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SCRIPTURE

Now this I say...

He who sows sparingly
will also reap sparingly,
He who sows bountifully
will also reap bountifully
2 Corinthiers 9:6

NUFARMER Africa

Contents

06

09

14

16

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The year started with abundant rains which really continued since late last year. But now a larger area is covered, albeit with severe storms and losses of homes, livestock, crops and lives in some areas. It seems this is a world-wide situation at the moment but, as we are in the beginning of a new year, let us look at positive outcomes and positive actions we as farmers and agriculturists can put in place to overcome the obstacles we, and more so our customers, the consumers of meat and fresh products and retailers can put in place. Our crops generally looks good, outlook on beef and sheep farming looks good, if we can collectively work on government to re-instate services at harbours and air-freight, our exports can once more rise. At street level, consumers are perplexed about many well-known stores with shelves containing really poor quality greens and sometimes meat packages, but all these at much inflated prices. The farmer, amidst all former mentioned obstacles and more, receive less for his produce per item, is curbed by inflated input costs while retailers slap on mark-ups because of unsold perishables that are ditched and, I am convinced, fewer sales. Answer; Be alert to smaller markets, direct to public sales, maintain good service and keep up your quality!
Best for 2025.

WHEAT CROPS - – GET THE KNOW-HOW AND MANAGEMENT PRINCIPLES FOR SUCCESS

Wheat is an important cereal crop ranking second after maize in terms of the area planted and production. It is grown on an area which ranges from 417 500 to 757 700 ha on total average area of 533 000 ha during production seasons from 2004 to 2015, which produces an average annual production of 1.3 to 2 million tons.

However, the most significant decline in hectares occurred in Free State, which resulted in a 50% drop in production. Production in the irrigation and winter wheat areas were also down, but only marginally. The provinces that produce wheat are Free State, followed by the Western Cape and Northern Cape. Other provinces produce smaller amounts.

The total requirement for wheat in South Africa is 2.7 million tons, which is higher than the total production. For South Africa to meet its requirements, wheat is imported from Argentina, United States of America, Germany, Canada, Ukraine and the United Kingdom. Annual wheat production in South Africa ranges from 1,3 to 2 million t/ha at the rate of 2 to 2,5 t/ha under dryland and about 5 t/ha under irrigation.

The Southwestern parts of the Western Cape (Swartland and Ruens) contribute about 697 000, Northern Cape about 262 800 tons, Free State about 224 000 tons, Northwest about 91 500 tons, Mpumalanga about 20 300 tons, Limpopo 151 200 tons, KwaZulu-Natal about 41 610 tons each, Gauteng 1 500 tons and Eastern Cape contribute about 14 880 tons in 2015 production season. South Africa is the net importer of wheat, importing about 300 000 tons per annum.

CULTIVARS

Cultivar choice is an economic and important production decision by which the producer aims to achieve highest return with the lowest risk and if correctly planned, could contribute greatly to reducing risk and optimising yields. It is important for farmers to realise that there are cultivars for dryland and irrigation planting producers should also plant cultivars that are preferred by the miller.

The decision is complicated by all the different factors that contribute to the adaptability, yield potential, grading and quality, diseases and pests, seed price, hectolitre mass, straw strength, aluminium tolerance, photoperiod and vernalisation, shatterproof and preharvest sprouting tolerance agronomic characteristics and disease risks of the current commercially available cultivars. The correct cultivar choice contributes to management of risk and achieving optimal grain yield in a given situation. Farmers are advised to contact their grain seed supplier for an update on seed performance in each part of the country.

TEMPERATURE

Warm temperatures are suitable for summer wheat (22 °C to 34 °C) and cool temperatures are suitable for winter wheat (5 °C to 25 °C). An ideal climate for planting wheat can be described as cool and moist, followed by a warm dry season for harvesting.

Such a climate is encountered mostly in winter rainfall areas. In South Africa, wherein most of the country receives summer rainfall, winter wheat production is dependent on sufficient residual soil moisture.

RAINFALL REQUIREMENTS

The water requirement for wheat is about 600 mm per annum. In dry areas where cultivation practices such as zero tillage and minimum tillage are practiced, stubble mulching is recommended for moisture conservation. Frost can damage wheat, especially after the formation of ears in spring resulting in low yield. Hail can also result in serious damage on the summer wheat resulting in low yield.

Wet weather during harvesting contributes to disease prevalence and quality deterioration of grains. Almost all cultivars are susceptible to preharvest sprouting and must be harvested as soon as possible to prevent low falling number or sprouting of the crop.

Wheat that is not harvested in time can quickly deteriorate in terms of quality (reduced hectolitre mass) and become infected with fungi (mould), indicated by a change of colour in the ears (golden yellow to white to black). Hail during or after emergence of the ear can cause severe yield loss and the only recourse farmers have, is to take out insurance against hail damage.

SOIL PREPARATION

Soil tillage is one of the most important production practices over which the farmer has full control. The effect of tillage cannot be predicted for any season. Therefore, the farmer has to plan his actions to solve specific problems.

Unnecessary cultivations cost money, time and effort, while valuable soil water is lost in the process. Such cultivations also cause decompaction that has to be addressed later. Minimum tillage (75 mm to 130 mm deep), deep tillage (150 mm to 300 mm) or no till can be practiced depending on the type of the soil, moisture availability, type of cultivar and the previous crop planted.

For the summer wheat production that is under irrigation, immediately after harvesting the previous crop in May, the land is ploughed, disked and planted wheat. No fallow period is allowed, only two weeks in between is used for field operations. The conventional tillage is recommended for wheat –on- wheat cropping systems in which the risk of root disease is high and the risk of wind and water erosion minimal. The harvesting is done in December to January.

As soon as soil conditions allow, disking of the soil is done. Ploughing is done between ends of January to end of February in the drier areas and between mid-February to the end of March in the wetter areas.

PLANTING

Wheat is planted under dryland and irrigation conditions in the summer rainfall region, while in the winter rainfall region it is planted under dryland conditions only. It is planted mainly between mid-April and mid-June in the winter rainfall areas (western and southern Cape) and between mid-May and the end of July in the summer rainfall areas (eastern Free State).

Seeding rate ranges from 20 kg/ha to 25 kg/ha under dryland conditions. Conversely, the seeding rate ranges from 90 kg/ha to 120 kg/ha under irrigation conditions.

The inter-row and intra-row spacing are 40 cm to 50 cm and 7 cm to 15 cm respectively, when using a planter. Seed should be placed 5 cm deep. Always use treated seed for soil-borne fungal diseases control.

The seed should be planted evenly and shallowly in a moist firm seedbed. Germination, emergence and development of adventitious roots occur within four to six weeks after planting under proper soil conditions.

The required depth for seeding is 2 to 5 cm. The required spacing in the row is about 30 cm and 50 cm to 100 cm between the rows, depending on the available soil moisture or the farming method (wide rows under dryland and narrow rows under irrigation).

A no-till planter can be used for seeding or a planter fitted with tines can be used for planting. The planting density ranges from 20 kg/ha to 100 kg/ha depending on the type of cultivar and the moisture availability.

FERTILISATION IN THE WINTER RAINFALL REGION

The contribution of plant nutrition to the total production cost for wheat in the Swartland wheat producing area may be well in excess of 30%. The soil tillage method may have an effect on both the efficient use of fertiliser applications and N-mineralisation that contributes to the cost of plant nutrition.

Efficient use of fertiliser is affected by fertiliser placement (uptake) and root distribution. To improve their uptake, fertilisers such as phosphorus that do not move easily in the soil, must be placed near the roots.

