# ZINUNDA FARMING

## NEWSLETTER ISSUE 4 | JULY 2020

### AGRONOMY

### LIVESTOCK

## FARM FOCUS

MANAGING FROST IN TOMATO PRODUCTION GOAT MANAGEMENT FARM DIVERSIFICATION AT ANSELLIA

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#### **Onion - Capricio**

	For both fresh and dry market		
TYPE	Open pollinated		
MATURITY TYPE	Early short day		
MATURITY IN DAYS	190 - 200		
PLANT CHARACTERISTICS	Bulb:	Shape	Deep flat round
		Firmness	Moderate
		Exterior colour	Medium straw
		Interior colour	Cream white

#### **DISEASE TOLERANCE** Pyrenochaeta terrestris

#### Wheat - Peregrine

- 1. Variety Peregrine
- 2. Maturity- very early 113days.
- 3. Very good standability, about 90cm height.
- 4. Very good disease package
- 5. High yielding 7-9t/ha.
- 6. Protein content -11.2%7. Adaptibility both high and low potential areas

## **K2 ZIMBABWE**

2838 Mutare Road | Ruwa | Tel: +263 24 2006253 | 2006254 | Email: zim@k2.co.zw www.k2.co.zw | Facebook: Klein Karoo Seed Marketing Zimbabwe

## Goat Management

#### BY GAY STEAD

#### Paddy's Valley, Bubi District, Matabeleland North

Goats are hardy animals and can survive in most arid areas in Zimbabwe. They are well known for exhibiting tolerance to high temperatures and parasites both external and internal. The following are some familiar breeds of goats: we have the Boer goat (Red heads and white bodies), Kalahari Reds (totally red/brown bodies), Angora goats (known for its hair which is sheared and sold, for making clothes) and the indigenous goats, (smaller variety in size depending on the area they come from, with the color varying depending on breeding history). The Boer Goat and indigenous breeds make good crosses for improved carcass and quality meat.

Goats are naturally **good browsers** but prefer acacia shrubs. Their hardiness is also attributed to them being efficient foragers, they can walk long distances and can be used strategically to control brushes and weeds around the farm.

In terms of *growing the herd*, goats are well known for their high fertility and conception rates. A male goat (buck) can easily cover up to 50 females (does) in a season. To monitor mating efficiency, one can put red or black nontoxic polish on the buck between the front legs to show the buck's work rate. Serviced does can be recorded and the data can be referred to during the culling process (i.e. removing goats with undesirable traits from your herd). The recorded data can also be used to cull infertile bucks and does from the breeding stock. Culling and monitoring fertility are of paramount importance when growing a commercial herd because the objective is to get the herd to breed its own replacement stock as soon as possible and give early returns on investment.

"Culling is often hard for new goat farmers but it is important to remember that sensible culling at the beginning eventually leads to less culling once the herd is performing well".

The *gestation period* is on average 150 days. During this period, it is a good idea to feed the does on either a goat meal or salt blocks which they can lick whenever they want to in order to get stronger and more viable kids. Indigenous goats generally produce single kids while the pure breeds can produce twins and sometimes up to 4 kids per pregnancy.

In order to secure good growth and *weaning weights*, it advisable to feed the kids meals when they are about a month old, even though the does can produce enough milk for twins or triplets. The does can thus be sent out to graze and the kids left behind to feed on calf starter meal for about a month and then change it over to a goat meal. This helps them grow faster and stronger. Always check the does' udder to see if she has adequate milk. If the udder is hard and no milk comes out, it could be the doe has mastitis (a teats infection caused by bacteria). The doe should be separated from the kid and the udder must be treated by the vet.



It is important to ear tag the does so that you can keep records of their breeding efficiency. The kids must be ear tagged to monitor parenthood to avoid inbreeding.

Through experiences as a goat farmer, my advice is;

"Take care of your goats and they will financially take care of you".

> Image provided by ZiMunda



<u>IVESTOCK</u>

## Luipaardsvlei Brahmans

#### BY LORNA JOURBERT, CHIPINGE

Nestled in the misty mountains of the Eastern Highlands of Chipinge, Zimbabwe; the proudly Zimbabwean and family-run stud, Luipaardsvlei Brahmans, has been "Breeding Brahmans for Zimbabwe" since 1997. The stud is operated by a full team of trained stockmen, in conjunction with management, each taught to handle and take responsibility for their specific tasks.

