

## Series 4, Episode 12

Wilfred and Rose's Farm with Eric, Naro Moru

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*This leaflet contains information on: Chicken houses for layers, feeding Layers, disease control in potatoes and courgettes, water harvesting, and farm planning*



### Plan your farming to make better profits

To make the best profit from your farm, it is important to have a plan of the farm - where you can decide what crops to plant in which blocks, and how to **rotate** your crops.

The farm plan should also help you to know how much **water** and what type of **irrigation** you need.

Remember, the **most efficient** irrigation is **drip irrigation**, but this needs **water pressure** so you must either have a **pump** or put your tank on a **tower** or have your dam at the **top** of your farm.

To store water, you can use a **dam, pan, tanks or ponds**. Use your farm plan to work out how **big** they should be, so you have enough water for your farm. Make a **water harvesting** plan to decide where to catch your water. You can catch water in a **furrow, terrace, gutter or contour**, and direct it to your dam or tanks.

The farm should have **1 acre** of **livestock fodder** for every cow, and lines of **fruit and fodder trees** to hold the soil together and stop pests invading the whole farm.

Remember, you **must** rotate your crops every season. This will reduce the amount of diseases and pests in your farm, and help you get good harvests each season.

*For more information, SMS 'FARM PLAN' to 30606*

### Use the internet to find more information and improve your farming

It is important to get as much information as possible to help you improve your farming.

You can get information about farming from your neighbours, the agrodealer or agrovet, the extension staff from the Government and from private companies, **mobile information services and the internet**.

A good place to find information on the internet is the **Africa Knowledge Zone** [www.africaknowledgezone.org](http://www.africaknowledgezone.org) and the **Shamba Shape Up website** [www.shambashapeup.com](http://www.shambashapeup.com) - you can also get information from other farmers on the **Shamba Shape Up Facebook** [www.facebook.com/ShambaShapeUp](http://www.facebook.com/ShambaShapeUp). You can find the information from Shamba Shape Up on these sites.

You can also search on **Google** - for example, if you want to see what powdery mildew looks like, search for 'powdery mildew pictures'. If you want to know how much dairy meal to feed your cow, search for 'how much to feed dairy cow'.

## Improve your chicken business with layers

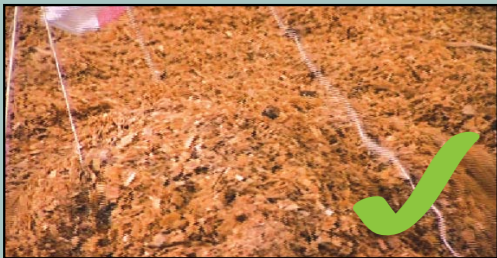
### Housing for layers

Layer chickens need a well-ventilated, dark, safe and clean house. The house should have 1 square foot for each bird, and laying nests should be 1 cubic foot (1 foot by 1 foot by 1 foot). So, a house for 100 birds needs to be 100 square feet, or 10 foot by 10 foot.

There should be no bush around the house. Bushes and rubbish house rats, snakes and mice which can eat your birds, and their eggs. Rats and mice carry **diseases**, which can kill your birds.



Cover the floor of the house with **wood shavings** to keep the chickens **warm and dry**.



Have a **footbath with disinfectant** in it at the door, and **always wear clean dustcoats and gumboots** when in the chicken house. Change the disinfectant every 2 days.



For chicks, make a **round brooder** and cover the floor with **newspaper**. Give the chicks a **jiko** to keep them warm.



Make sure there are enough **feeders and drinkers** in the chicken house - one adult feeder is enough for 50 chickens, one drinker for 50 chickens and one chick feeder for 100 chicks. The chick drinker should have **vitamins, glucose and liquid paraffin** in the water to give the chicks **energy, health and help them pass feces**.

### Record keeping for layers

It is very important to keep records for your chicken business.

The record book should have the following:

- Number of chickens
- Vaccinations and when they are done
- Deaths and from which diseases
- Age of chickens
- Source of the chickens
- Which feeds were given
- How much feeds were given, and the cost
- The number of eggs which were laid
- How many eggs were sold, and price

This will help you work out how much **profit** you have made on your chickens.

