

PUBLISHED BY THE COMMERCIAL FARMERS UNION OF ZIMBABWE

Agvizim

Volume 1 Number 8

In this Issue:
Origin of the Boran
Hoop Barns for Pigs
Sorghum - A Grain of Hope

AGRIZIM ISSN 2222-1441



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AgriZim

Volume 1 Number 8

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AgriZim



ON THE COVER

An idyllic picnic spot - this picturesque little stream runs through Raintree's property in Umwinsidale, Harare



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QUOTE, UNQUOTE...

"Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field."

- Dwight D Eisenhower

Foreword

Message from the President

The agricultural season held so much potential, but as farmers we all know at potential means nothing if not converted into substance.

In spite of a what appeared to be a promising rain season, the dry spell we encountered in

The dry spell we encountered in February has affected the potential crop and once again our farmers will be unable to produce enough food to feed the nation. The winter crop, especially wheat will also fall far short of our national requirements due to financial and input constraints. The Union is working hand

in hand with ZESA to supply winter crop growers enough electricity to ensure their crop is not affected by outages.

I am also pleased to say that we are a long way down the road in securing terms for our farmers fertilizer requirements. We are working on the price.

Our relationship with all stakeholders regarding agriculture keeps strengthening



February has affected the potential crop.

on a weekly basis, and this gives us great hope of bringing the conflict on agricultural land to a conclusion.

We all know that we are sailing into rough waters. Positive developments are in progress. Please do not abandon the ship.

Deon Theron
President



Accommodation Wanted

We are constantly receiving requests from evicted farmers to search for suitable, reasonably priced, accommodation in the main centres, mainly Harare. Often the farmers have been forced off their farms and out of their homes at very short notice and become refugees with nowhere to go.

We also have a number of farmers who have moved to town who can no longer afford the high rentals being asked, which are often being increased to prices far beyond their means.

Should you know of any suitable accommodation available please let us know so we can keep a record to assist affected farmers.

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In The News

North Korea Begg Food Aid from Zimbabwe

From The Australian

A diplomatic source in South Korea said Africa had become the focus of North Korea's aid efforts, Seoul-based newspaper JoongAng Ilbo reported recently.

It has previously been reported that North Korea instructed its 40 foreign embassies to request food aid. The US and Britain have confirmed requests from Pyongyang for assistance.

mismanagement of the state-directed economy and excessive military spending.

Seoul once gave an annual 400,000 tonnes of rice to its neighbour but this ended in 2008 as relations worsened. International irritation at the communist country's nuclear and missile programs has led to a drop in donations to UN food programs.

The US special representative for North Korea policy, Stephen Bosworth, said last week Washington was assessing the case for a resumption in food aid but stressed the need for monitoring to ensure distribution transparency.



“Now they are begging for food even from the world's poorest countries in Africa such as Zimbabwe, where annual per-capita income is only around US\$200,” the source said.

The North's efforts to grow enough food to feed its populace have been hampered recently by a cold snap and the spread of foot-and-mouth disease from South Korea, which is likely to require culling of livestock.

UN teams have been assessing the state of the foot-and-mouth outbreak.

Despite these problems, food production in the impoverished country increased last year, South Korea's foreign minister said, citing a report by UN food agencies. Kim Sung-hwan said Pyongyang nevertheless stepped up calls for international aid amid shortages caused by

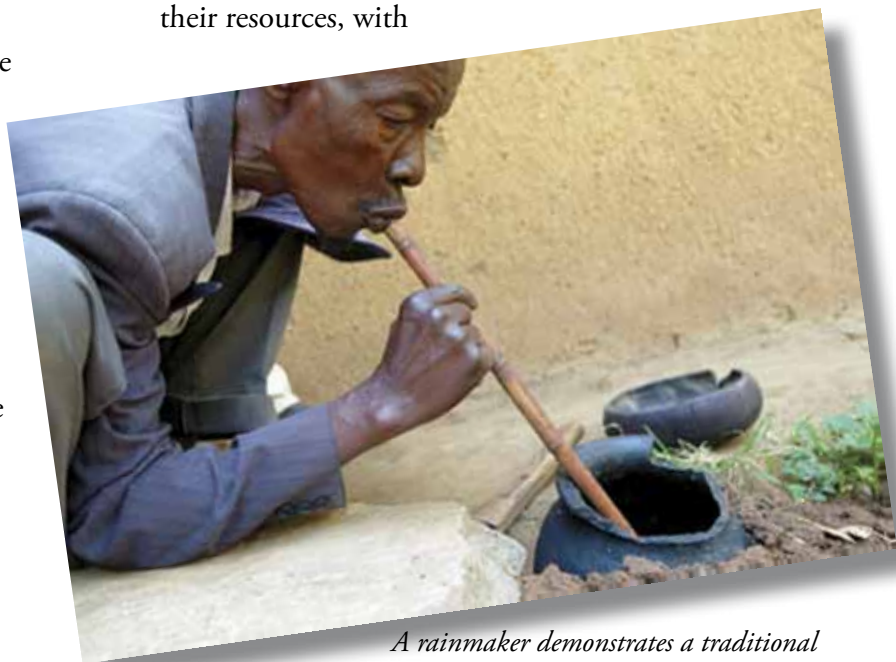
TRADITIONAL KNOWLEDGE

A perfect marriage

From Spore Magazine

The behaviour of ants, bird song and the timing of trees flowering or shedding their leaves – these signs have all played a vital role in helping western Kenya's Nganyi people to advise local communities when it is best to prepare their land and sow their seeds. But recent changes in weather patterns have made it difficult for the Nganyi to make their predictions. A UK-Canadian project is linking the rainmakers with meteorologists to combine their methods in an effort to produce more accurate forecasts.