Why Brahmans? - The Brahman breed was an easy choice. After breeding commercial cattle for many years, we trusted the description given to Brahmans as the King of Crossbreeding. We had used Brahmans in three-way commercial crosses and always ensured that the Brahman retained dominance. The Brahman forms a crossbreed component of 19 different breeds as well as functioning as a pure breed. Travelling through Zimbabwe, the *adaptability* of the Brahman in all

regions and especially in very hardy areas, is its added advantage. The Brahman has been uncontested as the most popular breed at the National Bull sale, since its inception. The calving ease, feed conversion in feedlots, mothering ability, heat resistance and general hardiness added to the equation.

#### A brief look into history

- Encouraged by the CCSales, the stud was started by buying in small herds of registered animals, both red and grey, from Domani Brahmans. VH Brahmans and RIO Brahman. The herds were bought as a whole and all females were bred. Lindsay Crawford an experienced breeder advised that, "If she is registered and she is giving a calf a year, it does not matter if she is not an oil painting. The calf will be better

standards. Luipaardsvlei Brahmans is a member of the Brahman Breeders Society of Zimbabwe and registered with Zimbabwe Herd Book. Stud records are

a good working condition. Each bull is individually

inspected to ensure that it conforms to the breed

recorded with accuracy.

#### The breeding process -

The stud makes use of regular basis. Weighing

**Biosecurity** - The stud has a fully ringfenced quarantine area. In this quarantine area, the sale animals can be weighed, measured and effectively dipped using a mobile spray race, before transport to Harare. This area is inspected by

Veterinary Department on a weekly basis before major sales such as the National Bull sale. Full biosecurity measures are in place and visitors to the stud are permitted by prior arrangement only, to maintain biosecurity measures.

This year, Luipaardsvlei Brahmans

will again offer 12 elite bulls and 30 young heifers for sale at the National Sale. It is important to note that bulls are available for sale off the farm during the year, subject to availability and testing.

Images provided by Lorna Joubert



artificial insemination as well as selected pedigree bulls. Each female is studied and the appropriate bull allocated for use. Herd health, fertility testing and pregnancy diagnosis by a registered veterinarian experienced in large animals, is done on a and measuring of scrotal circumferences is routine, as well as inoculation and deworming, and regular weaning at 7 months.



than the dam if you use the right genetics".

The Luipaardsvlei breeds bulls which are mainly medium frame are sold at rising three years, when the bulls are showing their masculine potential and after successful semen testing. The bulls graze until shortly before sale; walking to outlying paddocks to ensure they develop

## BREEDING BRAHMANS FOR ZIMBABWE **NATIONAL Bull & Heifer Sale** Offering 12 bulls and 30 heifers Wednesday 29 July 2020 Mount Hampden salepens

www.facebook.com/luipaardsvlei

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## Cattle Market Definitions

#### BY DR LLOYD CHIKOWE, NURTURE VETERINARIAN

Purchasing or selling livestock at the auction used to be a roll of the dice. But nowadays, the livestock markets are a bit more complicated. There are a number of classes in each type of livestock and each class has a

great number of variations. For cattle, the markets start by classifying them as cattle, then sex, then their body condition is evaluated. Below is a list of a few terms used in defining cattle.

**Calf** - This is the young one of a bovine (cattle) irrespective of its sex. The term is loosely given to all animals under 1 year of age.

Weaner - A calf that is weaned from milk it is termed a weaner. This weaning process usually done around week 8-12 of age in some commercial set ups but some farmers can allow their calves to run with their mothers for a little longer.

Bulling Heifers - Are female calves that have reached puberty and are ready to be bred. This usually around more than 12 months of age. The age of puberty is determined by the breed, weight and age. It usually around 60% of their mature weight. Feeder Steers - Are castrated young males usually from the age of 1 to up to no more than 2 years. These can be on pasture and/ or fed rations that ensure a good carcass grade on slaughter.

An Ox - Is a castrated older bovine male.

**Bull** - Is an uncastrated male bovine with a larger purpose for breeding.

**Cow** - A female bovine that has given birth to at least one calf.

**Crossbred** - Is an offspring of two different known breeds of cattle.

**Pedigree** - The term is usually applied to that ancestry recorded in a breed society's herd book. In addition, the term full pedigree relates to an animal which has been accepted into and registered in the main section of a breed society herd book.

