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Agribusiness

Magazine

FARM RISK MANAGEMENT: YOUR ATTITUDE MATTERS

BROILER SUMMER MANAGEMENT

DEMYSTIFYING AGRICULTURE INSURANCE IN ZIMBABWE

CAUSES OF LOW EGG PRODUCTION

FARM RECORDS: WHY ESSENTIAL?

MEET THE FARMER:

RICHARD ZENGENI

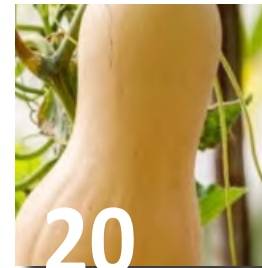
A GUIDE TO BUTTERNUT PRODUCTION

BROILER SUMMER MANAGEMENT





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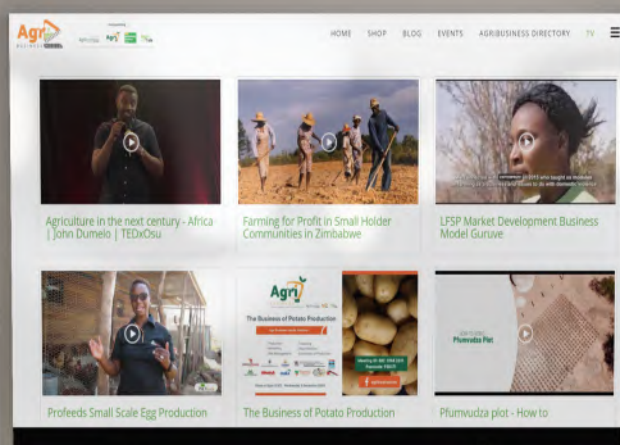


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Farm Risk Management: Your Attitude Matters

by Nyasha Mutuva

In the last two articles we discussed types of risks and risk management strategies. This article is covering how your attitude affects risk management.

A farmer's attitude to and awareness of risk depend on a number of factors. As farming becomes more sophisticated, farmers are asking

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for insurance against a wider variety of risks. It is important that insurance is an efficient means of giving farmers the chance to maintain farm income when faced with situations or events that are out of

their control.

Attitudes to risk are often related to the financial ability to accept a small gain or loss. Farmers differ in the way they see risk with some willing to accept more risk than others.

They may be divided into three types: **risk-neutral; risk-takers**



and **risk-averse**.

The risk-averse farmers try to avoid taking risks. They tend to be more cautious individuals with preferences for less risky sources of income. In general, they will sacrifice some amount of income to reduce the chance of low income and losses.

A risk averter does not refuse to accept any risk at all. However, the risk averse farmer would seek to be compensated for the risk taken by receiving a higher return than would normally be obtained if there were no risk.

Risk-takers are people who are open to more risky business options. Unlike the risk-averse, risk takers choose the alternative that gives some chance of a higher outcome, even though they may have to accept a lower outcome. When faced with the choice, risk-taking farmers tend to prefer to take the chance to make gains rather than protecting themselves from potential losses.

Even so, risk-taking farmers are still influenced by the return they could receive.

Risk-neutral lies between the risk-averse and risk-taking positions.

While most farmers tend to be risk averse, attitude concerning risk is not fixed. Many factors influence it. Thus in one situation a farmer may be risk averse, and in another situation the same farmer may be a risk-taker.

Factors affecting farmers' attitude towards risk

Subsistence farming

Farmers who operate under subsistence conditions tend to be the most risk-averse. The provision of food for their dependants is an overriding priority for many of them. Activities with a monetary reward are frequently sacrificed in favour of meeting the objective of producing their own food.

Level of production

Market-oriented farmers who are not willing or able to withstand the possible financial losses associated with a risk also tend to be more risk-averse. This is often

true for smallholder farmers. In effect the relationship between the input costs and the value of output from the farm influences the farmer's attitude toward risk.