The two groups meet each season and pool their resources, with



A rainmaker demonstrates a traditional method of weather forecasting.

In The News

the Nganyi using traditional methods to pass on the predictions. The results have been more accurate than those produced by both groups individually.

“I think the two sciences are equally valid. We are marrying our energies to help people better”, said Thomas Onunga, a Nganyi community elder. The project is supported through Climate Change Adaptation in Africa, backed by the UK’s Department for International Development and Canada’s International Development Research Centre.

FARMER INNOVATION

Organic Rice on Saline Soils

In Senegal, women farmers’ group AEV in the Ndiaye Ndiaye valley, 160 km east of Dakar, had long noticed that saline soil was becoming more fertile in places where organic waste had been thrown.



Now, between April and May, they spread household waste including millet bran, groundnut shells and the residue left after threshing on the saline soil where they grow organic rice. Weeds and crop residue are left in the rice fields and worked into the soil with a tractor soon after the first rains.

This project to cultivate rice on restored saline soils is supported by NGOs Agrecol and Green, in Thiès, as part of the Promoting Farmer Experimentation and Innovation in Sahel (ProFEIS) programme. It

has already enabled the women of Ndiaye Ndiaye to reclaim almost 7ha of arable land. Yields have improved, partly due to the use of local rice varieties. The rice harvested is used for household consumption and sold at market. Fatou Senghor, who heads the association of 76 rice farmers, attributes the women’s success to their energy and ability to work together as a team.

SOUTH AFRICA

SA ‘dumping’ GM maize on Africa

SAPA

South Africa has dumped genetically modified (GM) maize on African markets, the African Centre for Biosafety (ACB) has alleged.

The centre claims that South Africa has dumped almost 300 000 metric tons of GM maize on to Kenya, Mozambique and Swaziland in recent months.



This was revealed in its study, “Good neighbour? South Africa forcing GM maize onto African markets and policy makers”, ACB said.

The study contained the first documented cases of commodity exports of genetically modified organism

In The News

(GMOs) from South Africa to the rest of the African continent, it said, describing this as a “a worrying precedent”.

The ACB said that even Kenya, which was strategically important to Africa’s biotech industry, and where most of the GM maize ended up, lacked the capacity to ensure the safe handling and monitoring of such a huge volume.

ACB director Mariam Mayet said as much as 80% of the grain trade in East Africa was informal and undocumented.

“The arrival of 280 000 tons of GM maize into Kenya presents the potential for genetic contamination on an unimaginable scale,” she said.

“These shipments have come at a time when South Africa has experienced its second largest maize harvest on record, at over 13 million tons.”

She said the latest available figures from the United Nations indicated that improved maize production in Kenya and Mozambique would result in increased food security in the two countries in the coming year.

“In both cases, analysts have stated that any remaining shortages can be plugged by inter-regional trade and government policies, without the need to impose GMOs on countries that have no infrastructure to safely handle them.”

She said none of the three countries had functional biosafety legislation in place, let alone monitoring capacities.



“Swaziland has already refused entry to two shipments of GM maize this year, but records on the department of agriculture’s website indicate that the South African response was to merely re-issue the permits to agribusiness, showing a flagrant disregard to its neighbour’s right to say no.”

Mayet said her organisation condemned “the underhand tactics and dubious motives” behind these GMO shipments.

ACB demanded that the South African GMO authorities conduct their affairs transparently, in a way that respected the country’s neighbours “in keeping with the original intentions of the Cartagena Protocol on Biosafety”.





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- Recognition and extension of Property Rights and security of tenure to all farmers.

We are actively working:

- To alleviate the situation of our poor elderly through ZEST (Zimbabwe Elderly Support Trust),
- To re-establish direct contact with all former CFU members and build a strong, unified and well informed membership,
 - Compiling business and consultant data bases,
- Looking out for projects and opportunities that can engage members skills constructively,
 - Advising members on compensation claims.

**Contact Shayne or Ben: arac@cfuzim.org
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Ranching

Origin of the Boran

Background to some of the indigenous Breeds of Eastern and Southern Africa

Eastern and Southern Africa has a wide range of indigenous cattle breeds that are genetically distant and distinct from other *Bos taurus* and *B. indicus* breeds. These breeds, having evolved under tropical and sub-tropical environments, offer a unique source of genetic material. DNA studies show that portion of *B. indicus* genetics decreases while that of *B. taurus* increases as one moves south

along the eastern coast of Africa and westwards into the main continent. The Boran, originating in north east Africa, is predominantly an *indicine* breed, while the three breeds of cattle indigenous to Zimbabwe, all classified as Sanga cattle, (Mashona, Nguni and Tuli) are predominantly *taurine*.

