

# ZiMUNDA

## FARMING



NEWSLETTER  
ISSUE 1 | MAY 2020

### AGRONOMY

POST PURCHASE  
HANDLING OF SEEDLINGS

### LIVESTOCK

GENERAL CATTLE  
MANAGEMENT

### POULTRY

FREE-RANGE  
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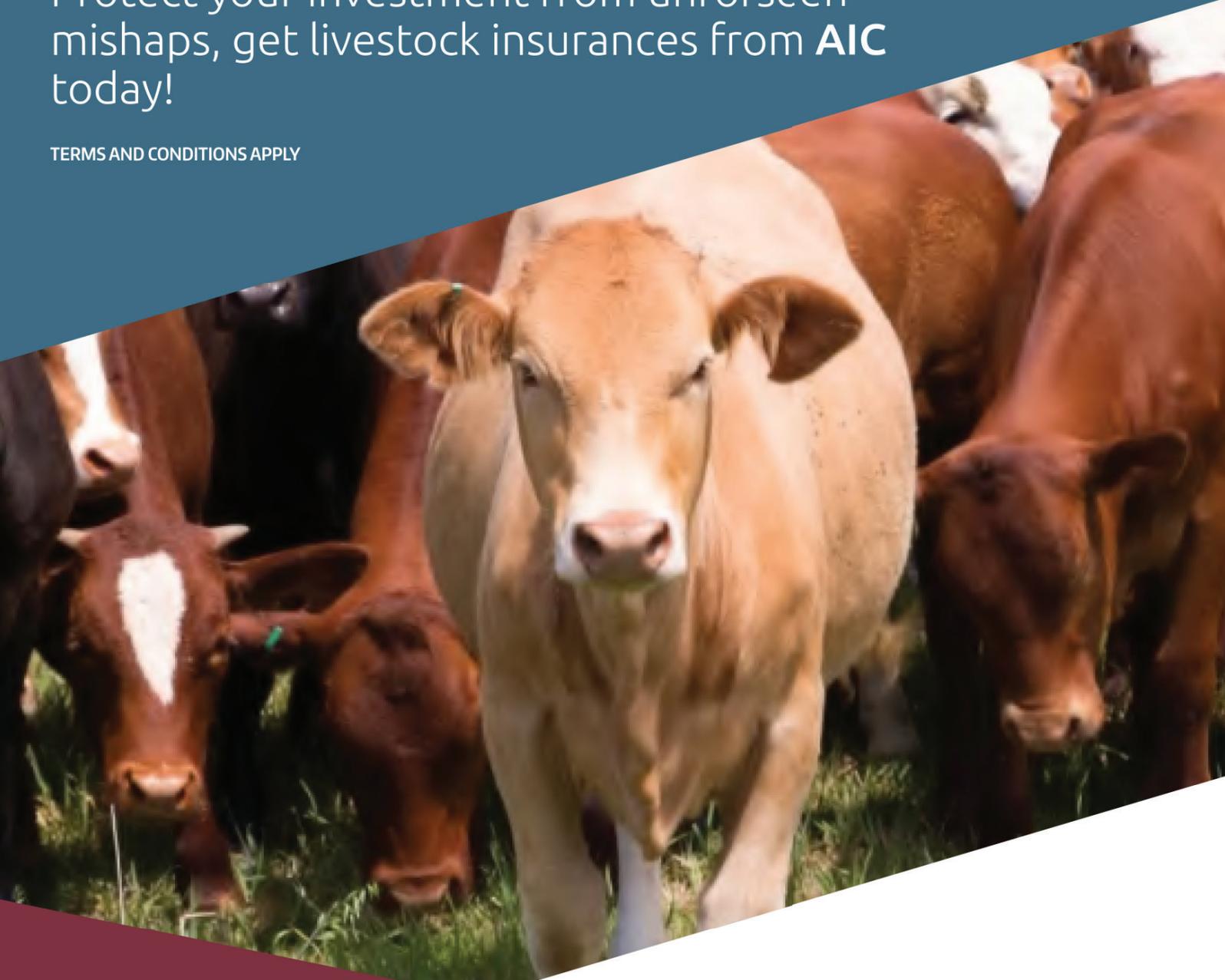
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# General Cattle Management