DISEASES AND WEEDS

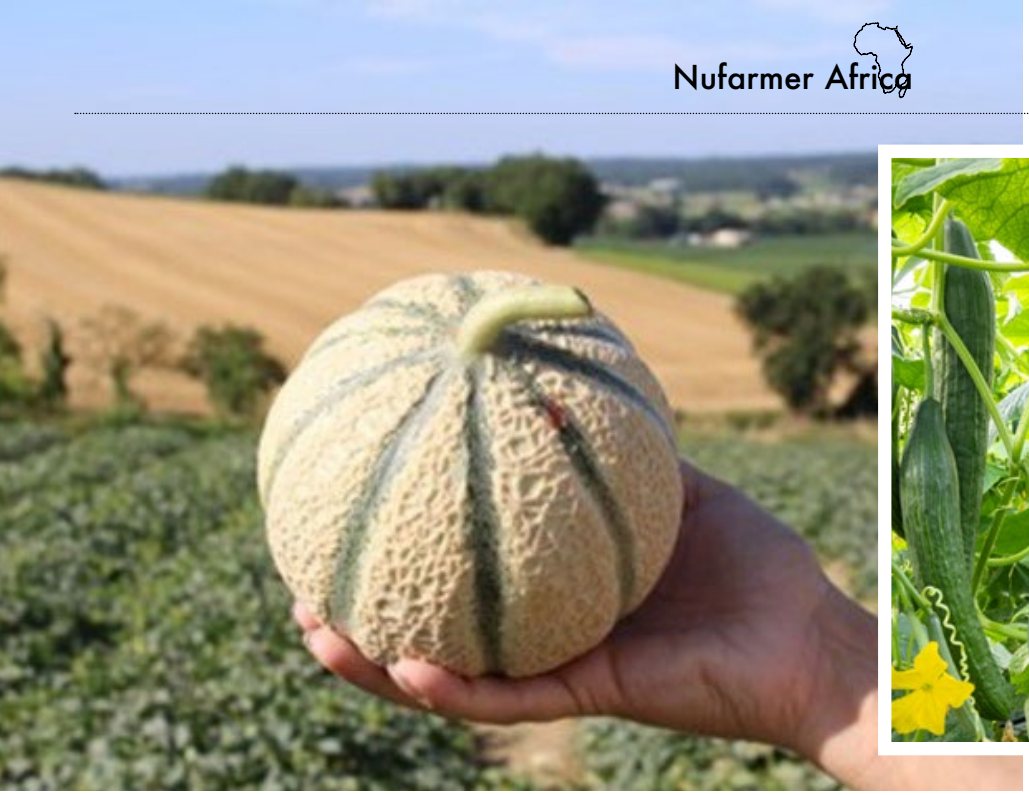
While wheat diseases such as eyespot, take-all and crown rot, as well as weeds such as gut brome and ryegrass, are important grain yield limiting factors in the Western and Southern Cape, it is a well-known fact that crop rotation with leguminous crop is the most efficient method of controlling these problems.

In such systems the effective chemical control of grass weeds in the non-grass crop is essential. Should monoculture, however, be practiced, these problems can be curtailed by burning the residue or by deep mouldboard ploughing.

Wheat is an important food source in the world. Farming with wheat and associated crops need, like in all farming sectors, good preparation, continuous management and a keen eye for any pests.

Moreover, one need to have constant contact with the seed and production advisors as well as current market prices.

Sources: ARC-Small Grain Institute and the National Chamber of Milling (South Africa)



ACAPELLA MELON STEALS THE ATTENTION AT SIVAL 2025

The 2024 season confirmed the good performance of the new Acapella melon variety. "The Acapella has high resistance to Fusarium races 0, 1, and 2 and intermediate resistance to aphids, to the different races of powdery mildew: 1, 2, 3, 3.5, 5 as well as to Cucurbit Yellow Stunting Virus (CYSDV). In addition, the variety showed good resistance to bacterial blight in 2024.

Acapella, the new melon variety that combines quality and yield

Kenza Zanni, marketing & sales coordinator at Bayer, during the SIVAL 2025 said the new Acapella melon from Seminis and De Ruiter displays a myriad of advantages for growers.

"In the field, Acapella plants have a powerful root system, making them resistant to many pathogens. Their canopies protect the fruit right up to harvesting, which is made easier by simple harvesting criteria.

"The Acapella has a good grip in cold conditions and produces good sizes. Found on retailers' shelves, Acapella melons offer an attractive, very uniform presentation and, thanks to their sturdy stem, they also provide long-lasting freshness. Their quality is consistent, which makes them reliable melons,".

"It is found that the Acapella melon meets the challenges of production and the needs of growers well, as it offers "production safety with a good disease resistance package, to reduce the frequency of treatments. The variety also produces a good yield, with a secure, uniform grip in the right commercial size to add value to the product.

"Harvesting costs are optimized, with a product that can wait in the field and has simple, clear harvesting criteria. Finally, the product holds well in the marketing phase to satisfy the end customer and therefore maintain the demand," Zanni concluded.

According to the company, two other melon varieties will be on trial this season: SVMC4787* in the early tarpaulin segment and SVMC2001* in the open field segment (*on trial, not available for sale).

Gomax

Gomax is a new summer cucumber variety from De Ruiter. This variety shows high yield potential, offering 10% more production on average than the market's controls. Because of its earliness, harvests are maximized while fitting perfectly into a two- or three-crop system. Like the Georgia and Davida varieties, the Gomax cucumber has intermediate resistance to powdery mildew and CGMMV.

Strawberry trials in France

"During the 2025 season, trials will take place in France and will include varieties such as the Malling Centenary and Malling Ace. Malling Centenary is an early/mid-season 'short day' variety with a high percentage of class 1 yield, consistent fruit quality, and good shelf life, making it an excellent choice for retail channels.

The variety that offers a consistent crop throughout the season while maintaining a large medium fruit size, Malling Ace, is ideal for growers expecting a continuous crop."

Lovito onions by Seminis-De Ruiter

The Seminis and De Ruiter teams also took advantage of the 38th edition of SIVAL to (re)present the P0+ early-class onion variety, Lovito, launched in 2023. This variety has the same agronomic qualities as another early class variety, P2. Its strong root system enables rapid development.

In addition, the variety has demonstrated tolerance to fusarium and pinkroot disease. At the same time, Bayer is pursuing its long-lasting resistance strategy against ToBRFV via the technique of stacking several resistance genes with different resistance mechanisms, such as Ferreira fleshy tomato with intermediate resistance.
The company has announced that it is ready to launch resistant varieties with durable resistance in the main segments before the end of 2025.

Source: Bayer Seminis De Ruiter communications (France)

AGRO-PROCESSING OF DECIDUOUS FRUIT

BY THERESA SIEBERT

Faced with the current economic realities, farmers worldwide are searching for new options of surviving, as well as expanding their business. One of the many opportunities to grow markets, turnover and profits, is by adding value to farm produce through further processing.

Most value added food products available to consumers have been processed in some way or other, even if the processing is as simple as cleaning produce before it is packed in plastic or net bags. Two types of processing methods may be performed on raw materials:

- Primary processing: This type of processing includes the simplest of processes such as washing, peeling, chopping, ageing, the milling of wheat for flour production, and the processing of sugarcane;
- Secondary processing: This type of processing includes the conversion of primary processed products into more complex food products and includes procedures such as mixing, depositing, layering, extruding, drying, fortifying, fermentation, pasteurisation, clarification, heating, etc.