Early domestication of cattle

Early archaeological evidence suggests two centres for domestication of cattle. The hump-less taurine cattle were domesticated 8,000 years ago in what is now Turkey and about 6,000 years ago the humped zebu cattle were domesticated in the Indus Valley, Pakistan.



Introduction of European Bos Taurus cattle into Africa

Rock art and archaeological evidence in the Sahara show that the earliest cattle were hump-less *Bos Taurus*. This led researchers to conclude that domesticated cattle appeared in Africa via the Isthmus of Suez, perhaps as much as 7,800 years ago, when domesticated sheep and goats arrived from the Near East. It is considered that the first introduction of cattle was that of the hump-less taurine Hamitic Longhorns (*Bos Taurus*) and they arrived in the Nile Delta around 6000BC, while the second introduction, that of the taurine Shorthorns (*B Taurus*)

supposedly occurred 2750-2500BC (Epstein 1971).

Domestication of cattle in Africa

In the 1980s, archaeologists Fred Wendorf of Southern Methodist University in Dallas, Texas and Romuald Schild of the Polish Academy of Sciences in Warsaw introduced a controversial theory: The North African subspecies of wild cattle or aurochs, *Bos primigenius*, may have undergone an indigenous African domestication around 10,000 years ago, possibly in the northeast of the continent. Many thought that their archaeological evidence – poorly preserved bones – was ambiguous and the

idea languished. In the 1990s, however, further analysis of bone morphology and a series of findings in cattle genetics began to make an African domestication seem more plausible.

The researchers used a statistical technique called principle component analysis to determine the major genetic trends within current cattle populations. They found three major sources, two of which matched the genetic makeup of the cattle known to have been domesticated outside Africa. The third component featured neither zebu nor the Near East's taurine influence. A team of researchers led by Olivier Hanotte have been searching for the origin and DNA composition of African cattle breeds. Hanottes team suspect that it represents a unique domestication of native wild cattle in Africa. Because thousands of years ago there were no wild cattle in this region, they must have been domesticated elsewhere. Based on analysis of genetic data, Hanotte's team concludes that the centre of this domestication was likely in northeastern Africa; Archaeological evidence supports the idea that wild and later domesticated cattle roamed this region. Humans migrating south then herded the domesticated cows through East Africa with them to their current locations.

Cross-breeding in Africa

Since their arrival in Africa, extensive crossbreeding has evidently occurred between Zebu and taurine cattle populations. For example, the sanga breeds of east and southern Africa are classified as *B. Taurus* x *B. indicus* crossbreeds on the basis of the situation or size of hump, the

Continued on page 11

GENETIC MAKE-UP OF THE BORAN

Through DNA sampling Hanotte et al have analyzed the genetic make-up of the Boran and it consists of the following genetic proportions:

species now provide most of the world's food.

75% of all known food crops have disappeared in the past century.

20% of known livestock



The Boran developed in eastern Africa and the main Boran hotspot was the Borana plateau in southern Ethiopia. That was the point where all the different breeds migrated through to their various destinations in Africa.

- European Bos Taurus
- 24%
- Bos Indicus
- 64%
- African Bos Taurus
- 12%

The Boran developed in eastern Africa and the main Boran hotspot was the Borana plateau in southern Ethiopia. That was the point where all the different breeds migrated through to their various destinations in Africa.

The Boran developed into the dominate breed of eastern Africa and especially in Kenya, where the Kenyan Boran Cattle Breeders Society (BCBS) have bred the "Improved Boran" since the turn of the century.

KEY FIGURES

12 crops and 14 animal

breeds are now classified as being at risk. 9% are reported extinct.

20% of rangeland is estimated to be degraded through over grazing and over harvesting.

Following an extensive review of comparative breed evaluation studies in eastern and southern Africa, Hetzel (1998) found that the indigenous breeds were highly productive, largely due to high reproductive and survival rates. The result of this study stimulated the widespread dissemination of African cattle genetic material (predominantly Boran from Kenya and Tuli from Zimbabwe) firstly to Australia, but subsequently, north and South America. The dissemination of genetic material being greatly facilitated by improvements in disease control.

A Brief History of the Boran Breed of Cattle in Zimbabwe

Boran cattle were introduced into Zimbabwe in 1993 via an embryo transfer program. Six hundred embryos were imported from Kenya by Forrester Estates which resulted in a little less than three hundred embryo transfer calves being successfully raised. Since then this herd has remained closed representing a unique source of genetics. The Hook Boran Stud was established in 2006 with the purchase of thirty cows from the Forrester Boran Stud.

In 2009 the president and senior breed inspector from South Africa inspected both the Forrester and Hook Boran Stud Heard, where 35 cows from the Forrester Stud and 13 cows from the Hook Stud were identified as “being of an elite standard”, of which there are only 500 left in the world today.

A sad fact:

20% of known livestock breeds are now classified as being at risk. 9% are reported extinct.

20% of rangeland is estimated to be degraded through over grazing and over harvesting.