BY SEKURU

Sponsored by the Zimbabwe Boran Breeders Society

Cattle management involves many aspects of the day to day handling and care of animals, which are all vital to the well-being, ease of management and productivity of the herd. Whatever aspect of management one is dealing with, it is essential that cattle are handled calmly and quietly and treated humanely. Badly treated cattle are uncooperative and stressed, causing loss of condition and wildness. More often than not, when an animal becomes stressed and over-excited, all that is required is to stand back, allow it to quieten down and it will do exactly what you wanted it to do in the first place.

Keep daily management as simple and practical as possible but strive to maintain accurate records, carry out routine vaccinations and other operations on time and follow a simple annual timetable. Handle cattle gently at all times and they will reward you with being easy to handle and quiet.

It is law that an up-to-date stock register is kept recording animal numbers, sex and class of animal, dates and numbers of additions and removals. Indicate dates and numbers when cattle are dipped. It is also a legal requirement for cattle to be branded with the appropriate Veterinary brands for the area in which they are kept.

## IDENTIFICATION & RECORDING

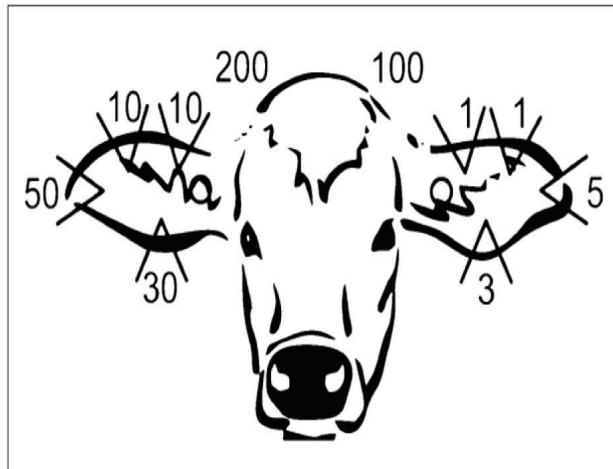
Many good stockmen, particularly those with small numbers of cattle, will know their cattle individually. But it is still a good idea to mark each animal and keep records. Identification will help in the recovery of lost or stolen cattle.

Individual and ownership identification may be in the form of ear notching, branding or ear tags, or a combination of these. There is a simple, widely used method of number ear notching.

Individual branding and ear tag marking can be done using a combination of the year of birth and an individual number from 1 in sequence. For example, 1701 and 1702 would be the first and second calf born in 2017. The animal retains this number throughout its life. It is important to use the correct tag marking pens to mark tags; ordinary magic markers will not last and soon be illegible. Be advised to buy good tags and that will last.

Veterinary regulations require all animals over the age of 6

months to be branded on the left neck or shoulder with the brand for your veterinary area or zone. In addition, it is a requirement that all animals be branded identifying the farm or dip tank of origin, or both. This is also required to be applied before 6 months of age. Your local Veterinary Officer will advise on all branding regulations which may change from time to time.



A common ear notching system from 1 to 300

In some cases, ear tags approved by the Director of Veterinary Services may be applied to the left ear within 20 days of birth, in place of brands.

Record keeping can vary from unnecessarily detailed records which are a problem to keep up and contain

a large amount of superfluous information, to a few important but simple records which are invaluable for your selection programme and other operations. The secret of good record keeping is not only to keep up accurate, simple records on a regular basis, but also to use the information to improve your herd.

