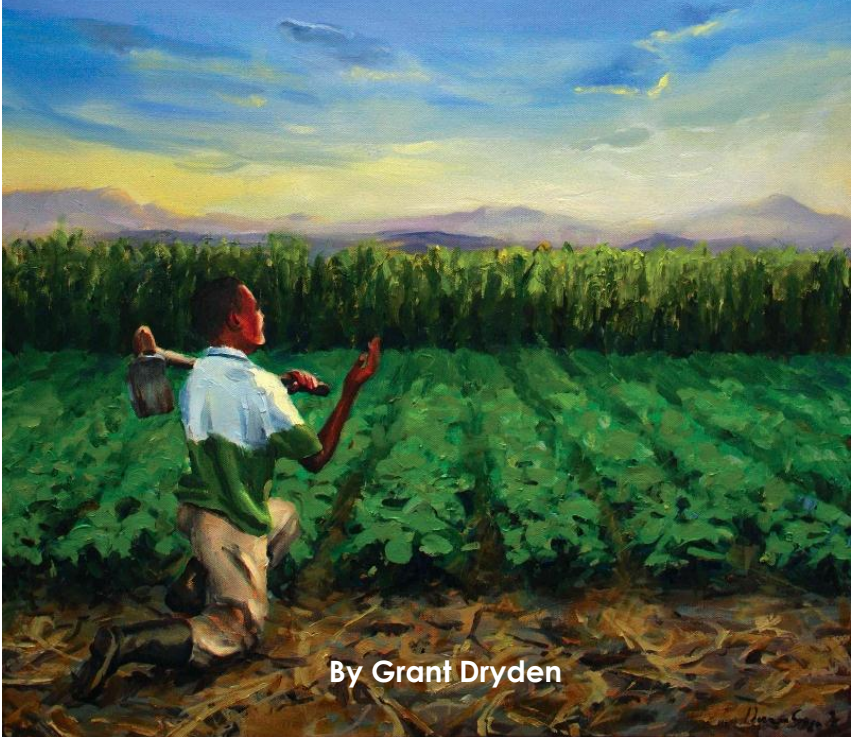




FARMING GOD'S WAY

Field Guide



By Grant Dryden

Farming God's Way

Farming God's Way is a resource given to the wider body of Christ, to serve the poor and deliver them from the yoke of poverty.

Reproduction

Copyright © 2010 GW Dryden

Copies of this publication can be downloaded from
www.farming-gods-way.org

Reproduction and dissemination of this publication in unaltered form for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holder provided the source is fully acknowledged with the recommended citation below.

Reproduction of material in this publication for resale or other commercial purposes is permitted only with written permission of the author, G.W. Dryden – info@farming-gods-way.org

The statements, interpretations, and conclusions expressed in this guide are those of the author.

Recommended Citation

Farming God's Way Field Guide. Dryden, G.W., 2009.

Sponsors

The Field Guide, was sponsored by the Bountiful Grains Trust,
109 Fordyce Rd, Walmer, Port Elizabeth, RSA.
IT 949/2007; NPO 061-902; PBO 930025934.

Orders

To order the training DVD series or printed copies of any of the Farming God's Way resources: Email: info@farming-gods-way.org
Telephone: +27 41 5811833

Farming God's Way

Overview.....	1
Biblical Keys	4
Key 1: Acknowledge God and God Alone	4
Key 2: Consider your Ways	6
Key 3: Understanding God's All Sufficiency	8
Key 4: What you Sow you Will Reap	10
Key 5: Bringing the Tithes and Offerings to God.....	12
Key 6: Stake your Claim.....	13
Step by Step Procedure.....	14
20 Reasons why we do the How	21
Management.....	26
Key 1: On Time	26
Key 2: To High Standards.....	27
Key 3: With Minimal Wastage.....	28
Conclusion	29
Composting.....	30
Biodiversity Through Alternative Crops.....	34
Extension	37
Resources.....	39

Overview

Farming God's Way

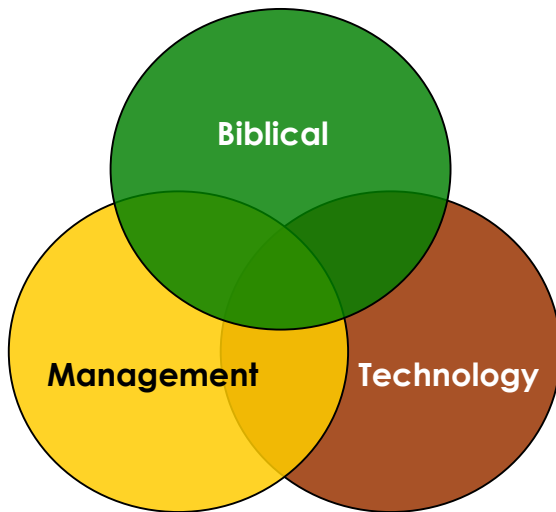
Equipping the poor for abundant life in Christ

The African continent has the most natural resources of all the world's continents. It has vast mineral, precious metal and oil reserves, excellent agricultural potential, wonderful people, plenty of water and riverine systems and a wildlife biodiversity which has the potential to become a booming tourist industry.

In contrast to her potential, Africa is also the most poverty stricken, with extremely low standards of living, famines, high levels of undernourishment, shocking infant mortality rates, disease, wars, dependency, poor education, deforestation, corruption and high inflation as hallmarks of what the continent represents.

Subsistence farmers account for approximately 85% of the African population, who are living undernourished and degraded lives. The current yields of these farmers are well below their family's requirements which necessitates the importation of millions of tons of grain every year.

Farming God's Way is an amazing Godly solution to the food security and poverty crisis for the rural poor. Farming God's Way is not just a technology but a well-balanced biblical, management and technological solution for the agricultural domain, equipping the poor to come out of poverty with what God has put in their hands and revealing the fullness of His promised abundant life.



Out of the transformation of the heart, through Jesus, comes the renewing of the mind in good management and then the practical outworking in the redemption of the farmland.

Farming God's Way has a proven track record of success since 1984, where Brian Oldreive first pioneered these practises on Hinton estate in Zimbabwe on a large scale commercial farm, eventually cropping 3,500 hectares.

Since those early days, Farming God's Way has spread into many countries, being used by churches, missionaries and NGO's across the continent. To date in 2009 Farming God's Way had been extended into Angola, Benin, DRC, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Rwanda, Sierra Leone, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe and others to varying degrees within Africa, whilst also touching into Mexico, Nepal, British Guyana, USA, UK and others.

Farming God's Way is a free gift given to the wider body of Christ and is a non-denominational, non-organisational, relational network of people, who share a heartfelt consideration for the poor.

The integrity, flow and strategy of Farming God's Way is given by a voluntary senior stewardship team, who are well experienced trainers. The principle of stewardship rather than ownership has been kept to ensure the liberal expansion of this incredible tool to transform the lives of the poor.