Agro-Processing of Deciduous Fruit:
The deciduous food group include a large number of crops such as apples, apricots, grapes, peaches, pears, plums and figs.

- **Apples:**

Apple cider vinegar: Apple vinegar is produced from alcoholic fermentation and acetous bacterial oxidation of apple juice. Apple vinegar contains between 5-12% acetic acid.

Apple sauce: Apple sauce is the cooked, pulped product prepared from misshape or small sized fruit. It is mainly used as a side dish (condiment) or in bakery products.

Dried apple rings: Dried apple rings are semi-dried or intermediate moisture products containing between 22-25% moisture. It is produced by artificial drying of peeled, sliced apples. Dried apple pieces are mainly used as confectionary ingredients or as a fruit snack.

Apple cider: The beverage is obtained by complete or partial fermentation of apple juice with or without the addition of potable water. It should have a minimum alcohol content of 5% (v/v).

- **Apricots:**

Dehydrated apricot pieces: Dried apricot halves (with 15-20% moisture) are further dried to reduce the moisture content to below 5%. Dehydration is performed under vacuum conditions. Dehydrated apricot pieces are used in instant cereal or muesli mixes as well as cocktail nut-and-fruit mixes. It can also be ground to produce a powder.

Sun-dried apricots: Apricot halves or pieces are placed on perforated racks/trays and dried by exposure to sun in hot, dry climates.

- **Grapes:**

Naturally dried raisins: The word "raisin" is French for dried grape. By usage, however, the term has become limited mainly to the dried grapes of a few cultivars. Natural drying makes use of sunlight to dry the grapes. Grape seed oil: This oil is extracted from the pips of grapes after the juice has been expressed. The pips contain 12% oil. It is mainly used for coating raisins to improve the appearance and keep them pliable, the unrefined oil has other industrial uses, including soap and paint manufacture.

Grape vinegar: Grape vinegar is the sour liquid obtained by naturally fermenting grape juice. Wine is used as the starting material to which the vinegar plant (yeast culture) is added. The wine undergoes an acetic fermentation by micro-organisms of the Acetobacter spp. which converts the alcohol to acetic acid.

- **Peaches:**

Dried peaches are eaten as a fruit snack or used as an ingredient in recipes. It has a soft, chewy texture and characteristic peach flavour. Freestone peaches with a deep orange colour are used for drying, both sun/solar and artificial air-drying can be used to dry fresh peaches to a final moisture content of between 15-20%.

Peach chutney is a sweet, tangy condiment that is served with curries, hot and cold meats and savouries. Peach chutney may be prepared from both green and ripe peaches, along with other fruit/vegetables (e.g. onion and green pepper), sugar, vinegar and various spices and thickening agents.

Peach jam is produced from peaches harvested at the firm-ripe stage to ensure maximum flavour, colour and pectin development that is essential for successful jam.

- **Pears:**

Dried pears are a seem-dried or intermediate moisture product containing 18-22% moisture. Dried pear halves are mainly used as confectionary ingredients or eaten as a fruit snack. The shelf life of this product is about 90 days at ambient temperatures. Storage temperatures of below 7°C will extend the shelf life. Ten tons of fresh pears will yield between 1-1 ½ tons of dried product.

Pear puree is prepared from peeled and cored pear halves through a pulping and screening process. It is preserved by freezing or canning. It may also be concentrated. The puree is a semi-processed product that is used to prepare pear nectar (juices), syrups, sauces, toppings and jams. Optimum processing produces a puree containing 12% soluble solids and a yield of 89%.

Pear relish: A relish is a sweet-n-sour condiment that comprises of preserved fruit/vegetable pieces and spices. It is served with curries, hot & cold meats and savouries. Pear relish is usually prepared from firm mature or green pears.

- **Plums:**

Canned prunes: Dried prunes are canned in a sugar syrup to produce a soft, ready to eat product.
Dried prunes are produced from firm-ripe plums with a high solids content and full-bodied flavour. The final product has a moisture content of 18-20%, soft chewy texture and sweet taste. It is an excellent source of fibre. The yield is generally between 25-35%. A prune is produced from a plum variety that can be dried without removal of the pip.

- **Figs:**

Small-Scale Fig Preserve: Preserves are similar to jelly with the exception that whole or large pieces of fruit are used in making the preserve. The figs used for the preserve should be firm-ripe instead of soft-ripe and should be uniform in size.
Solar Dried Figs: Figs are usually sun (solar) dried, but mechanical drying is also used in order to produce a low-moisture product. Fig varieties used for drying include Calimyrna, Adriatic, Kadota, Black Mission, and Smyrna. The processing methods for solar dried figs differ from variety to variety although general drying procedures apply to all varieties.

GROWING GROUNDNUTS (PEANUTS): WATER AND TEMPERATURE REQUIREMENTS

In South Africa, areas in which groundnuts can be grown successfully under rain-fed conditions are limited. Due to this limitation, runner types are excluded due to a long growth season and higher moisture requirement. The only groundnuts suitable are the Spanish types with and upright growth habit and short growth season.

It is difficult to form an impression of where groundnuts would be best adapted in South Africa by referring only to rainfall distribution. However, in order to illustrate the adaptation of groundnuts in terms of rainfall, Potchefstroom can be used as an example.

The long-term average rainfall in Potchefstroom is 659 mm per year. The period July to end of September has a long-term average rainfall of only 32 mm. Currently moisture in the soil is limiting, so to plant groundnuts in October, 45 mm of additional water is required. The average rainfall for October is 46 mm and panting in October is possible.

However, due to the large variation in rainfall patterns form year to year, from 3 mm in 1961 to 151 mm in 1951, this month also has limitations. The probability of receiving 5 mm of rain fifth day is only 16%.

During November this position improves somewhat with the probability of 10 mm of rain being 45%, which being rather low, is however, better than 16% in October.

Temperature

Groundnuts originate from the tropical areas in South America and require a growth period with high temperatures of which at least 160 days are frost-free.

The temperature requirements of the crop are also dictated by the development of the plant from germination to ripening. In what follows, a literature survey is presented regarding temperature requirements. The information is gained mainly from controlled environmental data.

The lower limit for germination in groundnuts is around 18ºC. Temperatures between 20-30% ºC result in 95% germination; however, at 33ºC this declines to 84%. Optimum germination temperatures are thus between 20-30% with a minimum of 18ºC.

The temperature of the water, absorbed by the seed, is also critical as far as germination is concerned. If the temperature of the water is high enough, enzymes

that stimulate energy exchange are activated. If the water temperature is initially low and gradually increases, the enzymatic process is not accelerated to such an extent that it compensates for the initial low syntheses, thus resulting in reduced germination.

Planting in warm soils result in fast germination and healthy seedlings. The golden rule is not to plant unless temperatures have reached a stable 18ºC at 5 cm soil depth.

This temperature is normally achieved a few days after the ambient air temperature has stabilised at an average of 18ºC. Do not plant in dry soil and irrigate with cold water. **Source: Groundnuts – always tops by CJ Swanevelder.**

GOAT FARMING:
FORMULATING A BUSINESS PLAN

Information gathered from various authorities on beginning goat farming is published here as there currently are more and more people with suitable land who shows interest to do goat farming.

Starting a goat farming business is a lucrative and rewarding venture. As the global population continues to expand, so does the appetite for lean and flavourful goat meat, presenting a compelling opportunity for entrepreneurs to enter this business.