## USEFUL RECORDS TO KEEP ARE AS FOLLOWS:

- Stock Register – details of numbers and classes of stock, births, deaths, transfers, movements, sales and purchases.
- Cow/Calf Card – details of individual cow and her progeny to weaning age, ICP (Calving interval).
- Weaner Record – details of cow and weaner ID's,



Birth weight recording



calf weaning weight and cow weight, weaning ratio, weaner/cow weight ratio.

- 12 to 14 Month Record – assists in choosing replacement heifers.
- Grazing Register – when some form of managed grazing is practiced.
- Rainfall Records.

ID	SIRE	DAM	DOB	DISPOSAL
14-0009	B 13-0036	12-0075	1/12/2013	
CALVING HISTORY				
Calving Date	Calf ID	Calf Sex	Weaning Date	Calving Interval
15/11/2017	17-0043	Female	15/6/2018	NA
15/12/2018	18-0014	Male	15/7/2019	395 days

Example of a basic cow/calf record card

Not everyone has, or can afford a scale but weight records can still be kept using a weigh band. As long as it is used consistently it will help to record differences in weight, if not the precise actual weight.

However, the records are kept, it is important to note that selection should not only rely on written records, but also on careful visual appraisal for functional efficiency by the stockman, to achieve a balanced result. Performance records and visual appraisal go together; you cannot have one without the other. The old adage, “The eye of the stockman fattens the beast,” is as relevant today as it was in the past.

CATTLE STOCK REGISTER – January 2020									
Date	Herd			Young		Female	Male	Tot	TOT
	Bulls	Cows	Heifers	Bulls	Oxen	Calf	Calf	Calf	
1/1	2	49	6	2	4	8	8	16	79
8/1	2	49	6	2	4	9	8	17	80
15/1	2	49	6	2	4	10	8	18	81
22/1	2	49	6	2	4	11	8	19	82
25/1	2	49	7	2	4	11	8	19	82
25/1	2	49	7	1	4	11	8	19	81
28/1	2	48	7	1	4	11	8	19	80
29/1	2	48	7	1	4	11	9	20	81
DETAILS									
8/1	1 female calf born			25/1	1 female calf to heifers			8/1	Dip
15/1	1 female calf born			25/1	1 young bull sold			15/1	Dip
22/1	1 female calf born			28/1	1 cow died heartwater			22/1	Dip
29/1	1 male calf born							30/1	Dip

Example of a monthly stock register

Images provided by Sekuru



A scale, cattle bale and crush are useful for handling and recording cattle



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# Post Purchase Handling of Seedlings

## For Your Winter Horticultural Crops

BY FARAI MUTOTI

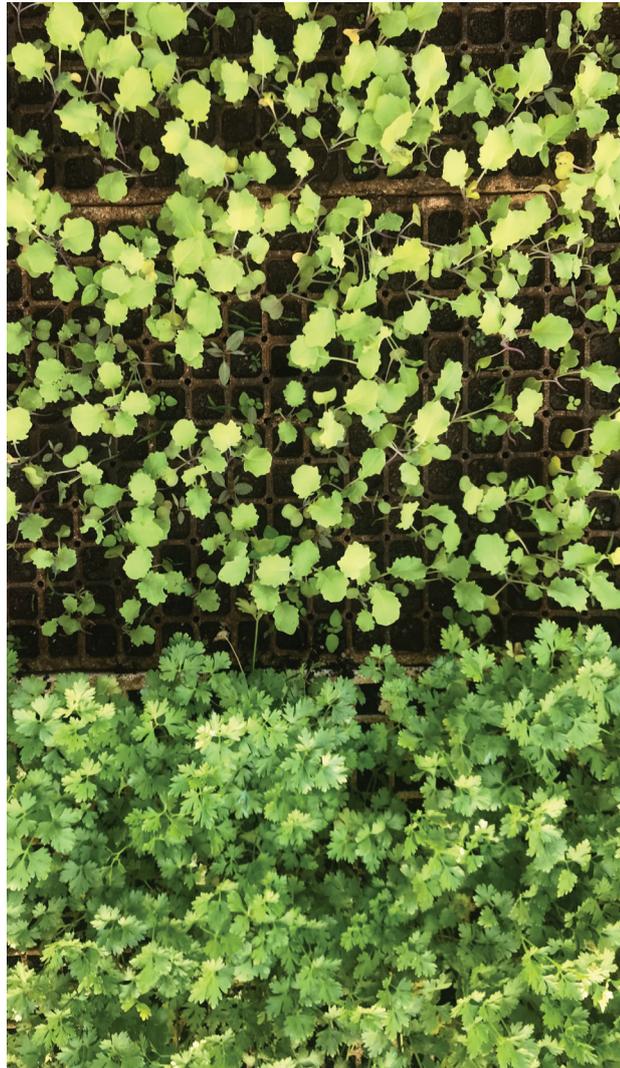
With the advent of commercial nurseries, farmers can now focus more on crop production than worrying about producing their own seedlings. This article will provide best practice guidelines in post-purchase handling and transportation of seedlings.