Commitments

Family commitments and responsibilities can also play a role in attitudes toward risk. A person without family commitments may be more willing to take risks. Similarly, older people are likely to take less risks.

Past experience

Past experience may also influence a farmer's decisions. The effects of particularly good or bad years in the past influence decisions to be made today. Again, this may be related to age; a younger person may not yet have had many experiences on which to base decisions.

Risk-taking choices

Risk management refers to actions farmers take to increase the chances of success of the farm business. Farmers can do this by influencing events in the future and by limiting the negative effect of those events. Many farmers try to do both. A good risk

management strategy will try to act on both events and their consequences.

The main aspects of risk management are:

1. Anticipating that an unfavourable event may occur and acting (where possible) to reduce the chances of it happening;
2. Taking actions that will reduce the adverse consequences should the unfavourable event occur.

Recovering from risk

We know you will try to work hard and reduce exposure to risk. When, despite all your efforts, the inevitable happens, you will need a fall-back plan. You will need help to return to state you were in before the unfortunate incident.

Old Mutual Agriculture Insurance covers four broad categories which are **crop insurance**, **livestock insurance**, **agri-assets** such as farm buildings, **equipment and machinery** as well as **weather index insurance** for small scale farmers.

The crop insurance, cover is provided for negative impact from the effects of fire, hail, pre-germination, frost, drought or too much rain as well as the storage and transit risks and applies to a variety of row crops (including maize, soya, wheat and barley), horticulture crops (including blueberries, peas) and fruit trees (macadamia nuts, stone fruits, avocados and bananas).

Old Mutual offers Multi-Peril crop insurance cover, a yield-

based cover for the above mentioned crops targeting commercial farmers and Weather Index (Drought) insurance for grouped small scale farmers.

The weather index (Ruzhova/ Uthango) protects your investments (inputs) in the event of a drought. It's a special product for small holder farmers, as they are financially excluded from the traditional agriculture insurance products that are available on the market.

Remember, farming is a business and insurance plays a major role in ensuring your success.

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D. Mbarwe

The Insurance Council of Zimbabwe has moved in on a campaign to demystify agriculture insurance in Zimbabwe.

This was confirmed during a webinar recently sponsored by ICZ. The webinar was the first of a series meant to educate farmers on the role of agricultural insurance in the business of farming.

Mr T. Karonga, CEO ICZ, Ms R. Batiya, ICZ's Marketing and PR Manager and Mr P. Zakariya, Secretary-General ZFU were amongst the panellists with hundreds of farmers attending the virtual event.

Mr Zakariya presented on the need to manage risk in

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Agriculture.

“Our economy is agro-based and a significant number of the population is employed in the Agriculture sector in Zimbabwe. However, it is unfortunate that value is lost in agriculture because risks have not been mitigated thereby compromising the quality of produce.”

“Risks associated in Agriculture include: climate change, volatile input prices, agriculture discussion policies, difficulty in market access, misinformation in Agriculture sector, therefore, risk management is highly relevant in Agriculture,” he

said.

He added that it was important to manage production risks that include internal farm risks such as animal health, pests issues.

“There is a need for farmers to be educated and the insurers have to be innovative to suit the needs of the new farmers we have. There is a need to understand the new farmer and come up with an awareness blitz on how to manage risks. Tailor-made products are needed for farmers and not general products.”

Mr Karonga, the CEO of ICZ, presented on Agriculture Insurance in Zimbabwe. “Agriculture is the major contributor of the country's GDP but it is not fully sup-

ported through Insurance to help farmers recover in the event of disasters. Agriculture insurance contributed only 5.6% of the ZWL3.99 billion gross premium as per IPEC's 2021 1st Quarter report."

He encouraged farmers to make use of the insurance products available on the market. These include crop insurance which covers fire, pests, frosts, lightning etc, livestock insurance covers accidents, diseases, theft etc. Tobacco farmers were also encouraged to use tobacco insurance covering hailstorms, barn fires, and field to the floor. The all-risk farmers' policy covering all farming projects, assets, equipment, farm structures and houses on the farm was available mainly for commercial farmers.