The Word of God says 'My people perish because of a lack of knowledge.' We must acknowledge the importance of teaching the poor faithfulness in the agricultural domain before the rest of the continent's potential can be revealed.

Biblical Keys

**NO technology will be able to break the curse of poverty
over the continent.
Both Word and deed need to be applied**

God's Word is the ultimate authority for the truths we live by and turning to His Word brings the revelation and enlightenment that the yoke is first and foremost a spiritual yoke. If we only deal with the technical and management keys we will not be able to deliver the poor.

- Hosea 4:1-3
- Psalm 107:33,34
- Jeremiah 23:10b

In this section the 6 Biblical keys will unveil the mysteries of why Africa is bound under the yoke of poverty and reveal the Godly solutions for breaking this yoke.

Key 1: Acknowledge God and God Alone

Problem:

The people of Africa have enormous strongholds of witchcraft and ancestral worship. Witchdoctors and wizards are found in great numbers in every village and are consulted on most things, at all critical stages of life including birth, sickness, adolescence, circumcision, weddings and funerals. The witchdoctors are also brought in to pray over the land so that it will produce a bumper harvest. Here they perform rituals including sacrificing chickens, sprinkling of animal blood, spreading bones, placing potions and putting of animal skulls on corner posts.

The practise of ancestral worship is the honouring of one's dead ancestors through sacrifices, ritual rites and ceremonial oaths. This worship is not practised out of love but out of fear and terror.

- Isaiah 8:19-22
- Leviticus 19:31
- Deuteronomy 18:10
- Deuteronomy 5:7,8
- Matthew 6:24
- Psalm 24:3

Solution:

There is only one true God and we come to Him through His Son, Jesus Christ, who died on a cross for us to have the free gift of eternal life. We are now no longer of this world's system and traditions but we have been adopted into His family and we have the privilege of knowing God as our Father.

We have to come back to worshipping God and God alone in **all** areas of our lives, not just at our Sunday church services. God is not mocked.

*Proverbs 3:5,6: "Trust in the LORD with **all your heart** and do not lean on your own understanding. In all your ways acknowledge Him, and He will make your paths straight."*

This scripture gives us the guidelines to the breakthrough.

Trust in the Lord with all of your Heart:

Whomever we trust in, we will consult.

Lean not on your own Understanding:

Jesus fulfilled all that He could, not through independence but rather dependence on His Father. His Father showed Him what to do, He did it and succeeded.

- John 8:28
- John 8:38
- John 5:19

What a glorious life we would live if we fulfilled His every desire for us.

In all Your Ways Acknowledge Him:

In all our ways means just that – every area, work, word, action and thought. This means we acknowledge Him in birth, adulthood transitions, weddings, funerals, healing, pre-planting, rainfall, harvest – everything.

And He will make your Paths Straight:

In the African continent we desperately need the Lord to straighten out our crooked and hopeless path which has been taking people on a journey to nowhere for too long. God's straightening will lead us into the fullness of His promised abundant life.

- Deuteronomy 8:18
- Deuteronomy 7:13-15

If we believe that it is indeed Africa's time, then we have to tear down the high places of ancestral worship and set aside the traditions of witchcraft which have kept us in bondage.

Then we can come and ascend the hill of the Lord with clean hands and pure hearts to worship Him alone, in Spirit and in truth.

Key 2: Consider your Ways

Problem:

The temples of our lives are in ruins because we have been serving our own selfish ambitions and futile ways and not walking in God's ways. If we, as the children of God, are the temple of God as God has said, then the state of our temple is something to consider.

We must consider our ways!

Haggai 1:2-11 Consider your ways – My temple lies desolate

A few examples of the curses we live under because our ways are not aligned to God's ways:

a) The Curse through Bloodshed and Violence

- Story of Cain and Abel
- Many examples in Africa
- Isaiah 59:3

b) *The Curse of a Short Life*

Ave life expectancy in Zambia, Zimbabwe, Malawi and Mozambique is under 37.

- Psalm 34:12
- 1 Thessalonians 4:3
- Romans 6:23

c) *The Curse on What the Land Produces (poor yields)*

In Haggai it is interesting to read that it is God who is the One to withhold the rain and the produce from the ground.

Solution: *Restoring the Temple*

In our efforts to find the Godly solutions to difficult questions like the abject poverty around us, we begin by considering our ways for we are the temple of the living God.

We may not be able to change our nation, but we can each consider our ways, change our own lives and influence the lives of our families and communities, which collectively can make a significant difference.

- 1 Peter 2:5
- Haggai 2:18-19
- 1 Thessalonians 2:12
- 2 Corinthians 6:16

Let us as His sons and daughters be committed to rebuild the temple of God in our lives, by considering our ways and aligning them to God's ways, not just in Spirit, but in mind and body as well.

Key 3: Understanding God's All Sufficiency

Problem:

The dependency syndrome has been created over many years of handouts and expectations and yet the demand seems to increase yearly. There is absolutely no way that Africa will realize its potential, unless Africans do.

Isaiah 58 reminds us that we should be fulfilling the true fast, to loosen, remove and break the yoke. One of the buckles of the yoke of poverty is the dependency syndrome.

Since the beginning of man's creation, he has always tried to be self sufficient, doing things his own way, relying on his own wisdom rather than following the Lord's wisdom. This has led to his downfall in so many ways.

Solution: *Knowing God's All Sufficiency*

In Farming God's Way we do not advocate self sufficiency, but rather embrace God's all sufficiency which leads us to make a profit.

He is our source of everything and in Him we find increase. God's all sufficiency is never ending, with no limits to His reserves, as He has no limits.

- 2 Corinthians 9:8

Breakthrough comes as we repent for depending on man, including ourselves, lay aside our pride, humble ourselves and acknowledge that He truly is the source of everything we need.

We need to open our eyes to see what is available to us.

Knowing God's all sufficiency shatters the dependency syndrome.

- 2 Chronicles 14:11

God's All Sufficiency in YOU

- Deuteronomy 8:18

God's All Sufficiency with Agriculture

- Gen 2:15

God's All Sufficiency with the Land

The land has been given to us by God to steward, cultivate and to care for. It doesn't belong to us, it is His.

- 1 Corinthians 10:26
- Leviticus 25:23

God's All Sufficiency with Seed

When God created vegetation He created it to be able to reproduce of its own kind.

Hybrid vs. Open Pollinated Variety (OPV) seed

- Genesis 1:11-13

God's All Sufficiency with God's Blanket

God's Blanket is such an amazing provision that allows for so many wonderful benefits – see details in 20 reasons why we do the how.

God's All Sufficiency with Inputs:

(Manure, Anthill Soil, Compost)

In order to reap a good harvest there has to be a determination to sow of one's own available inputs.