The first step to successful vegetable production is raising healthy vigorous seedlings. Young plants propagated from seed or vegetatively require a lot of care particularly during the early stages of growth. They have to be protected from adverse temperatures, heavy rains, drought, wind and a variety of pests and diseases. Short, sturdy, slightly hardened, with a well-developed root system, seedlings perform better after transplanting than soft, lanky, etiolated plants. The traditional transplant size is when the plant is at its 5 to 6 true leaf stage. Younger plants of the desired size perform better than older ones. Under warm growing conditions, most of these crops will reach the transplanting stage within 4 to 6 weeks, but this period may be doubled under colder conditions we are going towards.

### TRANSPORTATION OF SEEDLINGS FROM NURSERY TO PLANTING SITE OR FARM

1. If the seedlings are to be transported in stacks, they must be removed from seedling trays and placed in crates lined with moist hessian bags for transportation. Lift the plants carefully, with as little root damage as possible and cover them with moist-hessian sacks placed in a plastic lined crate. This should be done carefully for minimal damage. Cover the crate on top with a damp hessian cloth to minimise dehydration and increase humidity. Crates are there to provide safe transit when piled up in a truck without damaging the seedling roots, leaves and stem. Any plants showing signs of being weak, diseased or abnormal should be discarded.

2. If the seedlings are to be transported in seedling trays; do not let seedlings wilt during transportation. The seedlings should be thoroughly watered before leaving the nursery. This is the most recommended practice of transporting seedlings in their seedling trays and pull them out just before planting as this reduces pre-plant stress.



The time difference between the seedlings being collected from the nursery and their transportation to the respective farming area should be as short as possible. They must be constantly protected from strong light, heat and drying out.



Image A



Image B

(Image A) A crate that can be lined with hessian bag

(Image B) A hessian bag cloth

### TRANSPLANTING

Seedlings need to reach a certain size before they are transplanted. However, some of the seedlings may have to be transplanted at a later stage due to their slow growth, but studies show that such seedlings are less likely to grow.

### HARDENING-OFF

The practice of hardening-off must be done prior to transportation and transplanting. This can be explained as a process where plant tissues are toughened to withstand harsh natural conditions. Most seedlings are often grown indoors subjecting them to high humidity and low light. Such conditions will not only result in the seedlings being susceptible to poor stomatal functioning, but they will have a thin cuticle with their chloroplasts not adapted to high light intensity and consequently soft seedlings will be the result. When these types of seedlings are subjected to a harsh environment (cold, heat, wind and water stress) they suffer a severe transplant shock. To avoid this, hardening-off should take place 7 to 14 days prior to transplanting. Ways of hardening-off is by slowly removing all forms of protection; gradual reduction of water through less frequent irrigation making sure the growth medium does not dry out and gradually exposing them to more light (intensity and duration).