### Feeding layers

To get the best results from your layer chickens, use this calendar to feed your chickens:

Age	Feed	Amount
0-8 weeks	Fugo Chick and Duck Mash	2 kg per chick over 8 weeks (35 g each per day)
8-18 weeks	Fugo Grower Mash	7 kg per bird over 10 weeks (100g each per day)
Point of lay (18 weeks) onwards	Fugo Layers Compleat Meal	140 grams per chicken per day
All ages	Water	Fresh clean water every day, as much as can be drunk.

To work out how much feed you need to buy, multiply the number of chickens you have by the amount of feed:

Chicks: 2kg per chick \* 100 chicks = 200kg **total**

Growers: 7kg per chicken \* 100 = 700kg **total**

Layers: 140g per chicken \* 100 = 14kg **per day**

Remember, when you are changing from one feed to another, change slowly by mixing the feeds together for a few days, so the chickens become used to the new feed.



## Soil diseases

Soil borne diseases are a big problem, and can be easily avoided if you are a careful farmer.

A dangerous and **uncurable** soil disease is **bacterial wilt** which spreads through the soil. This will kill your plants, and spread from one plant to another.

First, you need to use **clean, certified seed** and try not to **recycle or reuse** the seed from your farm.

Second, you need to **rotate** your crops and make sure you **remove all crops** from the field each season. If you leave some crops in the field and then plant new crops around them, this can spread diseases.

Third, **weed your crop** completely. Weeds carry pests and diseases.

Plant potatoes in well drained fields, **never** in wet or water-logged areas.

Do not rotate potatoes with plants in the same family (tomatoes, bananas, eggplant, capsicum, chilli, groundnut). Rotate with cabbages, beans, peas, onions, carrots or grass.



If you see plants with **bacterial wilt** in your shamba, like the picture above, **immediately remove the plant, with the soil and the roots, and burn the plant. Do not put the plant on your compost or feed it to animals.** Another way to check if the plant has bacterial wilt is to dig up a potato. If the potato tuber has a black ring with white spots, then it is a clear sign that it is infected with bacterial wilt, like the picture above.

## Fungal diseases

Fungal diseases are common on vegetable and potato crops. The fungus can cover the whole leaf, and stop the plant from being able to produce fruits.

It is important to **scout** for diseases and pests every day. As soon as you see pests or diseases, or think you might get some, take action immediately.

### Powdery Mildew

This is a fungal disease which you can see as a **white powder** on the leaves of your plants.

If you see this disease, spray with **Ortiva** from Syngenta in the centre of each plant and on all the leaves. Mix **20ml of Ortiva** in a **knapsack** and spray over ¼ acre.



### Blight on potatoes

Blight is a fungal disease. On potatoes you can see the disease when the **flowers abort** or the leaves turn brown. To **cure blight**, spray **Ridomil Gold**, using **50 grams per knapsack for ¼ acre**. To **prevent** blight, spray **Daconil**. Spray every 2 weeks for 3 consecutive times, then change the chemical.



For more information, SMS 'PLANT DISEASE' to 30606

## Control White Flies in your vegetables

White Flies are **sucking pests** which infest crops and suck out water and sugars. Look for small white flies in your crop. They will cause a poor crop, and small vegetables.

To control White Flies, spray **Actara** on all leaf surfaces in the whole crop. Use **8 grams of Actara per knapsack for ¼ acre** once the crop has germinated. The chemical will be held in the plant, and kill the pests which suck at the leaves.



## Wear protective clothing when using chemicals

Agrochemicals are useful but they can cause health problems if you are not careful with them.

Always wear a **mask, gloves, dust coat, gumboots and goggles** when using chemicals, and **wash your hands after using the chemicals.**



## Finding land to farm

Many people complain they cannot farm because they cannot buy the land, or their parents will not give them land.

If you have a good **business plan**, you can **lease or rent** land anywhere in Kenya. You can use the **business plan** to get a **loan** from a MFI, Bank or SACCO.

For example, if you rent 1 acre in Embu, you can pay 7,000KSH for one year. If you harvest 50 bags of potatoes from that acre in that year, and 100 bags of carrots, you can earn 300,000KSH.

Or, you can lease the land from your parents, or neighbours. Many people have land on their shamba which they do not use, because they cannot manage the whole shamba.

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