Introduction

In Africa it is very safe to assume that most rural farmers attempt to farm as much as 2Ha of land every year, and yet are still unable to produce an adequate supply of food to sustain themselves. To alleviate this many people believe that the answer is to either farm more land or to mechanise. Unfortunately neither of these options work as larger land means even poorer standards and no increase in production. Mechanisation is generally out of the budget range of most families, and comes with many hidden costs.

Inspiration

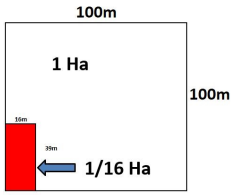
After a training with Foundations for Farming, Berin Stockil was inspired to make a plan to help families feed themselves. Through much prayer it was revealed to him to investigate what it would take to fill a 20 litre bucket with maize. Many farmers refer to their yield in buckets and it is an easily understood measure for how much a family requires to feed itself. The concept is simple, but God inspired.

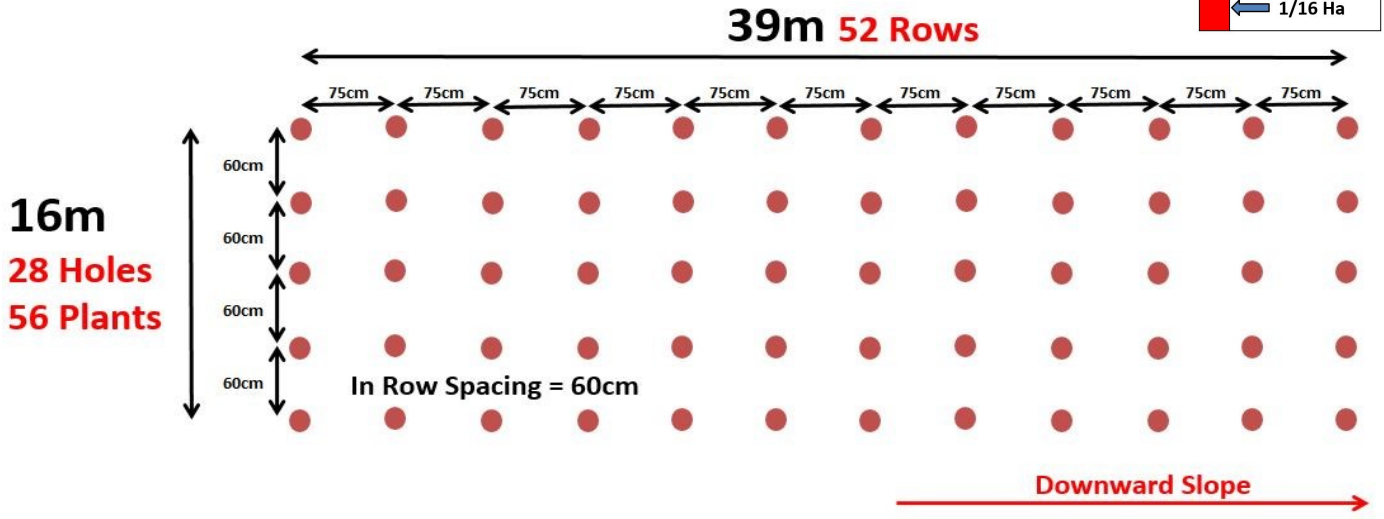
Concept

Pfumvudza was developed to answer the following question. "How much land is required to feed a family"? Using all the Foundations for Farming principles and assuming that a family would require a bucket of maize per week to provide their staple diet, the following model was developed.

To fill a bucket with shelled maize you would require 56 cobs weighing 300 grams each. If each maize plant produced at least one of these we would require 56 plants.

The FfF spacing of planting stations within a row is 60cm and each station would have 2 plants, thus we would require a row of only 16m to produce a bucket of maize. If we were to produce a bucket for each week of the year this would mean we would need 52 of these rows. At a row spacing of 75cm this would mean our block would be 39m long. 16m by 39m is only $\frac{1}{16}$ of a Hectare.





Maize is the desired staple for most people in Africa, but this concept works with just as well with smaller traditional grains like sorghum and Millet. It is also advisable to rotate legumes through your plots such as soya, sugar beans, ground nuts or cowpeas.