God's All Sufficiency in Tools

Exodus 4:2 God asks Moses the question "What is that in your hand?"

Moses replied "a staff."

What do we have in our hand, as the instrument to break poverty and the food crisis in this continent?

The answer is "A hoe."

God's All Sufficiency in Rain and Increase

In His provision of rain God blesses His children and with it He brings seeds to life and increases the harvest.

Key 4: What you Sow you Will Reap

Problem:

Many communities are living in areas that have no opportunities for any development at all. These people have settled for less, simply because of the availability of free food and have never left. They have become comfortable in the security of knowing that their provider will be there when they are in need again. If we continue to perpetuate dependency on man, we encourage the poor to look to the wrong source of provision, man and not God.

- 2 Thessalonians 3:10 "if a man will not work then neither should he eat."

Work is not a curse it is a blessing. Most of these poor people have land in the rural areas which is lying idle.

Africa is known as the begging bowl of the world, however God can turn that around, transforming the begging bowl into a bread basket.

God's way is that people should develop according to His principles, where He rewards based on sowing and reaping, on stewardship and being faithful with what you have been entrusted with.

Solution: We Need to Give in Order to Receive

Once we understand that God is our source and that His all sufficiency is truly available to us, we can look at giving our way out of dependency and into His promise.

- Acts 20:35 "it is more blessed to give than to receive"

The transition from a receiving to a giving mentality has far reaching effects, even extending into the reaching of the nations with the good news of the gospel of Jesus Christ.

- Luke 6:38
- Proverbs 28:19

In farming there is no greater example of this principle where we continually need to be giving and sowing in order to reap a harvest. We need to sow our seed, fertiliser and other inputs, labour, time, management and capital.

We can't keep on taking and not giving something back. The Bible says we will reap what we sow. $0 \times 0 = 0$, $0 \times 100 = 0$, 0 inputs in 22,222 holes equals 0. If you give nothing to even good potential soil, you get nothing in return.

Ways that one can sow:

Sow Bountifully

Corinthians 9:6 "Now this I say, he who sows sparingly will also reap sparingly, and he who sows bountifully will also reap bountifully."

Sow Knowledgeably

In most of Africa it is not a case of idleness or apathy that is causing the dire poverty levels, it is often a lack of knowledge.

- Hoseah 4:6 "My people perish for a lack of knowledge"

Sow Faithfully

A secret of Farming God's Way is to **start small & be faithful with little.**

- Luke 16:10 "He who is faithful in a very little thing is faithful also in much;"

Sow with Joy

The attitude with which we give is crucial.

- 2 Corinthians 9:7
- Nehemiah 8:10b

Our joy is firstly founded in the Lord, but that same joy should move through every part of our lives and into the work of our hands.

Key 5: Bringing the Tithes and Offerings to God

Considering God's character, power and resources, how can it be possible to steal from Him? According to the scriptures in Malachi 3, it is possible to rob God through our tithes and offerings. This scripture was written in an agricultural society and the hearts of the people in their giving back to God has significant agricultural consequences.

- Malachi 3:7-12

The tithe, although implemented by giving to the church or wherever ones leading is to give, is actually a giving back to God. God really doesn't need our increase or wealth, but it shows Him where our hearts lie as we acknowledge Him first in our giving.

- Matthew 6:21

Whether we give the widows 'mite' or millions of dollars a month, is irrelevant to God. He knows what we have and how much it costs us to give to Him. Often times a widows 'mite' is more costly than a multi-million cash injection into the Lords' house. The Lord knows the state of our hearts before we give and He will measure the blessing based on this heart evaluation and not the amount.

The incredible part of this giving back to God is that it is all for our benefit. It was not orchestrated by God for the storehouse's sake but rather the givers blessing. The blessing comes to the giver threefold:

- 1) God promises He will open up the floodgates of heaven and pour out a blessing until it overflows. Proverbs 3:9**
- 2) God himself will rebuke the devourer so that he will not destroy the fruits of the soil...**
- 3) God will cause all nations to call you blessed because you will be called a delight.**

Giving to the Lord brings Him honour and acknowledges Him in a way we can't understand. Giving to the Lord forces us to consider a cause

outside of ourselves and begins the journey into selflessness where we put His Kingdom before our own selfish end.

Key 6: Stake your Claim

We should be taking God into all areas of our lives, including our farms. We need to reclaim our land and this comes through us acknowledging our idolatries, witchcraft, shedding of innocent blood and other evil ways which result in living under the curse.

- James 5:14 "The effective prayer of a righteous man can accomplish much."
- Proverbs 15:29 "The Lord is far from the wicked: but he heareth the prayer of the righteous."
- 2 Chronicles 7:14 "if my people who are called by my name humble themselves, and pray and seek my face and turn from their wicked ways, then I will hear from heaven and will forgive their sin and heal their land."

As those who have become the righteousness of God through Christ Jesus, we should be praying, believing God for His word and promises, so that our farms and community can prosper.

We stake our claim as sons of God by taking Jesus into every area of our lives. Jesus taught us to pray "let your Kingdom come on earth even as it in heaven."

How to Stake Your Claim

- Humility is the Starting Point (James 4:10)
- Seek His Face and Not His Hands (Deuteronomy 4:29)
- Confess and Repent
- Ask and You Will Receive (Matthew 7:7 James 4:2)
- Pray
- Stand Firm (Ephesians 6:10, Romans 8:37)

God is for us, not against us and He desires for our farms to be blessed. Take back the ground that is under enemy territory.

Step by Step Procedure

This section describes the step by step procedure that you should follow in order to successfully implement Farming God's Way techniques on your land.

1) **Tools Required**

- Teren Rope
This is a measuring rope used to ensure high standards of plant population density. Select a long (up to 50m), non-stretch, hardy rope, which can be made out of nylon, cable, material tape, woven grass braid and even stiff wire in segments. Cut a 60 cm stick with which to measure the marker position on the rope. Tie loops in each end of the teren rope, peg it in on one side, pull the rope tight and peg it in again on the other end. Then attach the markers by crimping bottle tops or tying short strips of plastic onto the rope at exactly 60 cm intervals.
- Hoes
- Measuring cups
- Measuring sticks – 60cm and 75cm
- Manure, compost, anthill soil or fertiliser
- Seed
- Teaspoon
- Tablespoon
- 350ml cup or tin

2) **Land Preparation**

- Start approximately 2 months prior to your planting season
- Start small and do everything to a high standard. Let your available inputs determine the land area to prepare.
- Do not plough.
- Do not burn God's Blanket or incorporate it into the soil.
- If using new unused land, destump, level and clear.
- If lands are full of weeds, simply hoe them down at ground level and leave as God's Blanket.