Farmers doing commercial projects at a smaller scale were covered under command agriculture insurance mostly for maize, wheat while contract farming insurance mostly for tobacco and soya was readily available. For small scale farmers were also encouraged to use the all-risk farmer's policy to secure their farming operations.

"The main consumers of insurance in Zimbabwe are commercial and contract farmers. The low uptake of insurance amongst the rest of the

farming community is due to lack of tailored products for subsistence farmers who are the majority in the country, mistrust in the insurance services as farmers have no good faith in insurance products, lack of knowledge on the benefits of having insurance, insurers not properly advertising their products, a small profit margin in the sector for small scale farmers hence no money for insurance," he said.

Mr Karonga confirmed that ICZ is now working to solve these issues through its members, the short-term insurance service providers by coming up with tailor-made products to suit the needs of the new farmer in Zimbabwe as well as a campaign blitz to raise awareness. In addition to that, ICZ is coming up with the National Agriculture Insurance Programme that will provide affordable support to small scale and subsistence farmers. Educational campaigns will be rolled out to raise awareness of the insurance products available on the market and how to effectively make use of insurance as a risk management tool in farming. The campaigns will also help ICZ to understand farmer's needs.

"Farming is a business adventure that should be treated as such by using insurance as a security

and risk management tool."

Ms Ringisai Batiya elaborated the short-term insurance as a solution. "ICZ is a representative board of 18 short term insurance companies offering Agriculture Insurance. ICZ will have direct interactions with the farmers to address their needs by working with its members, the regulators and relevant government departments."

There are various activities that ICZ and its partners are working on to ensure that they take care of the farmers' insurance needs.

"We are quite excited that this is a beginning of a journey where we will have direct interactions with the farming community," she said.

Ms Batiya encouraged farmers to share their challenges and views as ICZ will take their input seriously in coming up with insurance packages that meet their needs. The well-attended webinar ended with a question-and-answer session where several issues were raised and responded to.

Follow the link below to watch the full webinar.

<https://www.youtube.com/watch?v=UfVX-6vuYcSY&t=1s>



Farm Records: Why Essential?

Farm business records are a key requirement for successful farm business.

A business with inadequate records can be likened to a ship in the middle of the ocean that has lost the use of its rudder and navigational aids.

It does not know where it has been, where it is going, or how long it will take to get there.

Records tell the manager where the business has been and whether it is now on the path to making profits and creating financial stability.

The following are some of the reasons why you should keep farm business records:

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1.

Measure profit and assess financial condition

These two reasons for keeping and using farm records are among the more important. Profit and financial condition is shown in an income statement and a balance sheet.

2.

Provide Data for Business Analysis

After the income statement and balance sheet are prepared, the next logical step is to use this information

to do an in-depth business analysis. There is a difference between making a profit and having a profitable business. Is the business profitable? How profitable? Just how sound is the financial condition of the business? The answers to these and related questions require more than just preparing an income statement and balance sheet.

A financial analysis of the business can provide information on the results of past decisions, and this information can be useful when making current and future decisions.

3.

Assist in Loan Application

Banks need and require financial information about

the farm business to assist them in their lending decisions.

Good records can greatly increase the odds of getting a loan approved and receiving the full amount requested.

4.

Measure the Profitability of Individual Farm Enterprises

A farm usually includes more than one enterprise. It is possible that one or two of enterprises are producing all or most of the profit, and one or more of the other enterprises are losing money. A record system can be designed that will show revenue and expense not only for the entire business but also for each enterprise.

With this information, the unprofitable or least profitable enterprises can be eliminated, and resources can be redirected for use in the more profitable ones.

5.

Assist in the Analysis of New Investments

A decision to commit a large amount of capital to a new investment can be difficult and may require a large amount of information to do a proper analysis. The records from the past oper-

ation of the business can lie an excellent source of information to assist in analyzing the potential investment.