**F1** - F1 generation it's the offspring of two known pure breeds.

Image provided by Sekuru



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## Minimising Soil Compaction

#### **BY TYRE ZIM**

Working the field with a tractor can be daunting exercise on rainy days. This can keep farmers from entering their fields, and consequently delay planting which leads to costing yields. There exist optimal soil conditions that are recommended when working the field. One of the easiest ways to prevent soil compaction is to avoid working in wet fields for as long as possible, especially when soil moisture is at, or close to, field capacity. Field capacity is reached when the pores in the soil are filled with equal parts of air and water. Field capacity is the ideal condition for compaction to occur. Water in saturated soils acts as a lubricant, allowing soil particles to slide around and fill in the voids. Working IF/VF Tyres - Many farmers have turned to radials and high-tech IF/VF tyres for their ability to maximize footprint size and operate at low inflation pressure. Radial tyres are designed to provide a longer more uniform footprint than a standard bias tyre improving traction and reducing compaction. IF/VF tyres can operate between 20% and 40% lower air pressures than conventional radials (or carry 20% to 40% more load at the same inflation pressure). Because of this, IF/VF tyres produce a large contact patch that spreads the weight of hulking planting equipment over a greater area than a standard radial farm tyre. Even if you have the perfect field conditions and a machine outfitted

on saturated soils can lead to a host of other issues, most notably rutting and sidewall compaction in the furrow. Ideally, farmers should wait for drier soils before operating heavy equipment in their fields to prevent compaction. Drier soils have a higher proportion of air-filled pores which act like suspension, better support heavy farm machinery, and prevent soil particles from smashing together.

#### A Simple Test for Soil

**Conditions** - A simple way to judge whether a field is ready to support heavy equipment to collect a handful of soil from the top two or three inches of the ground,



mould it into a ball, and see if the ball crumbles apart or deforms. If the ball crumbles or cracks, the field is ready for equipment, but if it deforms, the field will benefit from being given time to further dry.

Tyre Size and Inflation - Soil compaction is caused by the weight of a machine exerting force on the ground, and one of the simplest ways to reduce the impact of a machine is by spreading its weight over a larger area. Because of this, it's important for equipment to operate using properly sized tyres inflated to the correct tyre pressure. Larger tyres operated at lower air pressures are vital to a field's well-being, as they produce a larger footprint by distributing the weight of equipment over a larger surface area hence, minimizing compaction caused by heavy farm machinery. with a just-right set of tyres, get in the habit of checking tyre pressure before entering the field. This is especially true in changing weather, as ambient temperature fluctuation can result in a pressure change in a tyre.

Axle Loads - Reducing axle load is another sound strategy for lessening soil compaction at planting. According to the University of Minnesota Extension, farm machinery with loads between 18 and 40 tons per axle can create compaction two or three feet down, while axle loads under 10 tons contain compaction to the

top six to ten inches. Restricting compaction to the very top of the soil is key, as it can be broken up by normal tillage and crops.

'Being patient and waiting for optimal conditions before entering the fields can have a positive long-term effect on a farm. However, waiting for drier soil is not always an option, increasing the importance of reducing the impact of farm equipment on the field is'.

Contact **Tyre Zim** today on 08677 200 300 or info@tyrezim.com or www.tyrezim.com to learn more about how **Alliance flotation and IF/VF tyres** can help your operation minimize compaction at planting.

#### Image provided by Melissa Katunga

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7

FARMTECH







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## Water Management

#### **BY OTECH**

Irrigation is a delicate practise of applying the right amount of water at the right time. Taking into consideration that crops do not only need water but also nutrients to be applied in a balanced and uniform way in order to reach maximum potential (yield). Therefore, installation of an effective irrigation system is of paramount importance.

The Centre Pivot - Sometimes referred to as a machine,

this is a mechanized system that applies nutrients in a circular pattern around a central point. It consists of a radial pipe supported by towers that pivot around a centre point. Along the radial pipe, nozzles are equally spaced to ensure optimal efficiency and coverage. As the machine rotates, water is released from the nozzles which irrigate the crop beneath. These machines can come fitted with additional extras and are available in a variety of sizes. Otech supplies pivots that can irrigate from as small as 7 hectares to as large as 120 hectares per machine. Depending on the radial pipe length.

(Right) Towable centre



irrigation to name a few).

#### Advantages - A pivot system

is a very efficient and effective irrigation system type. It presents the following advantages;

- Efficient water use, which prevents water runoff.
- Lower labour cost and maintenance cost requirement as compared to traditional overhead sprinkler systems.
- Operating at a lower pressure thus conserving energy.
- Easy to manage.
- Long life.
- Good resale value.