3) **Establishing a Permanent Baseline**

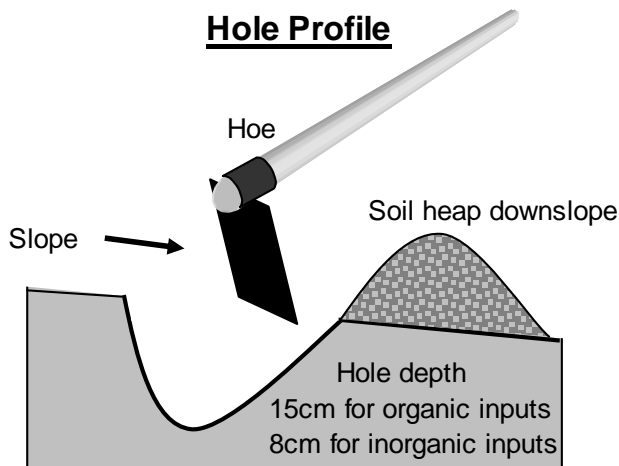
- Start at the top of the field.
- Place the 60cm teren rope across the slope, on the contour.
- 90 degrees off existing boundary fence or pathway.

- Place the 2 permanent pegs at the top of the field, at the first and last teren rope markers.
- Establish the perfect right angle with a sheet of paper and run a downslope rope off this for your coming rows.

4) **Holing Out**

Maize:

- Spacing: 60cm in rows
- Width of hole: Hoe width 12cm
- Depth: 15cm when using organic inputs e.g. manure, compost and anthill soil.
- Depth: 8cm when using inorganic inputs e.g. DAP fertiliser.
- Soil heap goes down slope.

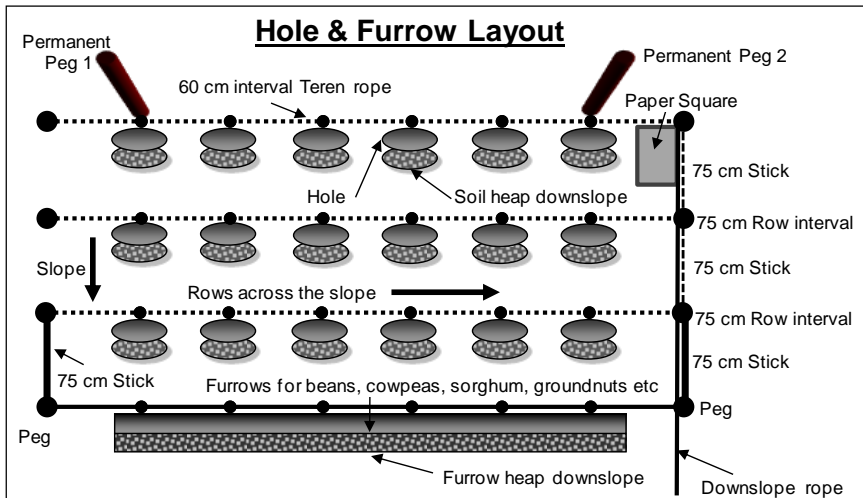


- Move the 60cm teren rope down to the next row, using the 75cm stick to measure the correct spacing.
- Hole out row 2 as described above and continue to move down by 75cm before starting the following row.
- On a field size, place permanent pegs every 10 to 20 rows, for row accuracy.

Alternative Crops:

- The in row spacing of many alternative crops is very narrow and so we simply cannot use a hole. Instead we plant in a continuous furrow on the contour.

- Place the teren rope across the row, but instead of digging at the 60 cm markers simply dig an 8 cm deep furrow right across the slope.
- See table in alternative crop section for further details.



5) **Liming (Correcting Acidic Soils)**

- Often soils, reddish in colour, in a high rainfall area are acidic and bind nutrients necessary for plant growth.
- Agricultural lime increases soil ph which allows for nutrients to be more easily absorbed by the roots.
- Place a heaped teaspoon (5ml) of lime in each hole along the base if no soil analysis has been done.
- If a soil analysis has been done, place the recommended quantity.
- As an alternative to lime you can use a heaped tablespoon of woodash or mix a bag or two into your compost pile.

6) **Inputs**

2 types: organic and inorganic.

Organic

- Compost, manure, anthill soil.
- Use a 350ml cup or tin.
- Place evenly across the base of the hole.

- The yield potential per hectare for maize with manure is 3-5 tons; with compost is 2-5 tons and anthill 1-3 tons.
- For beans place 350ml input across the furrow every 60cm.
- With less nutrient demanding furrow crops e.g. sorghum/millet, spread the inputs over a meter.

Inorganic

- 2 types; basal and top dressing.
- Basal types include DAP or NPK in varying ratio's.
- Basal fertilisers get placed in the bottom of the holes.
- For optimal yields place 12ml or a tablespoon of DAP in a narrow band across the bottom of each hole.
- If using a crop such as beans that use a furrow, simply spread a heaped teaspoon every 60cm in the furrow.

General

- Cover slightly with 3cm of soil until required seed planting depth remains (5cm for maize, 3cm for beans).
- Wait for sufficient rains.

7) Planting

- Field should be ready for planting at least 3 weeks before optimal planting time in your region. For example in Southern African countries be ready by end October.
- Preferable to use OPV seed as this can be replanted yearly for many years.
- 3 seeds/hole, thinned to 2/hole (44,000 plants/ha)
- Place seeds in a straight line across the bottom of the hole.
- Planting depth - matchbox length maize; matchbox width soyas; matchbox thickness wheat.
- If planting beans, place the bean seed at 10cm intervals along the furrow.
- Cover with fine, loose soil from the soil heap, until it is level with the surrounding soil surface. Ensure no stones, hard clods or blanket used when covering.
- Cover the entire surface of the field with God's blanket.

Note: For small seeded crops such as carrots, spinach etc leave the furrow line clear of the blanket until the plants have emerged.

8) **Weed Control**

- Weeds significantly lower crop yields because they compete with the plants for water, nutrients, light and space.
- Weed when small – 1 ha can be weeded in 7 days when weeds are just 1 inch tall; but 14 days to weed when weeds are 1 foot tall.
- The weed cycle is 10 days. This gives several rest days when weeding at 1 inch tall versus never catching up when left to 1 foot tall at start of weeding.
- Weed by walking backwards, simply cutting off at the soil surface.
- Remove creeping grasses by pulling them up and carrying right out of your field or spray them with a selective herbicide.
- Don't let weeds set seed in your field.