A well hardened plant can be recognised by a darker green colour and the development of a slight purple tinge in the leaf veins on the lower side of the leaf. When the whole leaf on the underside is purple it indicates that the plant has not only hardened-off but is also stunted.

### ESSENCE OF TIME WHEN TRANSPLANTING

Timing is important when it comes to transplanting: transplanting too early in the day during the winter period may result in your plants succumbing to frost and transplanting too late in the day in summer may result in your plants

getting baked by the sun. Ideally, transplanting should be done early in the morning or late in the afternoon. This is when humidity is at its highest, reducing desiccation, as well as it being the coolest time of the day.

### HOW TO MINIMISE DISEASES IN HORTICULTURAL VEGETABLE TRANSPLANTS

#### Media and water:

All growing media and irrigation water should be pathogen free. In some instances, water pipes should have filters fitted to exclude propagules of known pathogens.

#### Planting materials:

Make sure strict sanitation measures are followed when handling seedlings during the transplanting process after transportation. Thoroughly washed and sanitised hands should handle the seedlings for both the greenhouse and open field. No smoking and chewing of tobacco whilst the transplanting process is being carried out.

#### Cultural practices:

Attention must be given to practices such as fertilisation, irrigation and temperature. Free moisture from sprinklers or condensation on plants for prolonged periods should be avoided.

#### Soil tillage:

It is often possible to destroy one or more flushes of weeds while tilling the land before planting, particularly when soil preparation starts some while before planting. In such circumstances the final cultivation should be as follows (less than 20mm) as possible, to avoid bringing fresh weeds closer to the soil surface where they can germinate.

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Images provided by Farai Mutoti & Melissa Katunga



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# Duly's AgriQuip

BY DULY HOLDINGS (PVT)

Duly's brought the first car into Zimbabwe in 1902 and moved on to assembling Ford tractors at its Douglas Road property in Workington, Harare many years later.

## A wide product range:

The product range grew from Ford and Fiat tractors to truck and farm trailers, as well as farm truck bodies for both cattle and drop sides. In 2017, Duly Holdings (Pvt) Ltd acquired the New Holland tractor franchise and started selling, repairing and servicing New Holland tractor models. In an internal company interview, Cosmas Marimo the managing director for Duly Holdings indicated that "A New Holland tractor is a popular tractor amongst farmers, good value for their money and easy to maintain". Marimo also commented on the wide range of horsepower to choose from; noting that "New Holland Agriculture currently offers technologically superior range of 32 Hp to the largest imaginable". The brands Manager Simba Jimu listed the models that are brought into the Zimbabwean market by Duly's Holdings (Pvt). The TT series are mainly light horse powered compared to the other series, the TD and the TT4 series represent middle horsepower range and the TS6 series representing the higher horse powered tractors.

## Indian assembled series:

There are two types of series that are assembled in India, the TT and the TT4 models. Namely, TT45, TT55, TT65 and TT75's (45, 55 and 65 horsepower, respectively). The TT4.80 and TT4.90 which are an 80 and 90 HP machines.

## TD series assembled in

### Turkey:

TD80, TD90 and TD95 (80, 90 and 95 horsepower, respectively).

## TS6 series assembled in Mexico:

TS6-110, TS6-125 and TS6-140 (100, 125 and 140, horsepower respectively). These are popular because of the famous old Ford back end

Sfoggia planters, Fieldking implements and a host of trucking and passenger brands are represented at Duly Holdings. "We are already assembling Sfoggia planters and we have the four and six row versions. It is a popular brand, well suited to this environment and our farming needs," Marimo said. He added that "There is an expert from Italy who comes to train on assembly

and repair for several weeks to ensure that the Duly's staff are well versed in the product". Product portfolio offered at Duly's further includes a full line of trucks, tippers, bowsers and truck tractors from the UD, Volvo and Eicher stables, ranging from 3 to 30 tonnes.

## Unique features:

New Holland is one of the most awarded brands for ground-breaking and accessible technology which improves farming efficiency and productivity. To this regard Marimo noted, that "We have fitted the tractors with special night lights, that enables the farmer to work in the field 24 hours, increasing productivity".