**Centre Pivot ST168** - Otech built the ST168 to handle the full range of operating conditions that today's growers need. A machine that is incredibly robust, efficient and effective. The ST168 can come equipped with either a fixed or towable centre. The towable centre reduces your installation cost per hectare, enabling you to irrigate two or more fields. Otech machines also support the application of fertilizers and pesticides. The ST168 is available from DripTech Irrigation, a company that takes great pride in its products, service and backup support for its customers.

#### Key Features of the ST168:

- Fixed and towable options.
- Standard and high clearance.

- Availability of the Nelson, Senninger and Komet sprinkler packages.

- Intelligent controls. Otech has redefined its control

panel to be complete, clear and a simple interface in

order to match different customer needs. Additional

remote access management tools are also available

(weekly programming, start / stop and sector variable

- Country wide service and back up support from DripTech's dedicated pivot division.

#### Advantages of the ST168:

- Steel quality S275.
- Equipped with UMC motors and gearboxes.
- Schneider electrical components.
- Galvanising NF EN ISO 1461.
- Remote Access and Control.

About Otech - Otech is one of the world leaders in precision irrigation, established in France 1980 in the heart of Nouvelle-Aquitaine, Puyoo. All operations are carried out in-house, from design, fabrication and storage. Otech offers centre pivot, linear, and corner equipment solutions for conserving water, reducing costs and maximizing yields.

If you are considering replacing your existing system or would like to put in a new one visit anyone of our DripTech branches for a free quote.

Images provided by Otech





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# OTECH LEADING IRRIGATION



## Postharvest Storage of Maize & Sugar Beans

#### BY DR TSVAKAI GAMA (PhD) Postharvest Research Scientist

Postharvest management is a critical issue in agriculture and food production. About 30-50% of food harvested never reaches the consumer table. Postharvest losses occur from harvesting, processing, transportation, marketing and storage. The main goal of every farmer is to ensure that they "secure" their harvest by minimising postharvest quality and quantity losses.

#### POSTHARVEST STORAGE OF MAIZE

Postharvest losses in dried grains such as maize are far

less compared with postharvest losses in fresh fruits and vegetables. Postharvest in grains including maize ranges be between 14% and 36%. Postharvest loss and waste in maize occur during harvesting, processing, transportation and storage. Maize grains should be well dried before storage. Areas/ rooms/facilities, containers and bags for maize storage should be cleaned/disinfected before the new harvest is stored. New harvest should not be mixed with previous harvests. The postharvest quality of maize is influenced by factors such as storage conditions, kernel moisture content, fungal growth, temperature (grain and air), relative humidity, fungal

growth, and insect pests. Maize kernels with a moisture content of 14% or below can be stored at 12°C for up to 2 years without major quality changes.

Maize grain stored under ambient temperatures (25°C and above) rapidly lose quality and has a shorter shelf life. Hot and humid temperatures favour the growth of fungi during maize storage. The optimum relative humidity for maize grain storage is below 60%. Maize grains can absorb water (hygroscopic) after harvest thus relative humidity should be kept low. Therefore, temperature and relative humidity during maize grain storage should be kept within optimum ranges to supress fungal growth thus preserving maize kernel quality. Fungal growth in maize is associated with nutritional quality loss, overall loss in quality and quantity of the maize. Fungal growth in stored maize presents a major risk for humans and animals, through production of aflatoxins pose a great threat to human health as they can cause ailments such as cancer. In order to maintain high quality maize for both short and long-term storage, maize must be protected from harsh weather conditions, growth of microorganisms, and pests to maintain high quality during storage. Shumba, Actellic powder and Chirindamatura can be used to protect maize from insect (e.g. weevils) damage.

#### POSTHARVEST STORAGE OF SUGAR BEANS

Sugar beans is of great economic and nutritional value in Zimbabwe as a source of income and a healthy source of protein. Like any other crop, sugar beans require ideal postharvest operations and storage in to preserve their quality and minimise postharvest losses. After harvest, sugar beans should be dried before threshing or removing the pods. It is advised to thresh the beans when the moisture is around 14-15%, threshing when the beans are too dry may result in

> cracking of the seeds. the next step is to remove the chaff, remove any foreign objects and grade the seeds as required. Seeds are then packed or stored in clean and/or disinfected bags when the moisture content is around 9-13%.