For example, records on the same or similar investments can provide data on expected profitability, expected life, and typical repairs over its life.

6.

Compliance

Records are an essential tool in ensuring that your farm business is compliant with Tax and Labour laws.

This list is not exhaustive. Other possible uses include; legal, environmental management, risk management, farm planning, land use planning, inventory management, and profit sharing.



Broiler Summer Management

Broilers suffer most during summer because of their lack of sweat glands, feathered body and the high amount of fat below the skin. They suffer when the atmospheric temperature goes above 38°C.

Sudden increases in the day temperature will increase their stress more than a gradual increase to the same level day by day. Temperatures beyond 42°C will cause a high death rate among broilers.

Human beings have sweat glands through

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which we sweat and adjust body temperature. But, the birds do not have sweat glands at all. In addition, they have feathers, which help in reducing heat loss.

Therefore, it is more difficult for them to reduce their body temperature.

Improper design of poultry houses, greater width, side walls higher than the prescribed level, construction of houses closer to each other, asbestos or tiled roofing, high density of

stock, etc., will increase heat build-up within the house and add to the summer stress. It is then necessary to reduce the build-up of heat in the building, or increase the rate of removing the heat from the house.

Effects of high temperature

When the outside temperature reaches a level above the ideal point, birds increase their rate of breathing and breathe with open beaks; this is referred

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to as “panting”. Panting helps release heat by evaporating water from the respiratory tract.

The amount of water lost through respiration rapidly increases as temperature increases.

To compensate for the loss of water, birds drink more water. They also excrete relatively more water in their droppings, leading to humidity build-up in the house and litter problems. If litter management is not correct, litter sticks to the feet of birds causing a lot of inconvenience and diseases.

High temperatures reduce feed consumption. All animals including human beings eat to meet energy requirements.

During summer, the energy requirement of the body reduces and hence feed consumption goes down. This leads to poor growth.

You can note from the above table that a sudden increase in water consumption and a drop in feed consumption occurs due to high temperatures. For every °C rise in temperature above 21.1°C, feed in-

take reduces at the rate of 3.0 %.

In the case of layers, increased respiratory rate causes reduced shell thickness. This is primarily due to excessive loss of carbon dioxide and water, both being required for shell formation. This is further complicated by reduced feed intake which causes reduced calcium intake. Therefore, depending on the severity of summer, shell thickness reduces; sometimes shell-less eggs may be produced. During extremely severe summer, even egg production may stop.

Hot-dry weather

Hot-dry conditions are better than hot-humid conditions because, at least, moisture can be evaporated which helps heat loss and humidity will not be a problem. Under hot-dry weather, the following steps are

advised:

- Proper floor space for birds to ensure normal moisture content in the litter.
- Proper ventilation to remove excess moisture.
- The floor should be raised at least 0.3 to 0.5 m above the ground level to avoid seepage of water. This should be planned before the construction of the shed.
- Sprinkling the entire roof wet.
- Sprinkle surrounding ground area; this will increase relative humidity (RH)
- The use of foggers within the house increases RH.
- Use of fans suspended from interior building structure and positions about 1.2m above the litter and in the centre of the building to move air down the length of the building. Fans have to be spaced 6 to 15 m apart and

Parameters	Temperature (°C)			
	21.1	26.7	32.2	37.8
Feed intake (g / bird/day)	100	87	70	48
Water intake (g / g of feed)	2.0	2.9	4.8	8.5
Water intake (ml/day)	201	254	337	409
Note: Droppings produced @ 1.4 g/g of feed Source : North and Bell, 1990				

tilted about 8 degrees from vertical to direct air down towards the birds. Fans should have a protective grid to prevent injury to birds as well as to personnel. Fans are placed on the windward side of the house to increase the velocity of air as it blows through the house. If the outside temperature is high, the fans are better located inside the house to blow the air length-wise.