## Customer service and an effective maintenance scheme:

The New Holland warranty is for a year with unlimited mileage and Duly's offers an after-sales commissioning service, with basic daily maintenance training. The customer touch-points are well equipped with the trained manpower to deliver best in class support to the customers. Jimu stated that Duly's has the capacity

to cater to farmer's needs.

In his words, he said "We provide service intervals, warranty, cost-effective maintenance and part support for New Holland tractors".

Duly's has an elaborate footprint on the back of the motoring franchises which it runs under. Croco Holdings is one of these franchises for retail, repair and service of a wide range of motor vehicles. With this added advantage of Duly's linkage to Croco holdings, Jimu gives assurance that, "There is no part that we either do not have or cannot bring during an emergency situation". "Our normal delivery time is two weeks," added Jimu.



Nyaradzai from Dulys AgriQuip delivering a New Holland Tractor

## The Duly's AgriQuip division:

It is increasing its assembly capabilities and is assembling more implements in-house. The company has invested in training its staff and customers for maximum value. "We provide driver training and basic maintenance courses because we want the farmer to have 100% uptime. Under a troubleshooting or a breakdown situation either the trained tractor driver will be to solve the problem or he can call in our mobile service team for remote assistance; meaning that tractors only need to come in to our workshop for a major repair said Jimu.

Image provided by Duly Holdings (PVT)

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# Free-Range Chickens

BY VIMBAI RUVENGO

Free-range farming refers to farming where animals are allowed to roam outdoors for at least part of the day, instead of being confined in an enclosure for 24 hours per day. Free-range chicken farming is growing popular with poultry farmers. Its growth in popularity is due to the fact that it is extensive agriculture and the market demand for free-range meat is increasing. Extensive agricultural production system uses minimal inputs of labour and capital, relative to the extensive land area. The low capital requirement is linked to some of the following points;

## **Housing:**

Free-range chickens forage outdoors during the day and are sheltered at night for safety. The pasture confinement or the larger outdoor space attached to the roosting coop is fenced off so as to confine the chickens to a specific area as they forage during the day.

## **Feed:**

The chickens will get most of their food from scavenging the surroundings, as a result feed input costs are minimized. For commercial purposes however, supplementing their diet with commercial stock feeds, or a homemade feed such as worms from a worm farm, maize, sorghum, wheat and rice grains is encouraged.

## **Hardiness:**

Free-range breeds have good resistance to many diseases, so this reduces the veterinary costs. Their hardiness is linked to the fact that they are kept outside on open space and are not confined in chicken runs where most diseases sprout. Although a vaccination regimen has to be followed.

## **Prolific Breeders:**

Taking into account the fact that free-range hens are good layers and excellent brooders, building up numbers of your flock will be a quick endeavor.

## **Meat Flavour:**

The chickens can exercise more and have access to fresh and diverse plant and animal food sources (organic), this results in lean, nutrient-rich, low-fat meat for the table.

## **Labour Extensive:**

Free-range chickens spend most of their day outdoors foraging hence less time spent refilling feeders with feed and less frequency in cleaning the chicken coop.

There are a number of free-range breeds to choose from when planning to start a free-range chicken project. The major advantage presented by pure breeds is that they have known genetic characteristics; (expected weight after a number of weeks, how many eggs they can lay, their growth potential etc). There exists a number of breeds that are profitable as free-range chickens such as the Road Island Red, White leghorn, Light Sussex, Boschveld breed, Black Australorp and Potchefstroom Koekoek. This article will focus on the latter three breeds i.e. Boschveld breed, Black Australorp and Potchefstroom Koekoek.

## **THE BOSCHVELD BREED**

This is the most popular breed in free-range poultry farming. The birds are a very distinctive red and brown



(Top)

Black Australorp

(Right)

Potchefstroom Koekoek



colour. The breed is from crosses carried out between three types of free-range breeds, the Venda, Ovambo and Matabele indigenous chicken by a farmer named Mike Bosch.