The Boran breed of cattle has many important qualities including resistance to disease, tolerance to internal and external parasites, proven fertility under harsh conditions and a strong herding instinct. The herding instincts have been nurtured over 3000 years of living with pastoralist people and having to defend themselves against wild animals. Given the current farming environment in Zimbabwe of interspersed cropping and grazing lands, the herding instinct of the Boran is very valuable in keeping animals out of crop plantations. Boran, have also adapted to being kraaled at night and have a large gut capacity. This capacity, coupled with their tolerance to high temperatures, enables them to graze and fill their stomachs through the heat of the day when many other breeds would



A huge gut capacity, coupled with a tolerance to high temperatures, enables Boran to graze and fill their stomachs through the heat of the day when many other breeds would be resting. This valuable asset enables them to maintain good condition and produce a calf annually.



The Boran breed of cattle has many important qualities including resistance to disease, tolerance to internal and external parasites, proven fertility under harsh conditions and a strong herding instinct.

be resting. This valuable asset enables Boran cattle to maintain good condition and produce a calf annually.

**Watch this space for next month's magazine for more on the Boran.*



Continued from page 9

horn size, the cranial or body conformation. In some areas, *B. indicus* have been steadily and nearly completely replacing *B. Taurus* populations.

Up to now, the substantial zebu background present in most African cattle has prevented unravelling the pattern of earlier *B. Taurus* movements within Africa. Archaeological evidence suggest the eastern Sahara as a putative centre for the earliest development of African pastoralism with gradually more recent dates for the advent of herding as cattle move west across the once – fertile Sahara, or south following an East African route.

The pattern and the chronology of subsequent domestic cattle dispersal within the continent are also unclear. The origin and history of early dispersion of African pastoralism westward and southward in the continent remain largely unknown, as does the pattern of introgression of *B. indicus*, which is known to have influenced the majority of cattle populations in Africa.

The history of African pastoralism explains the contemporary genetic composition of African cattle. Domesticated within the continent but genetically influenced by centres of cattle domestication in the Near East and the Indus Valley, the modern African cattle breeds represent a unique genetic resource at a juncture when there is an urgent need to improve livestock productivity for the benefit of the present and future generations.

To summarize:

Cattle were domesticated in 3 parts of the world:

- *Bos Indicus* (Zebu cattle)

domesticated in the Indus Valley (Pakistan) 4000BC

- European *Bos Taurus* domesticated in Eastern Europe 6000 BC

- African *Bos Taurus* domesticated in the eastern Sub Saharan area 8000 BC

Cattle were introduced into Africa:

- European *Bos Taurus* – The first introduction was the hump less taurine Hamitic Longhorns (*Bos Taurus*) and they arrived in the Nile Delta

around 6000 BC, the second introduction, that of the taurine Shorthorns (*B. Taurus*) supposedly occurred about 2750 – 2500 BC

- *Bos Indicus* – The first introduction of the humped zebu *Bos Indicus* cattle was early as 2000 – 1788 BC; the second introduction, associated with the Arab invasion of Africa, occurred from about 699 AD

- African *Bos Taurus* – Domesticated in Africa.



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Hoop Barns For Pigs



Searching for Alternatives

As profit margins narrow, pork producers are on the lookout for ways to cut costs while providing a healthy environment for their swine. Since the mid-1990s, hoop hog barns have become an increasingly popular alternative for swine production. The tent-like, low-cost buildings are versatile and easy to assemble. The structures rely on deep bedding and natural airflow.

In 1997, the Leopold Center for Sustainable Agriculture formed an interdisciplinary group of Iowa State University scientists to conduct research on hoop production facilities for swine. This “Alternative Swine Production System Initiative Team” quickly became known as the “Hoop Group.”

From 1997 through 2002, the Center provided

the primary funding. Additional support came from the Iowa Pork Producers Association and the Iowa Agricultural and Home Economics Experiment Station. In 2002, the U.S. Department of Agriculture awarded a grant so the ISU hoop research team could continue its work.

What is a hoop barn?

A hoop barn consists of 4-foot-high sidewalls fitted with steel tubular arches covered with an opaque UV-resistant polypropylene tarp. Most of the floor area inside the hoop is bedded with cornstalks or other crop residues. The remaining floor is a concrete slab where feeders and waterers are located. Finishing pigs typically are housed in groups ranging from 75 to 250 head, with each building holding one group of pigs. Occasionally the building is divided lengthwise

to accommodate two groups. Sows also can be housed in hoop barns.

Research Projects

Funds were used to construct a side-by-side comparison of a confinement system and hoop barns at the ISU Rhodes Research and Demonstration farm near Marshalltown. A modular confinement facility and three hoop structures have been the site of finishing pig trials.

Gestating sow trials have been conducted in hoop structures at the Lauren Christian Swine Research Farm near Atlantic.

Research projects conducted by Hoop Group members are designed to answer questions about pig performance, environmental impacts, odour, the effects of bedding manure compost on soil quality, pork quality, production costs and returns, and producer opinions on hoop production.

Research Results

The Iowa State University Hoop Group is recognized internationally for its leadership in deep-bedded hoop swine production.

Some research findings:

- Hoop pigs grow faster during the summer than confinement pigs, although they grow less efficiently during the winter.

- On an annual basis, there are no major differences in feed intake, growth rate, feed efficiency and mortality between pigs in hoop structures and pigs in confinement systems.

- The annual overall cost of pork production for finishing pigs is similar between hoop and confinement systems.