New harvest should not be mixed with previous harvests. Bags should be stored not less than 1m away from walls and on raised stands/platforms (bricks or metal bars can be used to elevate the bags). The storage rooms/ facilities should be well aerated and non-leaking to avoid contact with moisture. Postharvest quality losses and changes during sugar beans storage include seed

coat darkening, damage from pests, development of moulds and loss in nutritional quality. Seed coat darkening is associated with genotype of the seed and varies from non-darkening, slow darkening and regular darkening. The seed coat generally darkens with storage time and reduces the market value of sugar beans. Shumba, Actellic powder and Chirindamatura can be used to protect sugar beans from insect (e.g. weevils) damage. It is very important to follow the recommended rates indicated by manufacturers to ensure human health and safety.

#### Images provided by Dr Tsvakai Gama & Melissa Katunga







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Bulawayo: (029) 65282-9 Levison: 0772 133 705 **Gweru:** (054) 2224081-5 Rodwell: 077 265 5147 Gary: 0772 310 548 Mutare: (020) 64751-4 Cadwell: 0773 713 703 Julius: 0776744 762 efficiency. The farms produce provides ingredients to some of the biggest food processors and food-service brands located locally and around the globe. The farm measures 915.8 hectares and is strategically located at approximately 20 km from the Harare Central Business District. The farm has approximately 600 hectares of arable land which is dedicated to the export of agricultural products to the international markets. The location of the farm provides Ansellia with ease of access to both

Diversification spreads out risk and is a successful risk

and operations are likely to be affected in the same

- Managing multiple farm enterprises together at any

one time or in the same season - At Ansellia Farm they

way by the ever-changing situations. Some of the

management strategy because not all farm enterprises

the domestic and international markets.

PRODUCT DIVERSIFICATION

techniques include;

## Farm Diversification at Ansellia

#### BY VIMBAI RUVENGO



Farmers are frequently exposed to the uncertainties of weather, market prices and disease. Many farmers live on the edge of extreme uncertainty, sometimes falling just below, and sometimes rising just above the threshold of survival. Farmers do not know whether rainfall will be good or bad over a season, they do not know the prices they will receive for produce sold, and they do not know whether their crops will be infected by disease. These risks are not under the control of farmers but some farmers have developed ways of coping and managing them. The Gumbo brothers, Rufaro and Rukudzo have adopted a farming diversification strategy to ensure the success of Ansellia Farm. Diversification reduces the impact of risk by engaging several farm products.

#### ABOUT ANSELLIA FARM

Founded in 1995, Ansellia Private Limited is an agro-business which produces organic agricultural produce for the local and foreign markets. Ansellia's farm (Oldbury Farm), is a private farm wholly owned by Ansellia Private Limited. The farms slogan "We put food on your table" simply emphasises the need to supply the growing international community with quality-assured agricultural commodities such as grains and various horticulture produce.

Mission Statement "To guarantee the supply of superior quality produce, relying on agro-technology and innovative farming techniques to lead the way to make a more sustainable future, and ensure that our distribution partners maintain a reliable network that considers and protects the environment. We aim to spearhead the movement of sustainable agriculture across Africa and beyond".

The farm focuses on produce that is used internationally in the consumer's day to day life reinforcing their purpose in the industry. Ansellia's distribution network connects them to customers in ways that help to ensure food security and improve environmental

(Right) Winter potatoes

(Below) Staggered healthy winter cabbages



always have a diverse range of crops growing at the same time. For example, in summer they have extensive fields of maize, soya bean and sugar beans. Currently in winter irrigated fields there are potatoes, cabbages

- Engaging in the same farm enterprise in different physical locations – The farm has diversified into fish and poultry at a different location. This diversification is not only geographic but also enterprise diversification into livestock. Further, cementing the

company's strategy on risk management.

- Engaging in the same farm enterprise over successive periods of time or seasons - Diversify over time or staggered planting can be used to manage risk and also acts as a tool for water management in irrigated crops. A current success example of this practice at Ansellia farm is a staggered cabbage crop.

#### MARKET DIVERSIFICATION

In a long-term strategy in creating an economic buffer against market downturns, Ansellia Farm has diversified its market to reach beyond the local market to the global market. In order to secure a place in the global



and peas.