- Vertical cooling fans may also be used when the temperature is above 37.8°C and are located preferably 3.7 m above the birds and 7.6 to 15.0 m apart.
- The roof should be covered with thatch.
- Cool drinking water should be provided in copious amounts. Ice cubes may be added.
- Ascorbic acid (Vitamin C at 10 mg per kg of body weight), acetyl salicylic acid or chlorpromazine hydrochloride may be added to the water to reduce the stress. Furthermore, provision of B-complex vitamins and electrolytes in the water will also be helpful in alleviating summer stress of the broilers.

Routine Management

The side walls can be covered with hessian sacks which are kept

wet by spraying water regularly.

It is also been found that wood-wool curtains, knitted and fitted in a wire-net, hung over the inlets (side-walls) with a provision of perforated plastic pipe of 0.6 cm diameter fitted on the top of the wood-wool curtain all along the shed to provide running water to wet the pads continuously can help reduce the inside temperature of the tune of 10 to 13°C.

Reflective roof coatings (white) are also means of combating high temperature.

These coatings can reflect considerable solar radiation thus reducing temperature.

As temperature increases, the water consumed per g of feed consumed dramatically increases.

Thus, the faecal excretion of water also increases during hot weather; the water so excreted evaporates due to heat and causes humidity build-up in the house. However, this can be reduced by simply increasing the airflow during hot weather as air outside will have low RH and can easily drive out excess humidity.



Hot-humid Weather

Birds are most uncomfortable in this weather and the excess humidity further adds to the discomfort particularly because birds cannot sweat.

Under such circumstances, the only alternative is to have shady trees all around the house so that roof is always under shade.

However, trees reduce ventilation by reducing prevailing winds; this is only a compromise because air-conditioning of the poultry house is not an economical proposition.

Agribusiness Talk

Alububble also known as alucushion can also be used for roof insulation



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Causes of Low Egg Production

Low egg production results in huge losses. It is important to address the root cause of the problem at the earliest possible time.

Most of the researchers are of the view that the fluctuations in the rate of egg production may be due to behavioral, environmental and emotional factors, all of which can be controlled.

Here are the 16 reasons that might initiate a decrease in the rate of chicken egg production (*applies to roadrunners or layer birds):

1.

Lighting Conditions and Shorter Days

One reason for which the egg production might be slowed down is due to the shorter days. On an average rate, a

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hen requires nearly 12 hours of sufficient day light for the stimulation of the ovaries.

2.

Molting Issues

During the phases of molting, most of hens stop laying eggs. In order to tackle the problem a number of proteins might come in handy, but it is better to let the molting complete its cycle. Molting in chickens should be dealt in an effectively order to ensure that egg production remains constant.

3.

Brooding Hens

In this phase, the hens stop laying eggs. Moreover, they also spend the entire day sitting on the eggs, waiting for them to be hatched. The only thing that can be done here is to break the broodiness as soon as possible. Almost all classes of egg laying chicken breeds might suffer from this problem.

4.

Egg Eating

There are some chickens that might engage in this irrational behavior. Furthermore, when one hen starts doing this, other hens prefer to follow. For substantiation, you can see a number of broken egg shells in the nest.

5.**Predators**

There is no end to the number of predators who love to eat and steal eggs. Moreover, the hens also get stressed out at the sight of these predators, so it is best if you make all sorts of conducive and safety arrangements for dealing with this issue.

6.**Overcrowding**

Another common reason for which the chickens might stop laying eggs, is overcrowding. Overcrowding causes stress resulting in low egg production.

7.**Change in Nesting Area**

Hens like humans love their homes and the places where they usually lay their eggs. But switching the area from time to time can break their routines and patterns of egg laying.

8.**Disease**

One of the first things to notice in times of decreased in egg production is illness. It is imperative to schedule and regularly monitor your chickens for diseases.

9.**Extreme Fluctuations in Weather**

There are some optimal temperatures in which hens lay the most number of eggs. Even the slightest of deviations from the normal range might lead to fall in the egg production.