This trend, coupled with the perception of goat meat as a healthy and sustainable protein source, positions goat farming as a lucrative industry ready to be tapped into. Additionally, goats are hardy animals that can thrive in diverse climates and require relatively modest resources, thus lowering the operating expenses of the business, hence increasing its profitability. This is due to the remarkable resilience of goats, which enables them to thrive even in the most challenging conditions, whether it be limited access to food or adverse weather conditions.

Goats are known for their ability to flourish with minimalistic and cost-effective housing setups, making them an ideal choice for resource-conscious farmers. To build a sustainable, profitable goat farming business, you require sufficient knowledge of how to efficiently raise the goats, good business management skills, and a good goat production business plan.

Lucrative?

Market research is a crucial step before you start a goat farming business. Start by examining the prevailing prices of goat meat in your target market to gauge market competitiveness and establish competitive pricing strategies. Identify potential customers and their preferences to tailor your offerings effectively, whether it's local consumers, butcheries, restaurants, or other businesses.

Additionally, consider the seasonality of goat prices, as fluctuations throughout the year can influence your production and pricing decisions, ultimately enabling you to make informed choices that maximize profitability and meet consumer demands.

Finance

Financial projections serve as a critical aspect of your market research when venturing into goat farming business. These projections encompass not only revenue and profitability estimations but also help you determine crucial elements such as startup costs and ongoing operational expenses.

By meticulously forecasting your financial requirements, you can create a well-structured budget that guides your allocation of resources and ensures effective financial management throughout the journey of establishing and running your goat farming business. This proactive approach to financial planning is instrumental in achieving your business goals, securing necessary funding, and maintaining the long-term sustainability and success of your venture.

Which breed?

Selecting the right goat breed is a pivotal decision for your goat farming business. Extensive research is required to make an informed choice, considering several crucial factors. Firstly, consider the availability of goat breeds in your region, as some breeds may be more prevalent than others, which can impact accessibility and procurement costs.

Secondly, assess the feed conversion efficiency of potential goat breeds, as this directly influences your operational expenses and overall profitability. Thirdly, weigh the cost of purchasing different breeds against your budget constraints, ensuring that your choice aligns with your financial capacity.

Lastly, align your breed selection with the specific needs and preferences of your target market, as different breeds can cater to varying consumer demands.

Land required

You obviously require land for the goat farming business. There are some factors that you must consider when selecting land for goat production business. A large enough area must be available for erecting the necessary goat pens. It is advisable to locate the project nearer to good roads as that will help minimize costs.

Considerations

This will also enable the farmer to have easy access to and from the goat farming project. Does the location offer proximity to a reliable source of clean and fresh water? Your choice of land must also factor in the presence of a favourable climate. Is the land space easy to fence right round to ensure the goats are secure?

>>> to page 10

<<< GOAT FARMING from page 9

This is important for two main things. One, goats are adventurous and tend to easily escape when they figure out a loophole. Two, if improperly fenced, goats become vulnerable to predators. Being able to escape also makes them vulnerable to predators. Fencing is strategic in that it provides an additional layer of security for your goat farming business. The assumption is that you would have setup secure housing for the goats.

During the day when the goats are roaming around the fence will be keeping them secure. When indoors (usually overnight), the goat housing and the fence essentially become two layers of security.

Taking care

Water logging or flooding is not good for the goats. You need to pick a land space that enables easy runoff. The ease of fencing also depends on the nature of the terrain in question. That is why it is imperative that you should choose a land space characterised by a flat to gentle slope.

You must consider the availability of pastures – goats require pasture to graze on. Ideally you want a land space big enough to be segmented. This segmentation will be essential for having a goat rotational grazing regiment. You should divide the pasture into different parts.

To avoid over usage of pasture and the growth of less desirable forage, you should rotate the pastures where your goats graze on. This means that you should allow your goats to graze on one pasture while the other pasture is resting. The pasture should have various types of pasture plants or grasses.

This will increase the food value and help to meetup all types of necessary nutrient requirements for goats, leading to profitability of your goat farming business plan. Your goat farming business plan should consider the cost of purchasing or leasing the land.

Housing

Goats are so hardy that they can thrive whilst staying in the open day and night. However, to build a successful goat farming business, you must house them. Housing for goats serves two core purposes namely, security and protection from extreme weather conditions.

The location of your goat housing must be elevated and be where dryness can be maintained all the time.

This is all central to ensuring flooding is not possible since it is not good for the goats. Any build-up of water or moisture increases the chances of disease breakouts. That same elevation is also pertinent in protecting the goats from predators.

The floor or bed of the goat housing must also be always maintained dry. Ventilation and adequate natural lighting are important for your goats so factor that in when designing your housing. The goat shelter must be well-ventilated and should be easy to clean.

Poor ventilation is bad to the health and performance of your goats. Extreme temperatures can reduce the productivity of goats. Poor ventilation may also lead to circulation of harmful gases which can cause respiratory problems to the goats. This also implies the housing must be big enough to allow free goat movement inside.

Requirements

Goat farming requires both basic and specialized equipment. It is obvious you need feed and water equipment. Your feeders can be according to the type of feed in question. For example, you can have separate feeders for hay, grains, and so on.

Water trough or containers can be makeshift or commercial ones. You will also need other handy implements such as forks, wheelbarrows, pallets, buckets, shovels, scales, thermometers, and the like.

Depending on the nature of your goat farming operations you may need specialized equipment. Examples of these are castrators, drenchers, and hoof trimmers. The goat farming business plan should include the costs of acquiring the equipment.

First breeding stock

To start keeping goats for profit, you require breeding stock. The breeding stock consists of male goats which are known as bucks, and female goats which are known as does. When choosing breeding stock for goat farming business, you should be very careful of the health history of the goats. It's advisable to purchase the breeding stock from goat farmers who have a good reputation in the goat production business.

The goats which you select should be strong with an overall appearance of good health. Request to see the records of the breeding stock which you want to purchase. The growth potential of your kids will depend on the nature and quality of the parent stock. Thus, it is of great importance to buy a good goat breeding stock from reliable goat farmers. The goat farming business plan should take into consideration the cost of buying the breeding stock. **Info from Start-up Biz**

POULTRY: THE BROILER CYCLE AND REARING TECHNIQUES

Broilers are reared in cycles. A cycle stretches from the preparation of the houses for placement of the chicks, through rearing and slaughtering to removal of all the remains of the previous rearing period. Exactly where the cut-off point between two cycles lie, is rather theoretical but it is generally accepted as when the last marketable chicken is removed.

Preparation of the houses

The first step in rearing chickens is to prepare the houses correctly and have them ready for the arrival of the day-old chicks. The day-old chicks are small and literally have to be looked after like babies. It is therefore extremely important that everything in the house is ready prior to their arrival. The logical order in which a house is prepared is as follows:

Hygiene

If a house had chickens in it previously, a washing and disinfection programme must be implemented.

Maintenance

Maintenance of equipment, e.g. electric motors and feeding equipment must be completed and everything must be in good working order.

Feeding and water bowls

The normal feeding dishes, e.g. mechanical chain and pan feeders, are placed right onto the cement floor and the sawdust is then pushed up against the bowls, doing this means the small chicks do not have to struggle to feed. Chick feeding trays or other suitable containers are put out.

Broiler starter crumbs is the type of feed that is used and it is put out in all the containers. Where mechanical chain or pan feeders are used, they are switched on and filled to about three-quarters of their depth with feed.

Clean water is provided in the bell or nipple drinkers as well as the font or satellite water bowls. If spot brooding is used, the feeders and water bowls must not be placed directly under the heat source.

Brooding area preparation

The brooding area can be prepared and can be restricted. The heating system should be turned on at least 24 hours before the arrival of the chicks. This gives enough time for the floor, floor covering and steel in the house to build up enough heat, so that the chickens do not get cold on arrival.