- Hoop-raised pigs fight less and respond to stress better than confinement pigs.

- The health status of hoop-raised pigs is similar to confinement-raised pigs.

- A May 2001 survey showed there are more than 2,100 hoop structures in Iowa used for swine production by more than 770 producers.

- A survey of consumers in four communities suggests some consumers may be willing to pay more per package for pork chops produced under a system that improves air and water quality.

- A survey of 2,600 stakeholders in the Iowa swine industry showed a belief that hoop production may help solve a variety of problems facing the industry.

- Hoop structures offer a viable system

of swine production and an alternative for producers interested in pursuing specialty or niche markets.

Ongoing Research

While the Hoop Group members have completed several research projects and published their results, other projects continue.

These include:

- Work related to housing gestating sows in bedded hoop barns.

- Developing feed intake, growth and feed efficiency curves for pigs in both hoops and confinement during winter and summer.

- The potential of Echinacea as a feed additive for nursery pigs.

- Feeding oats to finishing pigs in bedded hoop barns.

- Examining various pig densities to determine the optimum square-footage allowance per pig. • An in-depth analysis of gas emissions and air quality of deep-bedded hoop barns.

- A case study with Niman Ranch Natural Pork Company.

off the mark .com by Mark Parisi



Greenfingers

Starting a New Garden

Gardens are very personal in that no two people really have the same ideas – it all depends on personal likes and dislikes and the style of the house which the garden complements. For example, a cottage garden with a casual riot of colour and foliage would look totally wrong against a formal house. Also bear in mind how much time will be available for maintenance.



However, there are some general rules for the planning. The first job is to decide on the rough layout of the plot, bearing in mind the position of the house, outbuildings, driveway etc. Depending on the size of the plot, lawns, flower-beds, trees, vegetable garden, herbs and fruit trees should be considered. Sit down with paper and pencil and

make plans. If you are unsure or need advice, it is advisable to consult a landscaper or plant nursery, particularly on the placement of trees, where the roots could affect foundations or a swimming pool. Once the plan has been made, go into the garden and, using hosepipe or string, mark out the flower beds on the ground to confirm that the layout is what you want. Do

not rush into planting. Dig the beds deeply and remove weeds. Then prepare the soil with compost and superphosphate. Only then should planting be done

It is a good idea to place the plants in sleeves around the beds to give you an idea of spacing. Remember that plants and trees grow, so leave a suitable space between them. As a general rule,

large plants should be at the back, coming forward with smaller plants. Some people like formal edges; others prefer casual groundcovers. Whilst your larger plants are maturing, annuals can be planted in between to give some interest and colour in the meantime.

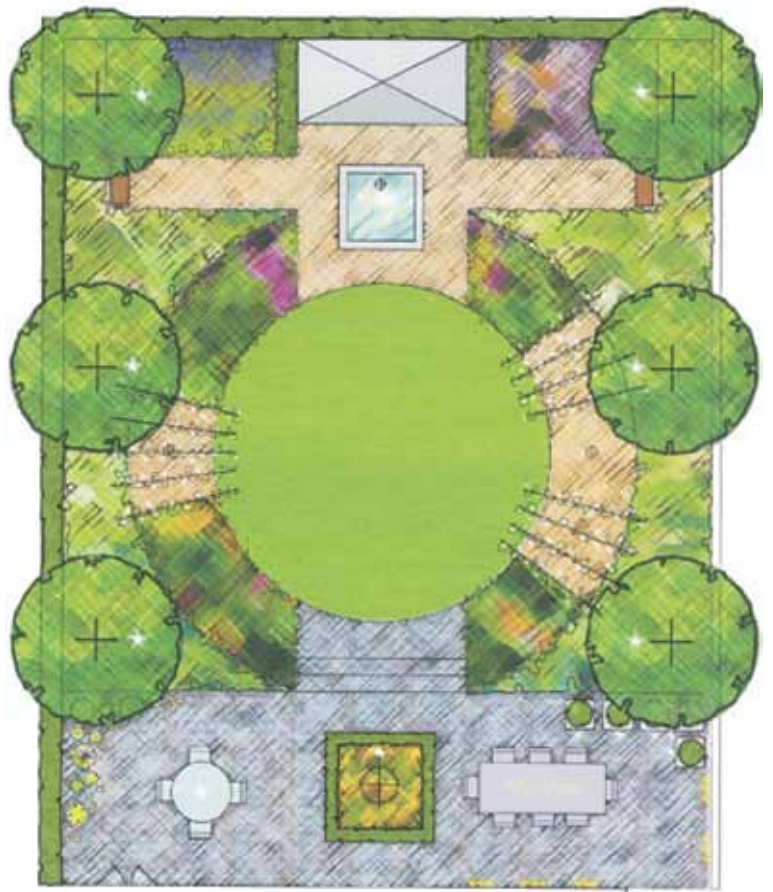
If you are planting trees, shrubs or a rose bed, individual holes must be dug – approximately a metre across and a metre deep. A layer of stones at the bottom will improve drainage and good compost mixed with the soil will improve its quality. Before planting in the hole, it is a good idea to fill it with water. When the water has drained away, lift the damp soil with a fork and then plant.