Materials

The fact that we can produce enough food for our family for a whole year off of such a small piece of land sounds almost too good to be true, but by following some very simple guidelines it is very achievable. To make this a reality for people, with no hope, a precise seed and fertilizer pack was developed. One of these packs is required to plant a plot which would feed a family for a year. Each pack contains, 16kg basal fertilizer mixed with micronized lime, 2kg Maize seed, 2 x 8kg Ammonium Nitrate Top dressings, 250g of Ecoterex for Fall Army worm and Stalk borer control and 200g of grain protectant dust, fertiliser cups and an instruction pamphlet.

Method

It is essential that training is received for a farmer to be able to achieve the potential of this amazing revelation. The principles involved are not complicated, but require the farmer to follow them diligently and with very high standards. Farmers are taught how to prepare their fields from the end of summer, ensuring their fields are weed free and mulched through winter. Each farmer is encouraged to start with just one plot, this would feed his family for the year. Even if the farmer is unable to afford a pack he would still be able to plant using compost, OPV seed and organic topdressings. Be faithful with little (Matt.25:14-30). The Lord adds to faithfulness, pray for God's guidance every step of the way.

By carrying out all operations On Time, To a High Standard, Without Wastage and With Joy (Foundations for Farming Principles) you will be a fruitful farmer and bring Glory to God(1 Cor. 10:31).

As the new season approaches farmers would begin to mark out the plot with permanent pegs on the corners. Then begin to dig the planting stations. The rows must run across the slope of the field. The plot is only 16m x 39m thus there are only 1,456 planting stations to prepare. The amount of mulch required to cover the plot is also very manageable. It is even possible for the farmer to apply water to the plot in a dry period or if he desires to plant early. The field should be prepared by 25th October.

Once all the planting stations are prepared and the rainy season is approaching the lime and basal mix from pack 1 would be applied to the planting stations at a rate of 1 x 8 cup per station. In the absence of a pack the farmer would apply 1 tin of compost to each planting station. These inputs are covered with a small layer of soil leaving a planting depression of 5cm into which the seed will be placed. We now wait for the rains.

After the first effective rains have been received, planting would be done immediately. From Pack 2, which contains the seed, 3 seeds are placed, evenly spaced across the base of each planting station. If hybrid seed is not available use whatever seed is in your hand. The seeds are covered with soil, which is free of clods, stones and mulch to ensure good seed to soil contact. The planting stations are covered level with the ground and mulch is placed over them, this will protect the soil from drying too quickly and from forming a cap on the surface. It will also capture all the rain that falls on the field.

Within a few days the seeds will germinate. Continue to be vigilant with weed control and remove them as early as possible. 2-3 weeks from emergence we should thin our crop to 2 plants per planting station. If we have achieved excellent germination we will require to remove 1 plant from every station leaving 2 plants. If there are 2 plants, no thinning is required. Where there is only one plant the adjacent station must be left with 3 plants to compensate for the missing plant. No form of transplanting or gap filling is advisable.

At the same stage as thinning the first top dressing should also be done. Here the pack 3 containing ammonium nitrate is used. First a slight depression needs to be made about 10cm from the plants on the up slope side, then a 5cup of AN is applied into this hole and covered. If AN is not available then chicken manure soup topdressing should be used. Continue to remove weeds as early as possible, never allowing them to grow to maturity and infest your field with a new crop of seed. Weeding should be done at any stage that weeds are visible.

250g of Ecoterex has been supplied with the pack. This is a treatment for Fall Army worm and Maize Stalk Borer. Apply a half a pinch of the product to each funnel of every plant, use gloves. This application should also be done at the same time as thinning .

A second top dressing from Pack No.4 will be applied when your crop begins to tassel. Once again a 5cup of AN is applied in a hole 10cm from the plants on the up slope side and covered. Continue to remove weeds.

At maturity the crop will be harvested. The cobs are removed and the stalks left in place. After harvest, one final weeding is done, and then the stalks are knocked down to form the protective blanket for our soil for the next season.

With the simple instructions and inputs of the pack a family should very easily feed itself for the year. This is truly a revelation to feed a nation. Once the management of one plot is mastered and there is enough food in the house a second or third plot could be done. In these plots it would be advisable to grow a leguminous cash crop to add further income to the family.