Fumigation

Fumigation should be carried out even if the house did not have any chickens in it previously. The reason for this is that the material used as the floor covering must also be disinfected.

Foot baths

Foot baths containing a suitable disinfectant are placed at the entrance to each house. All staff must now wear gumboots and walk through the foot bath before they may enter the houses. This prevents infected material from being carried into the houses.

Chicken placement and quality

When the chicks arrive they must be put out as quickly as possible. The chicken containers full of chicks must be put down away from the brooders before release.

The reason for this is that the chickens could get too hot and are unable to move away while in the containers. When the chicks are taken out of the containers and placed on the floor, they are put under the brooders.

Healthy, strong chickens will not immediately start running around and will not charge at the water bowls. If it does happen that the chicks charge at the water bowls, it is a sign of dehydration prior to arrival, care must then be taken to ensure that they do not drown and the wet chicks must be put under the brooders to dry, stay with the chicks until they are no longer so thirsty.

Chicken quality

It is important that the quality of the chickens is evaluated right upon arrival. First weigh a number of crates with their chicken to determine and record the average day-old mass. The recommended average mass at one day old is 40 grams. Then take a few crates and weigh each chicken in the crate separately to record the mass distribution. Notice should also be taken of aspects such as leg problems, whether the chickens are dry (wet chickens are not good) and also deformed chickens.

By regularly keeping these types of records and observations the quality of chickens from a particular supplier can be well evaluated. If a supplier regularly delivers poor quality chickens the best is to change suppliers.

Weak chickens, chickens with leg problems and very small chickens are regularly taken out and killed. At seven days a thorough inspection is made to ensure that all chickens with poor growth potential have been removed. Do not keep separate camps, so-called hospital camps, in which the raise weak chicks. These camps are a potential source for the build-up of diseases. **By Dr J A Cilliers**

The TT3.45 has all the features you expect from a 31kW tractor.

NEW HOLLAND SMALL TRACTOR SERIES

NEW HOLLAND
WITH YOU, SEASON AFTER SEASON

All the TT-models are available in 2wd and 4wd. The TD95 is only available in 4wd. All models have a certified ROPS and canopy as standard equipment, making it safe and comfortable for the operator.

To meet the requirements of today's demanding operators, the TT3 series offers modern styling, excellent operator comfort, unsurpassed performance in its segment as well as value and versatility for New Holland customers. It is equipped with the famous New Holland "cat eye" lights and a single engine hood that makes maintenance easy.

New LED lights have recently been added for better visibility. The seat has integrated suspension and extra cushioning for ultimate comfort. All key controls are placed within easy reach for productive ergonomic operation and the semi-flat platform offers more space and greater operator comfort. The lift capacity is a whopping 1,800 kg which is equipped with the "Lift-O-Matic" automatic lift system.

These specifications make heavy tasks easy and convenient for the operator. With the new round mudguards, it is convenient to use these units in orchards because the branches do not get caught on the normal mudguards but slide over. Thus, a more versatile tractor for more tasks on the farm. Two models of the TT3 series are available, namely the TT3.45 with 31 kW and the TT3.50 with 37 kW.

The TT Series, however, needs no introduction and is sought after among farmers. There are 3 models, namely the TT55 (40kW), TT65 (48kW) and the sought after TT75 (55kW). These units have recently been upgraded with new LED lights for better visibility and the platform has been raised so that it is now a semi-platform for better operator comfort. The TT55 and TT65 are powered by a 3-cylinder turbo engine with a capacity of 2.9 L. The TT75, however, has a 4-cylinder Turbo engine of 3.9 L which makes this tractor extremely strong in its class.

This engine gives good fuel consumption with the power delivery for any task. The TT75 also has 2 full hydraulic couplings for versatility of more tasks. The smaller 2 units have the normal 8x2 transmission but the TT75 is introduced with the 12x3 transmission. This gives you a speed range of 0.97 km/h to 30.56 km/h where the normal 8x2 starts at 2.98 km/h. Telematics was also added as an option on this series in 2024.

The EasyLink CM100 modem can be added from the factory or later to any TT tractor. It monitors many parameters of the tractor, such as Location, Vehicle Status, Last Position, Warnings, "Geofence", Movement for the day and Vehicle Parameter Report. All of this can be monitored on the free FieldOps application.

The TT4 series has 2 models, namely the TT4.80 (60 kW) and TT4.90 (66 kW). Both are available in the mechanical or Power shuttle 12x12 transmission. Both come standard to Southern Africa with the powershift transmission, but we add the 20x20 creeper transmission with 0.3 km/h for the TT4.90.

Lift capacity is 2.5 tonnes for the 80 and 3.5 tonnes for the 90. This range has a full platform which makes it extremely comfortable for the operator with plenty of space. The "cat eye" lights are standard with the new LED lights that have been added. A straight rear axle makes it more suitable for haulage applications. 540 and 540E power take-off (PTO) speeds are also standard on the range and are useful when spraying. This makes the application more fuel efficient because the 540 speed is obtained at lower rpm.

The TD95 straddle is a 72 kW tractor that have stood the tests of time. Its long wheelbase of 2275 mm and low centre of gravity makes it ideal for any task on the farm. It come standard with a 12x12 Synchro shuttle transmission but the 20x12 creeper transmission with 0.25 km/h is available on request from the factory. 540 and 540E power take-off (PTO) speeds are also standard, but a 1000 rpm speed is optional.

For more information visit www.newholland.com/za or contact Jaco du Preez on 0825248898.

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Maximum versatility. Superior comfort. Proven quality and reliability.
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TT3 Range:
TT3.45 - 31 kW, TT3.50 – 37 kW with modern styling and 1,800 kg lift capacity.

TT Range:
TT55 - 40 kW & TT65 – 48 kW with 3-cylinder turbo engine and the TT75 - 55 kW with a 4-cylinder turbo engine and 2 full hydraulic remotes.

TT4 Range:
TT4.80 - 60 kW & TT4.90 - 66 kW with the modern styling and light array that is unique to New Holland. This platform tractor has a practical ergonomic control layout that ensures operator comfort and efficiency. With a heavy-duty rear axle as well, these units are the ideal choice for a wide range of applications.

TD Range:
The TD95 (72 kW, 4wd only) is equipped with the 12x12, 30 kph Synchro Shuttle™ transmission, optionally it can be fitted with the 20x12 creeper transmission, ideal for precision, very low speed applications.