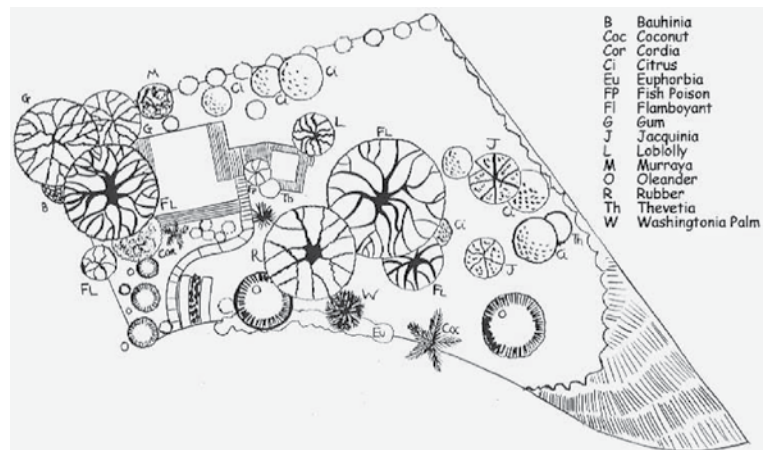
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Development

From the BBC

Georgia's Call for South African Farmers

White South African farmers say land reforms at home are driving them abroad. To revive its agricultural industry, the Georgian government is inviting groups of white South African farmers to settle and farm there - but not everyone thinks it is such a good idea.

But this trip to Georgia is about more than seeing a different climate. Johan Swart has come with his wife and his parents to see if the former Soviet republic could one day become his new home.

He says the policies of the South African government are making it increasingly difficult to stay in the country where he was born.

"If it becomes policy to sell land to big investors, and if we then see a situation of land-grabbing, then it will be a big problem for our farmers. The government can come to you, and tell you, this is what we are willing to pay for your farm and you have to sell," he explained. "If the government doesn't recognise the value you put on the farm, wants to pay you maybe a half of that, and you have to sell, what security do you have?"

Skills Lost

At the end of apartheid in South Africa the majority of the land was owned by the white community, who made up less than 10% of the population. Now, with land reforms under way, some farmers are looking for opportunities elsewhere.



Dressed in shorts, snow is clearly a new experience for these South African farmers. White South African farmers say land reforms at home are driving them abroad.

So far, 90 white South African farmers have visited Georgia to look at land for sale.

In the former Soviet Union, Georgian farms were mostly state-run, so many Georgian farmers lost their traditional skills.

According to government spokesman Nikoloz Avaliani, these South African farmers will help to turn things round.

"South African farmers are some of the best farmers in the world. They have good experience and we would like to see such farms in Georgia. There is a lot of potential here."

The Georgian government is giving them a great deal of support, such as advice about where to buy and how to settle in Georgia. And, depending how much foreign investment and jobs the farmers bring with them, they may be able to buy state-owned land cheaply.

But Georgian farmers say they are not getting any help from their own government.

As he herds his four cows alongside a small stream, Vakhtang Menagharishvili says the government doesn't seem interested in helping people like him.

“It doesn’t seem very fair,” he said. “They should help Georgian farmers first. Then help foreign farmers.”

Poor infrastructure makes it hard to get produce to market, and loans are expensive. So Georgian farmers struggle to make a decent living. Most earn less than \$150 a month.

Mariam Jorjadze, from the agricultural organisation Elkana, says the main problem is that Georgian farmers need advice about how to run their farms more efficiently. The government, she says, is not providing that.

Small numbers of foreign farmers can be beneficial by bringing in investment, she believes. But a large influx would create tensions with local farmers.

“If it becomes policy to sell land to big investors, and if we



Mr Menagharishvili says government policies are sidelining farmers like him.

then see a situation of land-grabbing, then it will be a big problem for our farmers because land is limited.”

Good Impression

But Mr Avaliani disputes this, saying that many Georgian farmers are looking forward to working together with the South Africans.

“They want to set up joint ventures with South African farmers because they think they

could raise the profitability and productivity of their farms,” he said. “They are more than delighted to have South African farmers and South African expertise on their farms.”

By the end of the tour it is clear that Georgia has made a positive impression on Johan and his family.

“This farm where we are right now is probably the best proposition we’ve seen so far,” he says. “We’re excited and there are a lot of possibilities here. It’s something that can be considered seriously. But we’re still going to have to see more of the farm before we can make a final decision.”

If Johan and his wife do end up moving here, it certainly would be a fresh start for them - and perhaps for Georgian farming too.



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NUTRICHEM
FERTILIZERS & AGRO-CHEMICALS

Insurance Advice

By Obert Kwacha

Insurance Simplified

As promised in our last article, in this edition we will discuss some broad covers that can be attractive to farmers.

Most of the farming insurance products are designed for Commercial farmers whether small scale or large scale and exclude peasant farmers and domestic farmers. The coverage provided is wide thus giving farmers a wide range of coverage to choose from.

The most common product for farmers is the farmers' comprehensive cover. As the name suggest, this cover is very wide-covering almost every insurable item found on a farm. The product is divided into 24 sections as briefly discussed below:

SECTIONS

1. House owners section – provides fire and allied perils cover on the farmhouse, managers' houses and workers' houses.

2. Householders – covers domestic contents at or in the buildings.

3. Multiple risks personal property – covers specified personal belongs like sports equipment, guns, clothing and nay other specified personal belongings.

