa Production and Exports

- The bio-fertilisers will enable Ethiopia to establish many new 100% organic cocoa plantations and both a 100% organic cocoa production and processing industry.
 - The global demand for 100% organic cocoa products is huge!
- With an investor a cocoa processing factory can be built to produce for export 100% organic: 1) cocoa butter; 2) cocoa liquor; 3) chocolate.

4. 100% Organic Farming Methods Protect Against Climate Change

- The bio-fertilisers will increase crop yields in dry conditions especially when used with regenerative farming methods.
- Compost, cover cropping, mulching, and intercropping will build up soil carbon, preserve soil moisture, increase nutrient availability, increase the soil's microbial life, and increase crop yields, crop quality, and crop health.

5. The Bio-fertilisers Will Eradicate Chemical Farming

- Chemical inputs and pesticides kill the soil's microbial life, which is needed to protect plants during climate change.
- The bio-fertilisers are much cheaper to use than chemical inputs, which are now too expensive for farmers.

The background features a dense, artistic arrangement of various green leaves and plants, including monstera leaves, ferns, and smaller leafy branches, all rendered in a soft watercolor style. These elements are scattered around a central white circle that contains the text.

10.

**Some Benefits
for a Greenhouse
Flower Industry**

An Organic Seed Nursery Can Be Created

- Soaking seeds in Lord's Bio-Plant increases the health and crop yield of flowers (and plants generally).
- Healthy seedlings and tree saplings can be grown and distributed around the country.
- Healthy, 100% organic cocoa saplings could be grown in large quantities in order to create more and more large cocoa plantations.

How the Bio-fertilisers Would Be Used

- Lord's Bio-Plant can be used to make a huge amount of compost rich in microbial life for greenhouse plants to grow in.
- Lord's Pro-Plant (with 50+ nutrients) could be sprayed onto the plants from overhead pipes.

The Benefits for Flowers

- The flowers look fresher. The colours tend to be brighter than chemical flowers. The leaves shine more.
- Increased bloom set and size of flowers.
- Higher overall quality of the flowers.
- The flowers stay fresher longer after being picked.
- The flowers can be marketed as “100% organic”.
- Pro-Plant coats the flowers with micro-organisms that protect the plants. Bio-Plant strengthens the immune system.
- Customers can smell the flowers without having to worry about inhaling toxic chemicals.

The Benefits for Flowers

- The soil's condition improves with each crop.
- Bushy flowers produce many more branches and flowers.
- A rose grower in Multan, Pakistan reported that his rose crop had increased by 100% over chemicals. The roses were fresher-looking and smelled nicer. The rose bushes grew more densely, and the stems were much thicker than the rest of the stems grown with chemicals. The height of the plants increased as well.
- Flower growers in North Thailand have reported the benefits outlined above.

Some Benefits in a Greenhouse System

- The bio-fertilisers can be used to grow any crop.
- The bio-fertilisers are suited to an intensive production environment both in soil and hydroponic systems.
- Disease will not be an issue.
- Flowers and crops grown with the bio-fertilisers keep longer, giving extra time to reach foreign markets.
- New organic crops can be grown in and out of the normal season, and exported.

100% Organic Greenhouse Production Would Create New Markets

- By growing flowers organically in greenhouses, Ethiopia could out-compete Kenya in the cut-flower market because Kenya uses a lot of toxic chemicals.
- Ethiopia could create new markets by producing crops 100% organically and cheaply in greenhouses because people want chemical-free food. The days of chemical food production are fading quickly.

Use in a Hydroponic System

- The nutrient solution would contain both Lord's Bio-Plant and Lord's Pro-Plant.
- Lord's Pro-Plant would provide 50+ nutrients.
- The bacteria in Lord's Bio-Plant would increase nutrient uptake; produce enzymes that act as plant growth-promoters; and also help to control diseases, such as by excluding plant pathogens from affecting plant health.

The background features a dense, artistic arrangement of various green leaves and ferns in a watercolor style. The leaves include large, deeply lobed monstera leaves, delicate fern fronds, and smaller, pointed leaves. A large, thin-lined white circle is centered on the page, framing the text.

11. Summary

Benefits of Using the Bio-fertilisers

1. Economic Benefits:

- Ethiopia can become known for 100% organic food production.
- This will open up new markets and increase exports.
- There is a huge unmet, global demand for organic produce.
- The organic produce could command premium prices abroad.
- Crop yields would increase and reduce food imports.
- Increasing greenhouses would increase the range of organic produce available for export markets throughout the year.