Tindrum 25/023E

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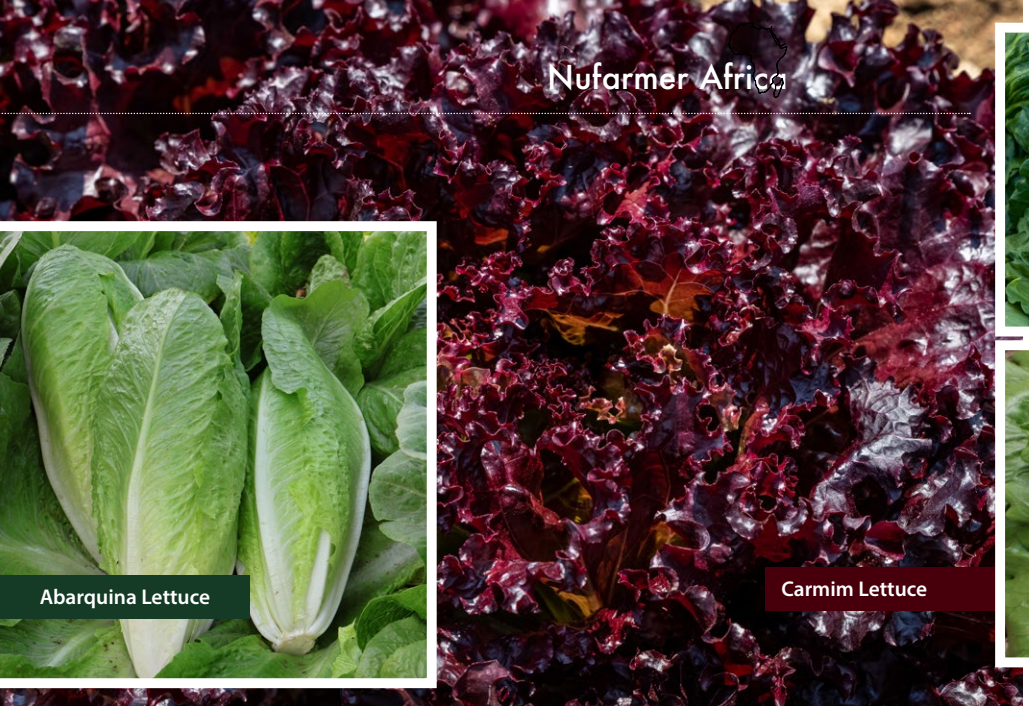

Abarquina Lettuce

Carmim Lettuce

SV 7735 Lettuce

Meridian Lettuce

SAKATA'S EXCITING NEW LETTUCE RANGE

there is a variety for every lettuce producer

Sakata Seed Southern Africa, a renowned leader in the vegetable seed industry, continues to set the benchmark in quality, reliability and service. With a strong presence in key vegetable segments such as squash, broccoli and cabbage, Sakata is now expanding its lettuce range to provide growers with top varieties tailored for success.

Recognizing the growing demand for high quality lettuce, Sakata offers an extensive selection that includes iceberg, butter, romaine, green leaf and red leaf varieties. Each variety has been carefully trialed and developed to thrive in the African climate, ensuring resilience against disease pressures and delivering outstanding yields.

Sakata's commitment to excellence means growers can rely on industry-leading varieties that meet market demands while benefiting from expert support. Whether producing for fresh markets or processing needs, growers can trust Sakata's lettuce range to deliver exceptional results.

With a reputation built on innovation and expertise, Sakata Seed Southern Africa continues to provide solutions that empower farmers and enhance agricultural productivity. Some of the new and exciting editions include:

Meridian
A versatile variety that performs across climates in the early to late summer plantings. Meridian forms well-filled uniform heads with good weight. The heads have a nice shape, short core and are easy to cut and clean. Plants are compact, resist bolting and has high resistance to Downy mildew and intermediate resistance to Fusarium race 1-3

Havasu
A large heading iceberg variety suited for spring, summer and early autumn production. The variety delivers uniform heads, with flat bottoms that can be used for the pre-pack market, but large enough to suit the box market as well. Havasu is very slow to bolt.

SV 7735
Suitable for spring, summer and early autumn production. The heads have a flat neat shape with a small core. Tipburn tolerance in this variety is excellent. The heads are medium to large in size and can be used for pre-packing as well as for the box market. The uniformity of SV 7735 makes it easier for growers in the field, especially when it comes to harvesting the product.

Monterra
A vibrant, green Batavia lettuce variety, characterised by its broad, dark green leaves with frilled edges. These leaves are curved, thick and have a slightly savoyed texture. Monterra's medium to large size provides a high leaf count, making it an excellent choice for growers. It is notably slow to bolt and maintains well in the field, ensuring a reliable harvest. Suitable for year-round production in mild climates.

Carmim
A triple red batavia type lettuce that forms part of Sakata's lettuce range. The significant glossy burgundy coloured leaves make this variety quite unique. Carmim has a lovely texture and is a vigorous grower. The deep red colour creates the perfect contrast needed in pre-pack lettuce end-products. Suitable for year-round production in mild climatic conditions.

Abarquina
A tall romaine lettuce variety characterized by its dark green colour, straight ribs and compact heads. Abarquina is a very vigorous grower, making it ideal for winter slot production in the prepack and processing markets. It has resistance to Downy mildew races 1 to 16, 21, and 23.

Explore Sakata's complete lettuce range today at www.sakata.co.za and experience the quality and reliability that Sakata is known for.

Monterra Lettuce

Havasu Lettuce

A DEMAND FOR MORE VEGETABLES — WHEN TO GROW

Vegetables form a vital part of the human diet because they are the source of many vitamins, minerals and proteins. In almost all developing countries, the consumption of vegetables is far from sufficient.

Vitamin A is one of the nutrients which is normally lacking in our diets and therefore dark-green leafy and orange vegetables should be consumed on a regular base.

The United Nations Food and Agricultural Organization (FAO) recommends an intake of 200g vegetables per person each day, or 73kg a year, to ensure adequate nutrient supply.

The farmer should practice correct cultivation (from the seedling stage), and sound management principles in order to produce healthy vegetable plants that are able to withstand various adverse field conditions.

When does production become profitable?

If, for example, onions are grown on 1ha of land, a yield of 4 000 bags of 10kg each of is possible. At R22 per 10 kg bag (R2,20/kg), this can provide a gross income of R88 000.

Input cost at present is R1/kg, so the profit is R1,20/kg. If the farmer is only paid R16 a bag, his profit is 60c/kg. If onions are grown on 10ha, however, and are successfully marketed, the income derived could be 10 times more. In other words, the smaller your farm, the smaller your profit will be. However, larger infrastructure must be available to Increase production.

It's essential to keep track of input costs: the price of fertiliser, for example, has increased by 200% during 2010 - 2011.

What to plant

It is important to make an informed choice when deciding which crops to grow. Producers should make sure that they know all that is required to grow a specific crop. When planning production for the following growing season, therefore, the farmer should consider additional information for the various crops.

Market distance.

Infrastructure can either make or break a sustainable vegetable production unit. Transport is essential to obtain resources (on and off the farm) therefore distance to markets is an important factor. Also, tractors are needed to cultivate large tracts of land. Irrigation systems must be suited to the soil and crops produced, or the yield will be greatly reduced. The system must be manageable and well maintained. You will also need packing sheds or stores if a high-quality product is to be grown — and achieve a high price. Vegetable production is expensive with high input and labour costs and require optimum yield and quality to be produced profitably. Costs/financial resources are directly related to all of the above factors.

Need for vegetables in SA

There is a need for fresh vegetables that can be marketed on a more commercial scale. Establish whether the area to be farmed is suitable, in terms of climate and soil, for vegetable production. Sandy loam, and clay loam soils are best to produce vegetables. Plain, sandy soils can be problematic because of excessive drainage of water and nutrients as well as the presence of nematodes.

This, in turn, can lead to stress of the crops and result in smaller yields. It is important to analyse the nutrient status of the soil regularly. Even more important than this is the quality of the water available on the farm. The Institute for Soil, Climate and Water (ISC W) at the Agricultural Research Council, is available to help you when it comes to soil and water analysis.

After soil analysis has been done, the correct fertilisers have to be applied, in accurate quantities. This should ensure that the farm is run more economically. If the status of the soil is unknown, over-fertilising could cost a great deal of money. Poor quality water will affect soil quality — and the resulting crop — negatively.

If a borehole is the only available water source and it doesn't supply water at a rate of at least 1 litre/second, you cannot grow vegetables.