13

market, Ansellia is Global GAP Certified. Global GAP policies have assisted Ansellia in supporting sustainable development goals, which has encouraged safe and sustainable farming practices, and assisted the company in measuring its contribution to the UN SDGs (United Nations Sustainable Development Goals). As such the company has employed new information technologies to advance the gathering, processing and reporting of farm-level information, enabling assurance of SDG compliance.

#### DIVERSIFIED SKILL SET TEAM

Decision-making is the principal activity of management. Farmers have to make decisions every day that affect their farming operations. Many of the factors that affect the decisions they make cannot be predicted with complete accuracy; this makes farming risky. The strategic Gumbo brothers have built a team at Ansellia Farm of field skilled and knowledgeable people. The enterprise is furnished with well qualified personnel across the board; from the Safety Health and Environment Department, the Crop Production Department and the Support Services Department. The right people in the right department have a good standing to understand specific risks and have risk management skills to better anticipate problems and reduce negative impacts.

#### CURRENT PROJECTS

In line with the UN sustainable goal number 9 (industry innovation and infrastructure) and goal number 7 (affordable and clean energy), Ansellia has organically funded the construction of a state-of-the-art pack

#### RISK MANAGEMENT

house which is ongoing and earmarked to be completed by September 2020. The pack house will run on solar energy to take advantage of the vast amounts of sunlight in Zimbabwe and reduce the use of non-renewable energy. The pack house will employ and additional 45 people, of which 30 will be women in line to support the UN sustainable development goals on gender equality (goal 8) and decent work and economic growth (Goal 9). The SDGs are the company's blue print to achieve a better and more sustainable future. Therefore, the SDGs are the pillars to Ansellia's 2030 growth strategy.

Essentially, farm diversification is a practical application of the saying: "Don't put all your eggs in one basket".

## Images showcasing Ansellia Farm provided by Melissa Katunga

Harvesting the soyabean summer crop





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## Managing Frost in Tomato Production

#### BY ONWARD MARUMURA

#### Chief Consultant, Afrostain Farmtech

Yearly farmers lose a considerable number of crops and consequently, some yield due to frost damage. Hence, deeming it important to discuss frost management in horticulture production. The methods and combinations discussed below are an effort to mitigate the effects of subzero temperatures. The cost of each method varies according to farm size of field.

Water bottles - Bottles filled with water can be used to protect tomato plants in the cold winter weather. It is an inexpensive and effective method. 750ml, 1l or 2l bottles are filled with water up to about ¾, and placed upright every third plant along the row. It is important to keep the bottle neck about10 cm above the tomato plant. Raise the bottles as the plants grow by either putting a brick under bottle or by tying the bottles on trellising sticks. This technique relies on the fact that the water in the plants has a lot of dissolved minerals and will therefore freeze at lower temperatures than water in the bottle which though not pure has less dissolved mineral. When water in the bottles freezes it releases a lot of heat which keeps the air around the tomato plants warmer than the general surrounding area.

Smoking the field - Smoke created by burning dry crop residues, old tyres or oil very early in the morning around the field will trap warm air within it. It is important to note that this method has to be used with care as this can lead to uncontrolled fires and is most suitable for small fields.

*Mulching* - Applying generous layers of mulch on tomato beds insulates soil temperatures. Organic mulching material presents an added advantage as it continually decomposes adding nutrition to the soil, contributing to soil health and the microbial activity generates extra heat. In small fields, the mulch can be removed during the day to allow the sun's rays to reach the soil. Sprinkler Irrigation - Irrigate lightly very early in the morning to increase humidity in and around the crop field. The idea of using irrigation to help prevent frost is that the water that is sprayed in the fields freezes and releases heat to the air as the liquid water changes to ice.

*Fencing* - Erecting a 1.5 - 2.0m high grass (vegetative buffer) or a plastic fence around or on the upslope and sides of the crop, leaving the downside open, is very effective in preventing frost.

Above all. remember that 'A healthy, leafy plant will generate some internal heat and reduce the depth of frost burn into the tomato plant'.

For further information on horticulture please contact +263 71 766 0103 or email info@afrostainfarmtech.co.zw.

#### Images provided by Onward Marumura

(Right) The mulching method



(Below) The water bottle method

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#### DISCLAIMER

The aim of ZiMunda

Farming is to provide

correct and relevant farming information to

farmers. Every effort

is made to check the

content of every article,

the directors will thus

not be held

responsible for errors or omissions in such

articles. Farmers should

thus consult with the references and resource people before

making any financial or

production decisions.

COVER

Potato plants at Ansellia Farm at tuber bulking stage.



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