10.**Lack of Ventilation**

Lack of ventilation in the leads to the accumulation of ammonia, thus causing various physiological changes in the chicken and egg laying habits from respiratory illness.

11.**Poor Nutrition**

Those farms that utilize some low quality feeds face this problem more often. So, for having the maximum number of egg yield, you should make use of good quality feeds.

12.**Overfeeding**

Just like underfeeding that might lead to diminished egg production, the same also applies to overfeeding. Chickens require a set number of proteins for egg production, but never try to offer them with more than what they require.

13.**Lack of Water**

In terms of the internal composition of egg, it is evident that water makes up nearly 75 % of the total mass. Be sure to supply sufficient water for chicken egg laying at all times.

14.**Hidden eggs**

Free range chickens can hide their eggs at places you might not be able to see or access. Mostly the hens lay eggs in the morning times, so it is recommended that you monitor them at these times.

15.**Age**

Chickens give you a maximum number of eggs in the first 30 WEEKS after the start of laying. Productivity reduces as the hens grow.

16.**Stress**

A stress free hen happens to be the one that lays the most number of eggs.



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A Guide to Butternut Production

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Soil requirements

Butternuts prefer well drained sandy loam to loam soils with a high calcium content. Butternuts like growing in soils with a PH value of between 5.5 to 6.3. If less than 5.5 agricultural lime should be applied in accordance with soil analysis results. Low PH soils have Molybdenum and Calcium deficiencies which reduce the keeping quality of the fruits. Soil temperatures are important for good germination. Germination takes up to 3 weeks in soil temperatures between 10°C and 13°C, which makes the growth and management of the crop difficult. Soil temperatures around 15°C will result in good germination of around 7 days. 20°C gives

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maximum root development and even crops.

Fields need to be prepared either by ploughing or rip and disc. If direct seeding, soil should be worked to a good tilth without too many big clods. It should be as level as possible to ensure even plant emergence, so irrigation or rainfall cannot form puddles. Be careful of crusting at emergence a light irrigation may be necessary.

Climatic conditions

Butternuts are far less sensitive to unfavorable growing conditions than most other cucurbits.

Butternuts prefer a warm dry climate and best growing conditions are when the temperature is between 20°C - 25°C with a maximum of 32°C, night temperatures not lower than 10°C. At higher temperature range as indicated female flowers can abort and young fruit can wilt and shrivel. There is a tendency for plants to produce fewer female flowers with high temperatures and long days.

Planting time

For advice on varieties for seasons and the marketplace contact a Seed Co Agronomist for his recommendations. Butternuts can be planted as soon as

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the risk of frost is over, and temperatures are between the ranges stated earlier. Timing is important when planting so crops can mature before the hot humid summer rainfall conditions form as this can result in serious leaf disease problems. Aphids are usually a problem also at this time and can spread virus diseases very quickly. Direct seeding makes the germinating seed susceptible to attack by pathogens such as *Fusarium* and *Rhizoctonia*.

Also rats and mice are a huge problem as they dig up and eat the germinating seed. Baiting with rat poison for these pests is most important to avoid heavy seed losses. A recommendation is for F1 hybrid seeds to be raised in a recognized nursery because of the high cost of the seed. By doing speedlings early while soil temperatures warm up the crop will be 2 – 3 weeks earlier than if direct seeded.

Depth for direct planting of seed is 25 – 30mm, for speedlings just cover to level of the top of the plug. Make sure good plug to soil contact is achieved to ensure rapid take off seedlings in the fertilized enriched soil.



Spacing

This depends on the cultivar, if it is a semi bush or vine type, the marketplace and the irrigation system to be used. With overhead irrigation a single row 1.5m to 1.8m between rows and plants 0.5m to 0.8m in row. This gives a population of approximately 11,000 – 16,000 plants per hectare. Semi bush types can be planted in double rows 0.5m- 0.6m apart with plants 0.5m apart in row and 1.5m to 1.8m between the double rows. This gives 16,700 – 20,000 plants per hectare. This can help with weed control and gives smaller fruits where this is desirable for the marketplace.