Their main advantage is that they can be raised either as layers or free-range chickens for meat. The hens will start producing eggs at 18 to 20 weeks up to the age of three years with an average of two eggs every three days. The Boschveld cocks are known to grow faster as compared to other free-range breeds and



are ready for slaughter at 12 weeks old, depending on nutritional levels.

### BLACK AUSTRALORP

The breed is of Australian origin, developed as a utility breed with a focus on egg laying. The most popular colour of the breed is black, but blue and white are also recognised and the Poultry Club of South Africa recognises buff, splash, wheaten laced and golden in addition. Mr Moyo, a farmer in Bulawayo when asked why he chose this breed, answered “the Australorp breed is the best because this type of chicken lays 300 or more eggs a year while its cock’s carcass can exceed five kilograms”. As these birds are highly prolific, starting a commercial Black Australorp chicken farming business for eggs and chick production can be more profitable. In order to produce fertile eggs for producing chicks, you have to keep a good ratio of hens and roosters. Generally, one mature rooster is enough for breeding 8-10 hens.

### POTCHEFSTROOM KOEKOEK

This breed is a composite of the White Leghorn, Black Australorp and Bared Plymouth Rock. It was bred at the Potchefstroom



Agricultural College in South Africa during the 1950s by a researcher, Mr. C. L. Marais. The name Koekoek refers to the barred colour pattern of the birds. The birds are grey to whitish-grey, each feather is striped across with parallel dark grey or black stripes. They produce large brown-shelled eggs and yellow meat. They are great foragers, scratching around and catching worms and also eat a variety of green. As a result the cock can weigh 3.5 to 4.5kg, a cockerel: 3.0 to 4.0kg, hens 2.5 to 3.5kg and pullets 2.0 to 3.0kg. A study carried out at the Food and Agriculture Organisation indicated that the Koekoek breed performs better than all of the other indigenous chickens in South Africa.

Images provided by Karin Jaehne, CPS Poultry & Melissa Katunga

Boschveld rooster

## On-farm Hand Hygiene

BY VIMBAI RUVENGO

Farm workers have intimate contact with the fruits and vegetables as they harvest, sort and pack. To guard against the spread of Corona Virus, it is important to ensure worker health and hygiene, however there is no evidence to date of viruses that cause respiratory illnesses being transmitted through food handling; although studies show that the viruses can survive on surfaces. According to the World Health Organization (WHO), recent research evaluated the survival of the COVID-19 virus on different surfaces and reported that the virus can remain viable for up to 72 hours on plastic and up to 24 hours on cardboard. It is therefore imperative for the food industry to reinforce personal hygiene measures and provide refresher training on food hygiene principles to eliminate or reduce the risk of food surfaces and food packaging materials becoming contaminated with the virus from farm workers and handlers. Measures that can be taken in food handling and packaging include;

**Gloves** may be used by food handlers but must be changed frequently. Wash hands in between glove changes. Disposable gloves should not be used in the food work environment as a substitute for handwashing.

**Use Proper Handwashing Technique** - It is important to mount enough hand washing stations around the farm, in order to ensure proper hand washing, including application of soap and scrubbing for at least 20 seconds. Clean under your fingernails and between your fingers preferably with a hand brush. Rinse your hands, letting water drip down, not up and over your hands. Finally, dry hands with a clean, unused paper towel or a cloth towel. Do not reuse hand towels.

Drivers and staff delivering to food outlet premises like shops should be supplied with an **alcohol-based hand sanitizer**, a disinfectant, and paper towels. Appropriate hygiene and sanitation protocols should be implemented on returned containers and packaging used for deliveries.

**Wash your hands frequently.**

Regularly and thoroughly clean your hands properly with soap and water or an alcohol-based hand rub.

**WHY?** Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.

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