4. Personal accident – provides compensation in the event for death, disablement and medical expenses for the farmer and his/her family as well as farm workers and their spouses and children.



Irrigation equipment is covered under the multiple risks section.

5. Fire and Allied perils cover for other farm buildings and/ or contents – barns, offices, sheds, stores etc.

6. Livestock – provides cover for all livestock for fire, lightning impact, riot strikes and malicious damage, electrification and theft.

7. Multiple risks (crops) – all crop types are covered including maize, soya beans, wheat, tobacco, sorghum etc. The perils covered include fire, rain



The Motor Section extends to cover farm implements.

damage, hail and windstorm damage, frost, and field to floor cover.

8. Multiple risks (Business property) –electrical and irrigation equipment, tools. Example: irrigation pipes, centre pivots, generators, electrical pumps are covered under this section.

9. Goods in transit – covers the farmer for transit risks while carrying farm produce and inputs..

10. Money – coverage is for money while in the safe and out of safe. Also covers money while in transit.

11. Burglary – on any specified building up to agreed limits.

12. Public liability

13. Motor – Covers for farmers' vehicles and extends coverage to farm implements. The farmer has a choice of either full comprehensive cover or full third party cover.

14. Yacht and motor boat covers

TOBACCO CROP HAIL, WINDSTORM, FIELD TO FLOOR INSURANCE COVER

The insurance provided is against loss of or damage to tobacco resulting from hail and windstorm up to the value of tobacco declared when marketing is concluded.

The policy however does not cover loss of or damage to tobacco in seed beds, Loss or damage due

to neglect, malpractice, or failure to follow established good farming practices by the insured or anybody else.

The farmer has an option to get coverage only for fire and field to floor. This cover is relatively cheap but excludes hail which is one of the major perils in tobacco.

POULTRY INSURANCE

Perils covered include, infectious diseases (non-pandemic), accidental death or injury, Fire and Accompanying risks, theft with trespassing, robbery.

Major Exclusions include Malicious/Willful injury, neglect, Transit by any mode of transport, improper management, Loss or death due to natural mortality, Undergrowth, cannibalism, action

How to get Insurance

Contact your Insurance broker of Insurance company, get a proposal form complete it and get it submitted to the company or broker/agent. The insurer, if he the right player to deal with-will physically visit your farm, then give you a quote. Once you agree with the terms and conditions cover will commence.

In our next article, we will discuss some of these products in detail for further information.

For your feedback contact

Obert Kwacha e-mail:okwacha@optimal.co.zw
Tel+263-773-218-916.



Grazing

Animal Impact

In Zimbabwe, livestock are being used as a tool to restore degraded land.



Soil trampled by livestock has improved fertility.

At the Africa Centre for Holistic Management (ACHM), developed by ecologist Allan Savory, a scheme dubbed Operation Hope is reversing desertification. Holistic management involves combining animals into large herds to harness the power of their hooves to break up hard ground so that air and water can penetrate. The livestock trample old grass so the soil is covered and less prone to the drying effects of sun and wind. The animals' dung and urine help fertilise the soil, and

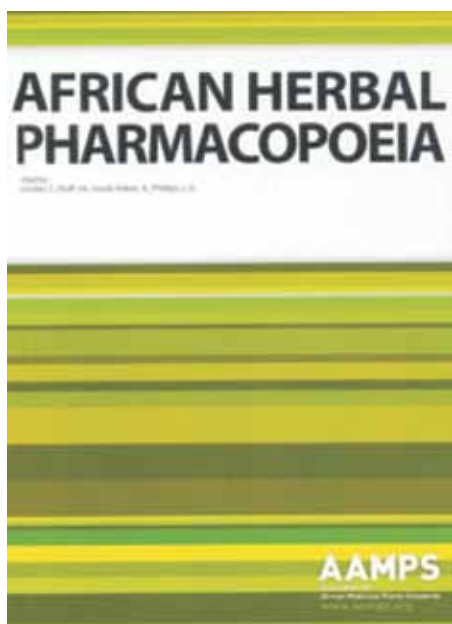
controlled grazing keeps perennial grasses healthy, minimising the need to burn them and expose soil. At the ACHM ranch in Dimbangombe, the once dried-up river is flowing again most of the year, forage is abundant and there is feed for plenty of livestock, even in drought years. The treatment has more than doubled yields on community control fields, made abandoned fields usable again, and eliminated labour for transporting manure. The technique is now being extended to other parts of Africa, with training offered at Dimbangombe.

Healing Plants

Healing Plants

Africa has only contributed 83 of the world's 1,100 leading commercial medicinal plants. Yet the Sub-Saharan region and the Indian Ocean Islands contain a total of about 60,000 plant species – one-quarter of the world's total.

This situation has partly arisen because information on traditional uses of African plants has rarely been written down, but has been transmitted orally from generation to generation by story tellers and traditional



healers. Sustainability of Africa's rich plant resources is increasingly endangered. The continent has the highest rate of deforestation in the world and many medicinal plants risk becoming extinct even before they are documented. Lack of quality control and quality assurance standards for African medicinal plants and herbal products is also a major barrier to regional and international trade.