The use of municipal water can be expensive for vegetable production, as the quantity of water needed to grow vegetables at an optimum yield can be very high; 15mm — 20mm of irrigation is needed once a week.

Vegetables cultivated on 1 000m2 (which is very small scale), require 15 000 litres (or 15kL to 20kL) a week; for a crop that grows for 90 days, that amounts to 192 000 — 262 000 litres (or 192 — 262 kL) per 1 000 m2.

To irrigate 1ha of land, 1 920 — 2 620kL litres of water will be required. For example, the cost per cubic litre of water ranges between R4,27 and R14,41 in Pretoria and R4,55 to R23,45 in Cape Town. The economics of the use of municipal water for irrigation should thus be determined beforehand.

Wage up the above, get in touch with a seed supplier and talk to the ARC Institute for Soil, Climate and Water (ISCW) at Roodeplaat, Pretoria to assist you in making the right decision.

Source: ARC ISCW Tel: 012 310 2500

An efficient cow. Note the size of the calf at 6 months of age in relation to the cow

BREEDING A PROFITABLE WEANER CALF

BY FRANS JORDAAN, PROF M SCHOLTZ & DR BEN GREYLING
FRANSJ@ARC.AGRIC.ZA
ANIMAL PRODUCTION: IRENE

The red meat industry in South Africa is still under pressure and unfortunately most of the challenges are beyond the producer's control. During the drought of the 2015/2016 summer season, producers were forced to reduce their herd numbers. Since then, herds are again in a build-up phase, but other negative influences also put pressure on herds' recovery phase, such as livestock theft, low rainfall in certain areas with consequently less grazing capacity.

Furthermore, high input costs and the sporadic outbreak of foot and mouth cases do not count in the farmer's favor either. RMIS ("Red Meat Industry Services") December 2024 report indicates that South Africa now produces more red meat than local demand and South Africa does export meat, but South Africa's most important export markets are Kuwait, Jordan and the UAE and these markets also pay a relatively low value for exports of fresh or chilled deboned meat.

Although global demand for beef has increased and is mainly driven by China and the US, in 2023 Brazil supplied almost half of China's beef imports.

The primary market for the majority of commercial cattle farmers in South Africa is feedlots and the product is a weaned calf that must meet certain requirements. The calf must be able to grow at an acceptable rate and efficiently convert feed into kilograms of live weight. The feedlot aims to double the calf's weight during a +/- 4 month feeding period.

Unfortunately, the market presents many challenges and the weanling price has stagnated since April 2023. At the current price of an average of R 32-50 (RPO) per kilogram for a bull calf, this is approximately R 4-00 per kilogram lower than less than a year ago. This gives rise to the tendency to try to wean as heavy a calf as possible to increase your income, but the ideal is rather to wean an optimum weight calf and will be discussed in more detail in the article.

Cow productivity is usually associated with the frame size of a cow. Larger cows tend to produce larger calves at birth as well as a heavier calf at weaning. But is bigger always the more profitable option in a weaner production system? Certainly, other factors that play an important role must also be considered. The input cost versus output should form the basis of a calf production system aimed at the feedlot market.

Heavier animals are usually associated with a larger frame, as mentioned, which leads to an increase in maintenance requirements due to a higher milk production, high visceral organ weight and an increased feed intake to maintain high production. These animals are usually higher in body weight with a lower fat percentage compared to smaller framed animals which are associated with lower maintenance requirements and lower milk production.

Small-framed animals have a lower visceral organ weight, low body weight and a higher fat percentage. These animals have a lower feed intake than their larger frame counterparts. Smaller framed animals will typically be those that reach maturity at an earlier stage in their lives than large framed breeds.

These are typical of two extreme frame sizes that are usually breed specific, but animals within the same breed can also vary significantly in frame size. The environment and market requirements are determining factors for frame type. Cattle farming in South Africa is mostly extensive and medium frame animals are more adaptable to our environment, but may vary depending on the availability of planted pasture, crop residues etc.

Breeding objectives to improve the efficiency of beef production

It is important to maintain or increase production per unit (calf growth and/or milk production of the cow) to enable the commercial beef producer to ensure sustainability of his business or increased profitability. Due to the important role of the cow-calf phase in the production of beef, it makes sense to concentrate on this phase in order to increase the efficiency of production. Sixty to seventy percent of the cost of producing beef is attributed to feed costs and the feed efficiency of bulls and cows plays an important role here.

Feed efficiency

According to literature, the genetic variation for maintenance linked to energy requirements is moderate to high and this highlights the value of genetic selection to improve feed efficiency. Relevant research in this regard is currently being undertaken by all the role players in South Africa. Young bulls are tested in centralized bull testing centers of the Agricultural Research Council to identify the most efficient young bulls that convert feed into meat. Feed conversion ratio has always been seen as an indicator of feed efficiency and is a ratio that indicates the amount of kilogram of feed that the animal needs to put on one kilogram of live weight. Unfortunately, this ratio does not serve as an ideal trait for selection purposes; due to the combination of two characteristics, namely feed intake and growth rate. If

used as a selection criteria, the outcome will always be selection for growth as well as an increase in body weight and/or frame size.

When testing animals for residual feed intake these two traits can be separated scientifically and the most efficient animals in relation to feed intake can be identified independently of growth. It makes sense to select for superior bulls because of the great genetic influence of the bull in a cow herd. Also keep in mind if the female offspring of these bulls are kept as replacement heifers, genetic improvement can then be established within the herd by improving the feed efficiency of the cow herd. Cow weight, or mature weight, is an indication of the cow's frame type and the calf's weaning weight are the two factors that must be kept in mind by the commercial producer to evaluate cow efficiency. That is why it is important to also weigh your cows at weaning time so that each cow's efficiency can be evaluated.

Cow efficiency

Numerous methods have been investigated in the past to evaluate cow efficiency. Kilogram calf weaned per cow exposed is a combination of production and fertility of the cow, to produce. Another option is kilograms of calf weaned per cow exposed per kilogram of cow weight which is the well-known cow-calf ratio used by farmers to evaluate their cows. The general benchmark is usually a cow that can wean at least 45% - 50% of her own weight, but the ratio usually favors smaller cows. Keep in mind that 50% of a 300 kilogram small frame cow will produce a 150 kilogram calf that may not be acceptable for the feedlot market. A medium frame cow of 500 - 550 kg should wean a calf of 220 - 240 kg. Generally, feedlot agents will see weaning weight as an indicator of potential growth in the feedlot.

The option of kilogram of calf weaned per cow exposed per unit of feed required, (expressed as livestock unit) allows for feed efficiency as well as the production capacity and fertility of the cow. By the way, in South Africa a livestock unit (LSU) is defined as the equivalent of an ox with a weight of 450 kg and a weight gain of 500 g per day on natural pasture with an average digestible energy concentration of 55%.

Fertility

Improvement in fertility, which is indicated by the calving percentage, needs to be increased from the current 62% of the commercial sector. The general objective should be an increased weaner calf production without an increase in mature cow weight. This can be achieved by either using crossbreeding or an increase in the milk production of the mother. The ideal is to produce more from less to improve the efficiency of beef production.

What is an ideal weaning weight for the feedlot?

According to a prominent and successful Bonsmara breeder, the goal of producing calves between 35 and 37 kilograms at birth with an average growth of 1 kilogram per day until weaning will ensure a 240 kilogram weaner calf, which is in demand at feedlots. This can be a benchmark for beef farmers who farm with medium frame animals. He also calculates profitability as the number of calves weaned from the number of cows mated during the breeding season, or otherwise expressed as the weaning percentage.