Irrigation

As the butternut plant is of desert origin it has a determined root system. Butternut plants have a deep tap root to utilize water deep down in the soil whereas the shallow fibrous root system draws the water just below the surface. Butternuts irrigated by overhead sprinklers have root systems which spread at much the same rate as the vines on the surface. Calcium will not be easily available in over irrigated soil leading to calcium deficiency and blossom end rot.

It is usually preferable to under irrigate the crop while young except at the critical stage of fruit set when the water amount should be increased. Clay soils tend to waterlog easily so let

them dry out to some extent between irrigations, to allow oxygen to re-enter the root zone. Sandy soils require more regular irrigation to keep the soil moist. Loam to clay loam soils need only to be watered every second day.

Fertilization

For a good crop of Butternuts, the plant will require some 200kg N: 50kg P: 500kg K, 120kg Ca and 70kg Mg per hectare. A guide is to use 600/800kgs compound “D” per hectare. 3 top dressings of 75kg per hectare AN at 3-5-7 weeks. All cucurbits are sensitive to Molybdenum deficiency. Symptoms are stunted growth and overall yellowing of the leaves. If the PH is above 5.5 more Molybdenum will be available. Seedlings can be sprayed with Sodium Molybdate at 20g in 500 liters water per hectare, which should be enough, but a second spray can be done at fruit set. Boron is essential for root hair growth through which Calcium is taken up. Boron can be sprayed on shortly before fruit set and 2 – 3 weeks later. Boron deficiency is indicated by a clear yellowish to light green rim to the leaf. Copper sprays can cause similar symptoms and stunt leaves so

Stage	Pre-Plant	Planting to Emergence	Vegetative	First Flowers	Pod Development & First Picking	Peak Picking
Days (Courgettes):	-7	0-10	10-28	28-35	35-42	45-60
Days (Butternut):	-7	0-10	10-42	42-49	49-56	100
Pest Problems:						
Soil Pests	Soligo					
Nematodes		Actara Soil Drench				
Cutworm		Karate Zeon				
Leafminer				Tigard/Dynacel		
Red Spider Mites				Curacron/Voynameo/Polo		
Pumkin Fly				Lebayoid		
Disease Problems						
Damping Off		Apron Star Seed Dress				
Bacterial Complex		Amistar Top / Score				
Powdery Mildew				Revus/Ridomil Gold/Falo		
Anthracoese		Bravo / Amistar Top / Score				
Virus Complex		Actara Soil Drench				
Weed Problems Below are off-labe suggestions; grower must do own tests for crop damage.						
Before planting - post emergence perennials	Touchdown					
Before planting - post emergence annuals	Gramoxone / Touchdown					
Post-emergence: grasses			Fusilade Forte			
Nutgrass (Yellow + Purple)			Servis			

be careful with excess copper sprays.

Under irrigation the crop will emerge more quickly and will mature earlier when planted shallow and the seed covered by leveling the soil.

Alternatively planting deeper but covering the seed with 2.5 – 5cm of soil then re-ridging two or three-times during growth will produce similar.

Pollination

Bees are the main pollinators of the Butternut crop. Bees are thought to be responsible for over 90%of its pollination. The female flower must be visited several times for efficient polli-

nation. The use of 2 to 3 beehives per hectare is recommended.

Harvesting

Butternuts usually take 85 to 100 days to harvest. Before the fruits are ready for harvest the stage of ripeness should show the rind an even beige in color, with no green ground color or blotches, the stalk hard but not dry. There may still be green stripes at the stem end. At this stage the fruits are suitable to the local market, but the internal color will be slightly pale and keeping quality poor. To achieve a high sugar content and a dark orange flesh leave the ripen on the vine. Once the green stripes on the fruits have almost gone, plants can

Butternut spray guide

be left to dry out. If irrigation continues at this stage the fruits will swell and crack. When harvesting cut the stalk 10 to 15mm above the thickened attachment to the fruit, this cut must not leave sharp edges or a point which could pierce other fruits during handling and storage.