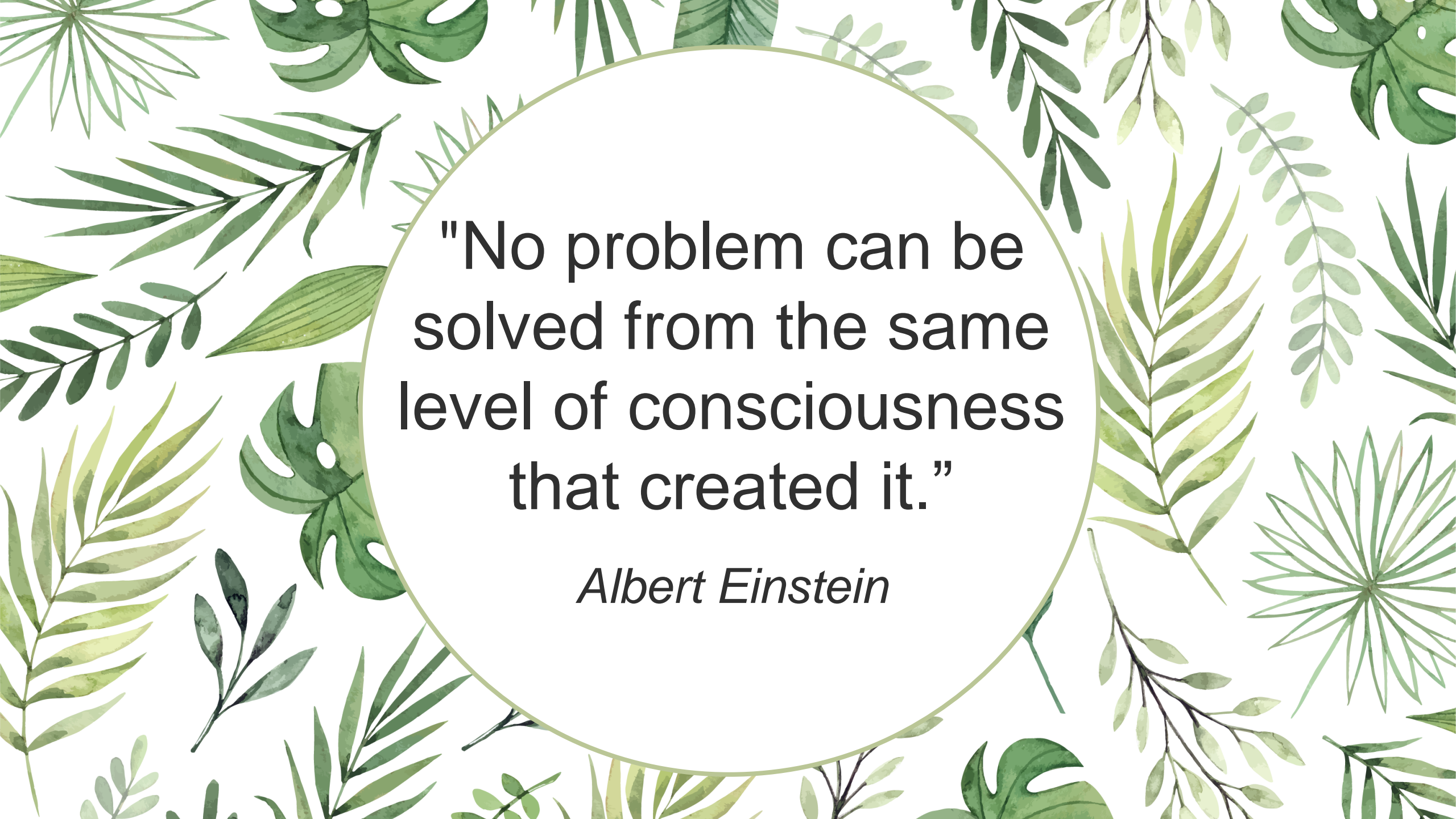
Benefits of Using the Bio-fertilisers

2. Domestic Benefits:

- The soil's fertility could be restored nationwide.
- The environment would not be harmed by toxic chemicals.
- Families would produce more and increase their income.
- Agriculture would become more profitable and could reverse migration to the cities.
- Youth could be attracted to agriculture.
- Improved nutrition and public health.
- Improved public feelings of well-being.

The Importance of Developing Capacity

- A massive programme of capacity-building will be needed to teach people how to use the bio-fertilisers to:
 - Improve the quality of seeds; regenerate the microbial life of the soil with compost and organic farming techniques; to deal with the effects of climate change; to increase crop yields and crop health without chemicals; and to regenerate degraded pasture land.
- Workshops to train agriculture extension workers would be a starting point. This should lead to capacity-building at community level, especially of the youth.



"No problem can be solved from the same level of consciousness that created it."

Albert Einstein