For the commercial producer, the goal is to produce the desired weaner calf for the feedlot and to satisfy his market by succeeding. An average weanling weight of 235 kilograms will enable the feedlot to add an additional 200 kilograms of meat over a period of 3-4 months and ensure a profitable calf. This implies that the most profitable calf is not always the heaviest calf at weaning, but rather an optimal weaning weight acceptable to market requirements. According to statistics from a well-known Bloemfontein auctioneer, weaner calf prices of R36-00 per kilogram were paid for calves 180 kg - 240 kg. But calves between 250 kg - 300 kg are penalized and the average price was R 29-00 per kilogram. And that's another reason why a maximum weaning weight is not so ideal. If replacement heifers are withheld from these heavy calves, this can create further problems in herds with females that are bred even larger.

Management

Management is an environmental factor that has a major influence on the efficiency of cow-calf production. The need is for replacement heifers of good quality genetics to maintain production of the cow herd and also to improve production of the herd. Older cows become less efficient with a decrease in milk production and must be replaced with good quality heifers. Teeth of older cows start to deteriorate and lead to a lower feed intake which has a detrimental effect on their body condition, milk production and they wean below average calves. The average weaning index over all her calves is of value here in herd context. As already mentioned, the production environment will be the determining factor that will guide breeders to ensure the most adapted frame type.

Manage the condition of cows before mating as well as before calving to ensure higher pregnancy rates and a stronger calf at birth. Overfeeding will also increase the birth weights of calves and this should be avoided. The production environment will determine the optimum cow size and not the other way around. If the breeder tries to create an environment for the optimum cow through supplementary feeding, this is not a sustainable environment for the cow herd and can affect the sustainability of his production system. Always bear in mind that the easier the cow gives birth, the faster and shorter her recovery period after birth will be, and as a result it will be easier to get her pregnant again the following breeding season.

Genetic selection

The logical method to ensure genetic improvement is to always improve on the current herd sire by evaluating BLUP breeding values and purchasing registered bulls.

The use of a terminal bull (with extreme breeding values on growth) is another option to increase growth in the herd but all offspring of these bulls must be slaughtered and the females must not be kept back as replacement heifers. The important reason for this is that all growth characteristics are genetically highly correlated with each other and an increase in adult weight can also mean heavier calves at birth.

Summary

Cow efficiency is a combination of components:

- Fertility is the most important trait to ensure that cows produce at least one calf per year.
- Growth ability of the calf to ensure a calf that is sought after at the feedlot
- Maternal value or milk production of the cow to help the calf reach the potential weaning weight
- Cow weight, which is an indication of her frame type, must be limited
- Birth weight of the calf to limit calving problems

Some service providers calculate selection indices, which are a combination of all the above characteristics into one value, known as a cow value. BLUP breeding values are valuable genetic selection tools. Breeding values represent the genetic merit of an animal and must be considered for mating the most suitable bull with specific cows to ensure genetically improved offspring.

Dr Gordon Dickerson previously stated: "On a farm, an efficient cow herd exhibits early sexual maturity, a high reproductive rate, low levels of calving problems, longevity, minimum maintenance requirements, and the ability to convert available energy into the highest possible kilograms weaned calves".

VEGETABLE GROWING AND PRODUCTION

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The system must be manageable and well maintained. You will also need packing sheds or stores if a high-quality product is to be grown — and achieve a high price. Vegetable production is expensive with high input and labour costs and require optimum yield and quality to be produced profitably.

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Even more important than this is the quality of the water available on the farm. The Institute for Soil, Climate and Water (ISC W) at the Agricultural Research Council, is available to help you when it comes to soil and water analysis.

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Source: ARC ISCW Tel: 012 310 2500

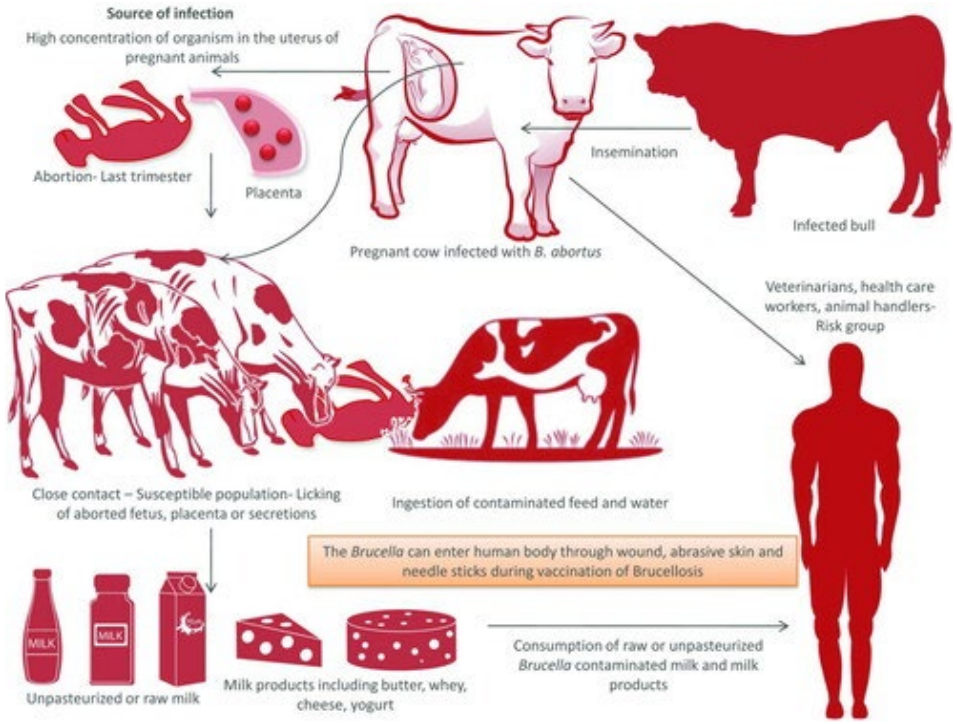
BRUCELLOSIS – MALTA FEVER: DANGEROUS TO ANIMALS AND HUMANS

Brucellosis is a contagious bacterial disease of many species of animals. Unfortunately it can also infect humans so it is known as a zoonotic disease. In South Africa, Brucella abortus infects mainly cattle, and is known as bovine brucellosis, contagious abortion or "besmetlikke misgeboorte". In humans it causes undulant fever. Brucella melitensis infects mainly goats but can infect sheep and cattle.

In humans it is called Malta Fever. The bacteria selects the reproductive organs and is spread mainly when an infected animal is bought onto the farm and aborts or gives birth normally when millions of infected doses of bacteria are shed in the amniotic fluid (vrugwater) or in the afterbirth. These bacteria are ingested by other susceptible animals and they will become infected. The disease can also enter a susceptible animal via the mucous membranes, or passed from dam to offspring during pregnancy.

Both of these diseases are controlled diseases because of their zoonotic potential, and also because of their economic importance (abortions, reduced milk production, increased period between pregnancies and the slaughter of infected animals and the quarantining of infected properties). Brucella canis infects mainly dogs and can infect humans. It is also a controlled disease.

Brucella ovis is the bacteria that are most commonly found in the sheep industry. It is not a controlled disease as it is not of zoonotic importance. However it is of great economic importance as it causes epididymitis in rams and thus infertility. It is therefore important for sheep farmers to only buy in rams that have been tested for fertility and have had negative blood tests for Brucella ovis on a flock basis. Rams should be tested for fertility and B. ovis before the breeding season to ensure optimal conception results. **From a discussion by Dr Faffa Malan.**



Brucellosis – this diagram explains the cycle from animals to humans







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