Yields ranges from 30 to 45 tons per hectare.

THE FEED FOR A CHAMPION HERD
































































































































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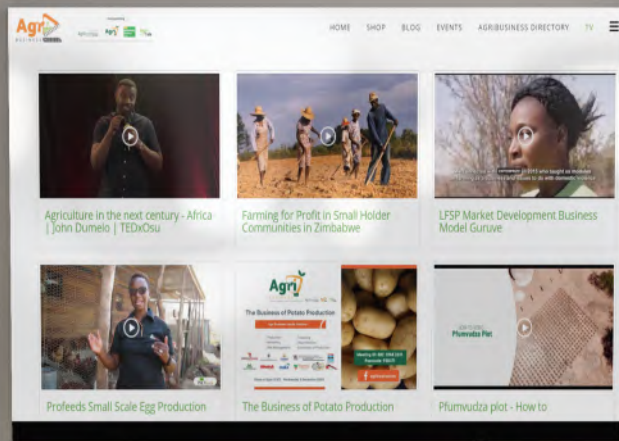
Crop Planting Calendar (Zimbabwe)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Beet Root												
Brinjal (egg plant)												
Broccoli												
Butternut												
Cabbage												
Carrots												
Cauliflower												
Chillies												
Green beans												
Green mealies												
Lettuce												
Marrow (baby)												
Onion												
Peas												
Peppers												
Potato												
Squash												
Squash (germ)												
Squash (marrow)												
Tomato												
Water melon												

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Q

What is the purpose and use of farm records?

A

- Measure profit and assess financial condition.
- Provide data for business analysis.
- Assist in preparing reports for partners, lenders, landlords, input providers, and government agencies.
- Measure the profitability of individual enterprises.
- Assist in the analysis of new investments.
- Prepare income tax returns and financial statements.

Word Search

G	R	O	W	T	H	C	O	O	L	I	N	G	T
A	I	N	O	I	T	A	L	I	T	N	E	V	H
Y	T	I	D	I	M	U	H	R	T	D	E	E	F
E	Y	O	E	K	A	T	N	I	A	R	S	S	I
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F	L	O	O	R	R	R	S	E	I	O	N	R	T
T	I	E	R	E	E	S	N	A	F	P	A	I	H
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S	T	F	S	T	R	E	S	S	R	I	E	I	H
S	H	B	R	O	I	L	E	R	S	E	R	N	E
T	R	E	L	A	T	I	V	E	T	L	S	G	A
E	R	U	T	A	R	E	P	M	E	T	T	O	T

- LAYERS
- FLOOR
- HUMIDITY
- SPRINKLING
- FAT
- COOLING
- ROOF
- INTAKE
- THATCH
- PANTING
- TEMPERATURE
- SUMMER
- BROILERS
- POOR
- STRESS
- VENTILATION
- HOT DRY
- RELATIVE
- WATER
- SHADE
- FANS
- FEED
- GROWTH
- HEAT

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C	A	C	H	C	R	A	E	S	E	R	N	E	S
E	R	E	P	P	E	P	D	C	O	U	N	T	H
P	I	S	U	G	A	R	B	I	T	E	S	R	P
N	O	I	T	I	D	D	A	E	U	L	A	V	A
T	M	A	R	K	E	T	G	U	A	R	D	S	S
A	M	A	I	N	T	E	N	A	N	C	E	S	S
R	A	A	Y	N	B	R	A	N	D	I	N	G	I
E	C	N	A	R	U	S	N	I	D	P	O	I	O
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T	N	A	S	E	E	E	C	O	U	N	C	I	L
E	E	Y	G	O	L	O	N	H	C	E	T	S	G
R	F	N	L	E	G	N	I	M	R	A	F	K	S

There 5 differences between these pictures. Can you spot them?

See answers on Agribusiness Talk social media handles