9) **Thinning**

- Thin at 2-3 weeks after emergence when seedlings are around 20 to 30cm tall.
- Thin to an average of 2 plants/hole.
- Look at 3 holes at a time, not 1, and thin to 6 seedlings per 3 holes. See examples below:

Thin weakest plant/middle plant if 3 emerge per hole



Remove middle

Remove weakest

Remove weakest

Leave 3 in the hole where 1 emerges in the next hole and 2 in the following one so there are an average of 2/hole



7 seedlings per 3 holes, so thin 1 from the hole with 3 in it



Remove weakest /middle

10) Top Dress Fertiliser (Maize)

- For optimal results one should do 2 topdressings of Ammonium Nitrate (AN) or Urea:

First at 2-3 weeks after emergence:

- 8ml cup or a heaped teaspoon.
- Place 7cm from stem of plant on upslope side.

Second before tassling:

- 5 ml or a heaped teaspoon.
- Place 10cm from stem of plant on upslope side.

11) Pre Harvest Weed Control

- As the maize leaves start dying back, light penetrates through the canopy causing a late flush of weeds.
- Do one last weeding at this stage to keep your lands weed free. This years weeds cause next years crop failures.

12) Topping

- Once the plant is fully mature.
- Break off stalks above cobs to encourage quicker drying off and use for your blanket.

13) Harvest

- Harvest when your maize is physiologically mature, usually 2 months after tassling. The stalks will look very dry and the cobs will most probably be hanging down. At this stage the maize is at about 30% moisture content.
- Dry cobs further in a suitable place until about 13% moisture content, before storing in bags.

14) *Post Harvest Stalk Lodging*

- Stand on base of stem pushing down between rows.
- Improves blanket and helps reduce weeds.
- Breaks life cycle of maize stalk borer.

20 Reasons why we do the How

The basic technology of Farming God's Way is...

**Do not burn or incorporate God's Blanket;
Do not plough; Practise rotations**

Do not burn.....

God's Blanket has the potential to reveal God's promised abundance in our fields. It provides the ideal environment for the healing of the land to take place.

Do not plough.....

In Bible times ploughing was done with very light spear tip tines, which did not invert the soil, but instead loosened the soil to a very shallow depth for planting.

Practise rotations.....

Rotations have been shown to be crucial in maintaining healthy soil and crops.

The benefits of the Farming God's Way technology are summarised below:

General Benefits

1) *Minimal Runoff*

Conventional Farming: typically 90% of rainfall lost in runoff.

Farming God's Way: typically only 6% of rainfall is lost in runoff.

2) *Minimal Erosion*

Conventional Farming: Typically 55 - 250 tons of soil lost per hectare per annum in Africa.

Farming God's Way: minimal soil lost per hectare per annum.

3) Improved Infiltration

Conventional Farming: Kinetic energy from the hammer action of raindrops causes crusting resulting in only 10% of rainfall penetrating the soil.

Farming God's Way: God's Blanket protects the soil from the hammer action of the raindrop by absorbing the impact like a shock absorber, allowing 94% penetration.

4) Decrease in Evaporative Loss

Conventional Farming: The 10% of moisture that infiltrates ploughed soil gets exposed to very high surface temperatures, causing significant moisture losses through evaporation.

Farming God's Way: God's Blanket shades the soil surface, keeping it moist and cool, hereby significantly reducing evaporation from the soil.

5) Cooler Soil Temperature Better for Seedling Growth

Seedlings in Farming God's Way fields take longer to emerge, but about 3 weeks after emergence, these seedlings will flourish and overtake the seedlings in conventionally farmed fields. The cooler soil temperatures are ideal for root establishment, hereby producing stronger and healthier plants.

6) First Rain not Wasted

Conventional Farming: Wait for 1st rains before ploughing. Wait for 2nd good rain before planting.

Farming God's Way: Fields prepared before the 1st rains. Can plant immediately when the 1st good rains arrive as minimal evaporative loss.

7) Improved Weed Control

Conventional Farming: Ploughing stimulates weed germination.

Farming God's Way: No ploughing and 100% surface cover helps to significantly reduce weed growth. Smother mulching has proven to be one of the best ways to combat different creeping grasses.

Soil Improvement Benefits

8) Improved Water Holding Capacity

Soil with an unploughed sponge-like structure is far better at holding moisture, which in turn will result in better drought tolerance and yields.

9) Improved Fertility

God's Blanket gradually decomposes over the years, through insect and other microbial activity. This is an important part of releasing nutrients back into the soil again, hereby improving fertility.

10) Nitrogen Fixing through Rotations with Legumes

Soil fertility is improved by rotating grain crops with legumes such as beans, soyabeans, groundnuts and other crops which fix nitrogen. This nitrogen will be available for the following year's crop.

11) Reduced Compaction

Conventional Farming: Ploughed exposed soil is susceptible to slumping, which is the collapse of the whole profile over time, as the structure and air spaces get pulverized making the soil much more compacted. Ploughing also causes plough pans, which are hard soil compaction layers which form at 20-30 cm deep.

Farming God's Way: The soil increases its volume over the years, with many old root channels and insect burrows which allow for next years crops roots to move quickly down through the profile, unrestricted.

12) Improved Aeration

The sponge effect in soil from not ploughing, through insect tunnels and decomposing root channels, plays an important role in keeping air in the soil profile, which will allow roots to breathe even in waterlogged conditions.

13) Soil Microbiology Improvement

2 basic types of soil microbes, namely aerobic and anaerobic, exist in the soil.

Conventional Farming: Ploughing buries the aerobic organisms in the anaerobic environment and lifts the anaerobic organisms into the aerobic environment causing them all to die.

Farming God's Way: By not burning the blanket or ploughing the soil, we create an ideal environment, cool and moist, for an abundance of organic life to exist. A healthy soil is a living soil.

Economic Benefits

14) Pest and Disease Control

Plants under moisture or nutrient stress give off wavelengths of light like an attractant, which encourage infestations of pests and diseases.

Farming God's Way allows for healthy plants that are not under stress. It also allows for a healthy balanced soil ecosystem, which is the safest environment to prevent an infestation of soil pests, through predation.

The practise of crop rotations also breaks pest and disease lifecycles and significantly reduces crop losses through their infestations.

15) Reduced Field Preparation Cost and Time

It has been proven that conventional commercial farmers spend 3 times as much on fuel, oil, tines, maintenance and repairs of machinery compared to a no ploughing technique.

Small scale farmers spend up to 10 weeks ploughing and preparing their holes compared to 6 weeks to complete the holes ready for planting with Farming God's Way.

16) Reduced Fertiliser Losses

Every year millions of tons of fertiliser are lost into the catchments through runoff losses, leaching and erosion.

Farming God's Way minimises these losses, as well as ensuring that the fertiliser used is placed accurately in only the root zone of each planting station.

17) Improved Drought Tolerance and Risk Spread

A soil's drought tolerance has been proven to depend on 3 factors:

- the percentage cover of God's Blanket
- good aggregation or a crumbly soil structure
- the amount of living organisms found in the soil

The practise of the 1/3rd rotation helps to spread the risk of a total crop failure in a disaster such as drought or regional pest outbreak.

18) Reduced Irrigation Costs

The number of times that a crop gets irrigated can be drastically reduced due to the moisture conservation from no ploughing and having a high percentage of God's Blanket.

19) Improved Crop Efficiency

Farming God's Way provides the ideal environment for crops to flourish by limiting its stresses, hereby greatly improving yields. The roots grow directly under the blanket, accessing the high fertility of the decomposing blanket and enjoying the readily available moisture in the upper levels of the profile.

20) Yield Improvements

Dixon's father got an average of 3 bags per year. Dixon inherited this field and changed from conventional farming to Farming God's Way.

Dixon: 1st year 5 bags;
2nd Year 45 bags;
3rd Year 54 bags;
4th Year 69 bags

Joseph: 7 to 70 bags in his first year.

George: 9 times yield improvement.

Management

The management objective of Farming God's Way is to develop into sustainable profitability. There are many areas where there is a substantial saving of resources with Farming God's Way including soil, moisture, nutrients, land preparation time and costs. However in order for Farming God's Way to be successfully implemented the management must be improved.

The 3 management keys of Farming God's Way are doing things
on time, to high standards and with minimal wastage

Key 1: On Time

- Gen 1:14-19 God's creation in the beginning gives us the platform from which we determine time.
- God created the days, months, years and seasons.
- Ecclesiastes 3:11 "He has made everything appropriate in it's time."
- Land preparation in off season.
- Collecting manure, God's Blanket and seed. Making compost well in advance of the planting season.
- Planting on time – in Southern African summer rainfall region you lose 120kg yield per day planted after 25th November (provided rains have come).
- Weeding on time.

Key 2: To High Standards

Everything God does is done to high standards. His standards of excellence were first demonstrated in creation in Genesis chapter 1, where He created and then examined His own workmanship and proclaimed that it was good.

- Teren rope – straight rows and accurate spacing.
- Permanent pegs – plant in same holes year after year.
- Holes – spacing of 60*75, depth according to input.
- Planting – 3 seeds in row across bottom of hole.
- Population density of 44,444 maize plants, after thinning.
- Keeping farms weed free throughout the year.
- 100% surface coverage of God's Blanket.
- Accurate sowing of available inputs.

Reasons for planting in the same holes year after year:

- Left over nutrients from last years crop can be easily accessed by the next crop.
- Soil texture gets softer and easier to work.
- Decomposed roots from previous crops improve soil fertility and leave channels for easy root growth and improved water penetration.
- Compaction from feet or implements only occurs between rows.
- Minimal soil disturbance between plants reduces weed emergence.

Each measure of excellent standards is there for our good and not for perfection sake. They have been carefully selected to make sure that farms will make sustainable profits.

- Colossians 3:23 "Whatever you do, do your work heartily, as for the Lord rather than for men,"

Key 3: With Minimal Wastage

Biblically the most incredible demonstration of Jesus' practise of minimal wastage was shown at the feeding of the five thousand (Matthew 14:14)

God's minimal wastage examples:

- Water Cycle
- Carbon Cycle

Man's Wastage:

- Deforestation
- Slash and burn agriculture
- Soil erosion
- Runoff
- Farming large tracts of land at low return is wastage

Farming God's Way ensures minimal wastage by:

- Reducing demand for land through improved yields on the same tract of land.
- Conserving soil
- Rainfall penetration
- Reduced runoff
- Conserving soil moisture
- Soil fertility through natural recycling of nutrients
- Plant spacing closing canopy
- Inputs used efficiently
- Time and money saved

Conclusion

It is so amazing to see how when we put these 3 management keys into place that we will have exceedingly great joy in the work of our hands. Remember if you sow in joy, you will also reap in joy and if you sow with a long face, grumbling and complaining, you will also reap a harvest grumbling and complaining.

- 2 Corinthians 9:7 "Let each man do according as he has purposed in his heart: not grudgingly, or of necessity: for God loves a cheerful giver."

Our aspirations for good management, and therefore sustainable profitability, are secondary to a walk worthy of being called His children. We need to do everything we do as unto the Lord, with all the fruits of the Holy Spirit evident as a witness of God's transforming power in our lives.

Composting

Introduction

- Compost is decomposed organic matter that has been broken down by micro organisms, especially bacteria and fungi.
- It is an exceptional alternative to fertiliser. By putting back good quality compost into the soil, farmers can reap the same, if not better, profitability in the long term when comparing to fertiliser usage.
- It builds up organic nutrient levels in the soil & helps restore natural biotic balances in the soil profile.
- Recommended compost pile size starts as 2m x 2m x 2m.
- When complete the volume is enough for 1 acre or 1/2 ha of maize inputs.
- It is not recommended that you reduce the starting size of the pile to below 1.5 m³.
- Start collecting compost materials at crop canopy closure, when there is plenty of green material around.

Ingredients

Compost is made up of three main components; nitrogen, green and a woody/dry component.

1) Nitrogen Component

- 10% of your pile / 15 bags of manure.
- If there is no manure use 4m³ of legumes.
- This component is the fuel of the compost pile and gets the bacteria going.

2) Green Component

- 45% of your pile.
- Anything that is green when cut, even if it has since dried.

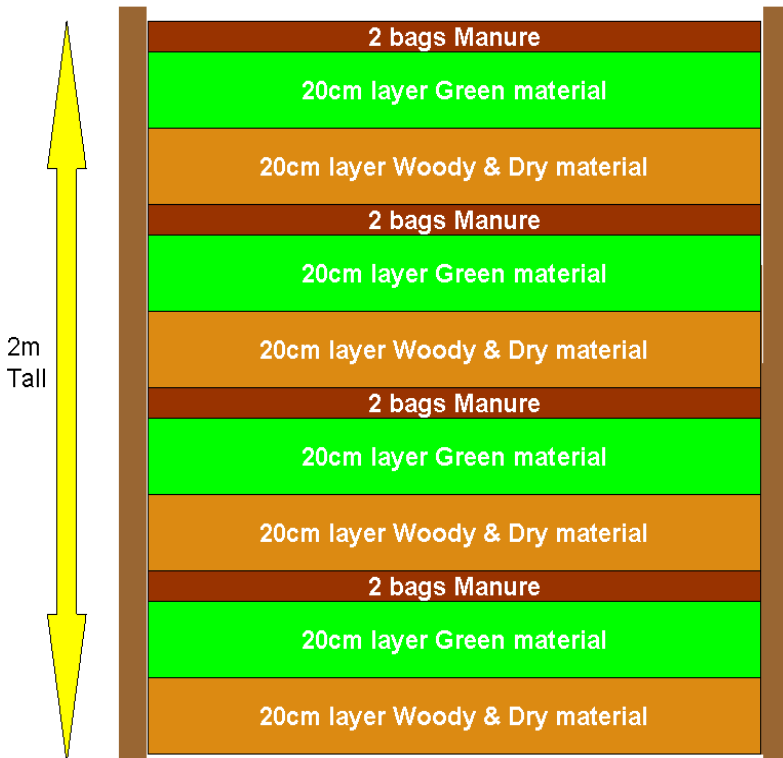
3) Woody Dry Component

- 45% of your pile.
- Woody material encourages the fungal growth e.g. maize cobs, stalks, branches, cardboard and wood shavings.
- Dry material adds bulk e.g. thatch grass, leaves and weeds.

The materials should be piled separately until such time as enough of each material has been accumulated.

Building the Pile

- Maintaining correct ratios is very important.
- Build the pile using alternate layers of the 3 main components.
- Dunk the green and woody/dry materials in a container of water before you place them on the pile.
- Start with 20cm of woody dry, then place 20cm of green, then 2 bags of well wetted manure on top of that.
- Continue repeating the layers until you get to the 2m height.



Temperature

- Ideal temperature is between 55°C and 68°C.
- Maintain at that temperature range for 3 days, to kill all seeds and unwanted pathogens.
- Use a temperature probe for accurate readings.
- A cheap alternative is to use an 8mm steel rod. After inserting it into the pile for a few minutes, see if you can hold on to it for 5 seconds. If you can the temperature is less than 70. If you cannot, it's ready for the pile to be turned.
- If you allow the temperature to get above 70°C, desirable microbes get killed and carbon gets burned up and wasted.
- Compost should be maturing and cooling after 6-8 weeks.

Turning the Pile

- 1st turn within 3 days (before the temperature reaches 70°C).
- Mix the pile into the adjoining 2m*2m position using a fork or a hoe, bringing the outside material into the centre and moving the centre material to the outside.
- This turning process maintains the correct temperature, mixes ingredients, brings material on the outside to the inside so that it also gets exposure to high temperatures, aerates the pile with oxygen and allows for moisture levels to be checked and adjusted if necessary.
- If the pile is not turned it will become anaerobic, have a bad smell and result in poor quality compost.
- A simple guideline for the poor is to turn every 3 days for the first 3 turns and every 10 days for the next 4 or 5 turns.
- After 2 months the turning process is complete.
- Once complete, leave the compost to cure thoroughly for another 4 months.

Moisture Content

- Moisture is lost as steam and needs to be replaced.
- Try to keep the moisture content of your compost at 50%.
You can test this by squeezing it in your hand.
If moisture drips out, it is too wet.
If no water drips out, but on opening your hand the material does not hold its shape, then it is too dry, so add water.
If squeezed, no extra moisture drips out and on opening your hand the material holds its form, then it is close to the desired 50% moisture content.

- Leave a gentle slope on the top of the pile and place thatch grass or grain bags on top to keep excess rain water off the pile, which can cool the pile too much.

Indicators of Good Compost

- Dark brown colour
- Sweet and rich smell
- Crumbly structure
- You should be able to see thick fungal strands

Compost can be stored as is for years, without degrading or losing its nutrients and the cost of producing it, is only labour.

Compost is the input that we should see on every farm field as we express faithfulness with what God in His all sufficiency has put in our hands.

Biodiversity Through Alternative Crops

In Farming God's Way we encourage farmers to practise biodiversity through rotations, relay cropping or growing green manure cover crops.

Rotations

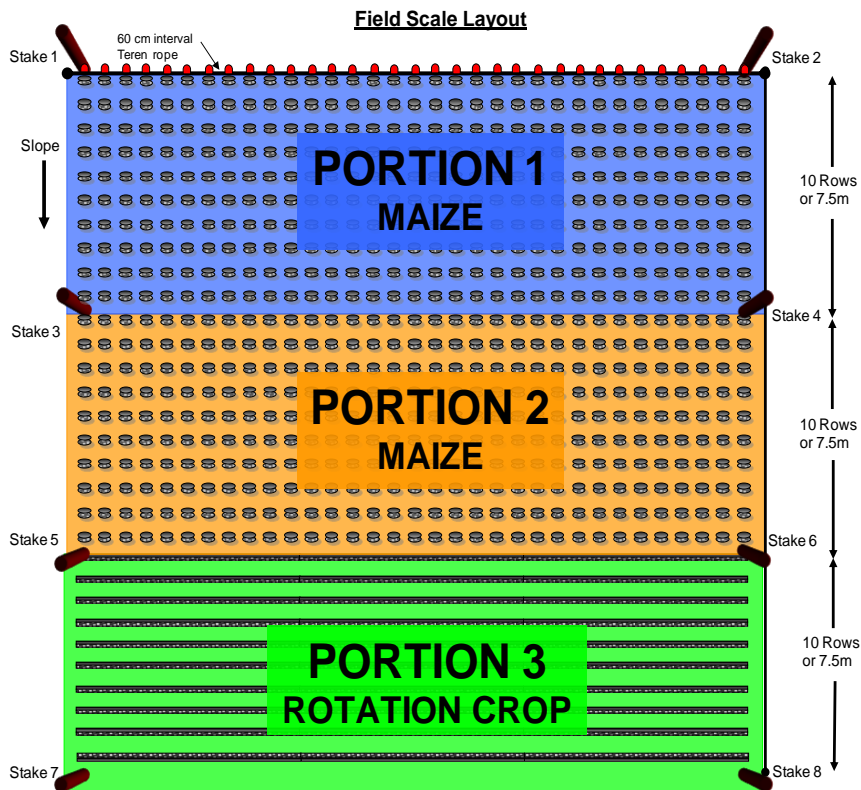
- Rotations should occur every 3rd year.
- Divide lands into 3 equal proportions and allocate the 1st two to the staple crop, example maize and 3rd portion to the rotation crop, example green beans.

Year	1	2	3
Portion 1	Maize	Beans	Maize
Portion 2	Maize	Maize	Beans
Portion 3	Beans	Maize	Maize

- Allocate 1/3rd of land area to be under rotation.
- Rotations break disease and pest cycles, improve soil structure and fertility, provide for protein and vitamins in family diets and help spread financial risk.

General Guidelines:

- Change from monocotyledonous to dicotyledonous species.
- Preferably include a legume such as beans, soyabeans, pigeon peas, cowpeas, sugar beans or groundnuts but can include sunflower, sweet potato and vegetables.
- The 3rd rotation portion can be subdivided further to include a variety of vegetables for a family's nutritional supplement.



Example of a field rotation

Relay Cropping

Relay cropping is planting a second crop when the first one is dying back and is encouraged in areas where the climate allows for this or there is enough residual moisture towards the end of the season. Relay crops are different to double crops which get planted after harvesting the first crop. Be careful not to plant the relay crop too early, as this will cause your first crop yield to suffer drastically when the grain fill stage is happening e.g. Pigeon Peas planted at Maize die back.

Note: Relay cropping is different to mixed cropping (e.g. planting beans between maize rows). We do **not** encourage a mixed cropping practice.

Green Manure Cover Crops

Green manure cover crops have been used successfully for many years to build up the percentage cover of God's Blanket, fix nitrogen, improve soil fertility, control weeds, prevent erosion, provide high protein animal fodder, additional income and human food. They are just like growing compost in the fields and their advantages over compost are they don't need watering and are far less labour intensive.

They are well suited to the climates of Central and West Africa, as well as regions with an extended rainy season. A suggestion is to grow green manure cover crops in the short rain periods in order to recondition the soil for the main cropping season.

Examples:

- Legumes: dolichos lablab, mucuna/velvet bean, cowpeas, alfa alfa, peas and hairy vetch.
- Monocots: Wheat, rye, oats.

Cowpeas, peas and wheat can also be used as a relay crop.

Alternative Crop Guidelines:

Alternative Crop guidelines (>600mm Rainfall) in hectares								
Crop		Maize	Sunflower	Cotton	Sorghum	Soyabeans	Cowpeas	Groundnuts
Planting technique		Planting Stations			Furrows			
Seed Rate	kg/ha	30	6	25	10	160	60	80
Spacing	Rows	75	75	75	75	75	75	Split to 37.5
	In-row	60	60	60	10	5	10	8
Planting depth	cm	5	2	2	2	1.5	2	3
Plant	Seeds/hole	3	3	5	1	1	1	1
Thin to	Seeds/hole	2	2	1-2	1	1	1	1
Population	Plants/ha	44 444	44 444	33 333	133 333	266 667	133 333	333 333
Target yield	tons/ha	5-7	2-2.5	2-2.5	2-2.5	1.5-2	1.5-2	1.5-2
Compost/Anthill/Manure	Cup size ml	350	350	350	350/m	350/m	350/m	350/m
	50 kg bags/ha	156	156	156	94	94	94	188
or Compound Fertiliser	Cup size ml	12	8	8		8/m	5/m	8/m
	Rate kg/ha	293	196	196		117	73	147
Top dress Fertiliser	1) Cup size ml	8	5	5	12			
	2) Cup size ml	5						
	Rate kg/ha	246	94	94	136			
Woodash	Cup size ml	12				12 /m		12 /m
	Rate kg/ha	293				122		243
or Lime	Cup size ml	5				5/m		5/m
	Rate kg/ha	133				80		160

Extension

Dream the Farming God's Way dream of seeing the yoke of oppression lifted off the poor, allowing them to realise their own God given potential.

Biblical Motivation

"But Who am I Lord?" you may say. You are sons and daughters of the most high God. Jesus said, "As I see my Father do that is what I do. As I hear my Father speaking, that is what I speak". We simply need to follow what Jesus has already shown us to do. He came to serve, make a way for the poor, sick, broken hearted and downcast to be saved and to live in the promise of His abundant life. We have an amazing opportunity to do this through using the tool of Farming God's Way and fulfilling the commissioning of **Isaiah 58** - God's chosen fast. In so doing we could even have the privilege of serving the King (Matthew 25:35) and living in His blessing as we consider the poor and helpless (Psalm 41:1-3).

The gospel of both Word and deed can be put into place across the continent to break the curse of poverty and remove the yoke of oppression. God's people can create the critical mass of effectiveness needed to roll out this message of hope to the hopeless.

It Starts With You

If you are going to become a Farming God's Way farmer then go through the teachings thoroughly and ensure that you start small and expand with faithfulness. Keep on studying the resources and go to frequent training sessions.

If you are interested in becoming an accredited Farming God's Way Trainer then you need to commit yourself to going through the equipping and relational accreditation process.

This includes:

- Attending at least 3 training events,
- Planting and managing your own Well Watered Garden for a season.
- Participating in the in-field mentoring mission trips.

- When one of the senior Farming God's Way trainers feels that you are ready then we will relationally accredit you as a Farming God's Way trainer.

Remember that Farming God's Way is not an organisation, but a tool given to the body of Christ. We are not trying to build you into Farming God's Way, but rather to equip you to use Farming God's Way. We want to release thousands of trainers to be able to extend this message of hope under their own coverings of church, mission or NGO.

Well Watered Garden Implementation

Well Watered Gardens are a wonderful mechanism to roll out Farming God's Way effectively. These small 6*6m demonstration gardens allow for the training and discipleship of farmers in their own communities. They are cost effective models and take 2-3 hours to complete. Although they are small, they are still large enough to train farmers how to implement the Farming God's Way techniques successfully on their own farms, as they allow for persons getting trained to see clearly, with sufficient repetition and opportunities to try the technique themselves. It is a very interactive demonstration method and can be lots of fun for all who participate.

Detailed information on Well Watered Garden implementation can be obtained via the Farming God's Way DVD series as well as the Trainers Reference Guide.

Pointers for a successful community implementation

- Commitment of 5/6 year repeat training.
- Find a man of peace.
- Free giving to all – no preferential treatment.
- Size of extension site – keep to Well Watered Garden size.
- If living in or nearby to the community you are going to train, break the training sessions down into smaller portions, taking the farmers through a production timeline.
- Ensure you train at the correct time of year.
- Organise farmers into small groups.
- Never use incentives or handouts of seed or fertiliser.
- Field evaluations are a great tool for discipling of farmers.
- Prayer.

Conclusion

As Farming God's Way gets extended widely through the nations, our encouragement to you is this - never forget that the POOR are the target audience. They have a special place in God's heart and we must ensure that we keep focussed on serving them wholeheartedly.

Let's take this message motivated by obedience to the Word of God, rooted in Christ-like compassion and deliver it with much love for the poorest of the poor to be set free from the yoke of poverty.

Resources

- Farming Gods Way internet site: www.farming-gods-way.org
- Farming God's Way DVD Series:
This series explores the foundational Biblical keys of Farming God's Way, as well as the practical side of technology & management. With detailed animation, motion graphics, visual effects, and spectacular film locations, this 7 hr modularised series will take the viewer on an incredible journey of discovery into God's amazing creation, to uncover the gift that is Farming God's Way. The Facilitator Study Guide is a useful aid for DVD facilitation.
- Trainers Reference Guide:
This is an extremely useful resource for those wanting to expand their knowledge of Farming God's Way. It should be in the hand of every person who wishes to train Farming God's Way.
- Farming God's Way Field Guides:
This manual is a field guide, which is specifically for community training times. It can be downloaded from the Resources tab on the Farming God's Way internet site. Translations of this guide will be made available for download from the Resources tab on the Farming God's Way internet site as and when they are completed.
- Facilitators Study Guide – A series of chapter based questions to use whilst facilitating the DVD series to encourage discussion.
- General Enquiries: info@farming-gods-way.org