To address some of these issues, the Mauritius-based African Association for Medicinal Plants Standards (AAMPS) has produced an African Herbal Pharmacopoeia. It provides up-to-date botanical, biochemical, pharmacological and commercial information on more than 50 of the most important medicinal plants in Africa. The hope is that this 6-year project will generate income for Africans working in the sector and unlock health benefits for the continent and beyond.

African Herbal Pharmacopoeia

Edited by T Brendler, J N Eloff, A Gurib-Fakim & L D Phillips

AAMPS, 2010. 290 pp.

ISBN 978-99903-89-09-8

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SORGHUM

A grain of hope

The ideal cereal for arid regions, sorghum is attracting renewed interest for its resistance to drought and its potential for producing biofuels.

It is not easy for sorghum (*Sorghum bicolor*) to rival the performances of imported cereals such as wheat and rice. Yet this tropical grass, also known as 'coarse millet' and used as cereal and forage, has its share of plus points. Extremely robust, sorghum has a high tolerance for heat and drought, a factor that makes it one of the two most popular cereal crops in arid regions, the other being millet. Its genome sequencing, carried out in 2009, is expected to lead to a better understanding of the origin of this valuable property.

The world's fifth most widely cultivated cereal after maize, wheat, rice and barley, sorghum's output is 61.7 million t (average for 2006-2008) of which 25.6 million t are grown in Africa where it covers 4% of arable land. Output in Africa rose from 18.41 million t in 2000 to 27.16 million t in 2009, partly due to



the 54% increase in yields (from 700 kg to 1,100 kg/ha). Together with Asia – mainly China and India – Africa accounts for more than 95% of its use as a foodstuff. Output from developed countries (13.6 million t) is mostly used as animal feed.

Two formidable enemies

Farmers who cultivate sorghum face two formidable predators: Striga and stem borers. Striga, a parasitic plant, causes between 40 and 100% of harvest losses. Traditional methods for combating it include manual weeding, use of herbicides and increasing fertiliser doses to strengthen

the plant. A programme to promote resistant varieties developed by the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), is being implemented in the Sahel. The initiative is coordinated by the Rural Economy Institute (IER)

in Bamako, Mali as part of the Global Food Security Response.

Sorghum's second greatest enemy is the stem borer. The grub feeds on the plant, hollowing it out as it moves, which either kills it or results in lower yields. Strategies for tackling the pest include chemical or natural insecticides (ash, neem, pyrethrum and peppers) or releasing natural enemies such as wasps. A joint ICRISAT-CIRAD programme launched in 2000, Transgenic sorghum resistant to stem borer, is developing pest-resistant varieties. It involves transferring a gene that is resistant to this predator to cultivated species of sorghum. A pest control strategy used to combat both predators is the push pull technique. It involves intercropping sorghum with two other plants – desmodium and napier grass – which protect it from its enemies.

Traditional methods are used for storing and processing sorghum. It is stored either fresh or dry, sometimes mixed with ash, in small often earthenware containers. Processing involves firstly removing the bran by pounding, then sieving or winnowing. By malting sorghum, producers can make pap or alcoholic drinks. As far as nutrition goes, the protein and fibre values of sorghum are on a par with those of maize and wheat, but its levels of iron and zinc are far higher. A staple food for millions of people in the Sahel for generations, sorghum is consumed in whole grains, and as flour, bread, pancakes, semolina and babyfood. The waste and straw is fed to livestock.

Improvements can make sorghum more palatable to consumers. The Serere Agricultural and Animal Production Research Institute in Uganda has developed a variety of sorghum with a low tannin content, making it less bitter. The Agricultural Research Institute of Togo (ITRA) and the West

and Central Africa Sorghum Research Network (ROCARS) have produced a bread made of sorghum flour that has been well received by consumers, according to a survey carried out in 2007.

Manufacturers of biofuel are taking a growing interest in sorghum. The Sweet fuel project launched with EU funding in January 2009 by ICRISAT, CIRAD, EMBRAPA (Brazil) and seven other partners, seeks to select sweet sorghum varieties. These produce grains for foodstuffs, but the high concentration of sugar in their stalks also makes them suitable for making ethanol. Given global warming and the soaring cost of imported cereals, sorghum appears to have an increasingly bright future.



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Interview

From TradeInvestAfrica

Zambia

Rich African Farms Draw International Investors

Private investment in Africa's agriculture is rising. Neil Crowder, a founding partner at South Africa-based firm Chayton Africa, which recently acquired farms in Zambia tells TradeInvestAfrica why his focus is on Africa's markets.



Africa has its own challenges and nuances across the continent and each country is different in terms of the investment framework. Investors are looking at regions that meet their requirements for investment water security access to markets, and above all, political stability and a good legal framework for land investments.

International investors who previously avoided Africa's agriculture are now looking at the sector. What has changed?

There is a growing interest in African agriculture,

not only from private equity investors with a traditional focus on Africa, but also from investors who have not historically considered Africa. We think there are several reasons for this growing trend. First

and foremost, agriculture as a broad investment theme has increasingly gained momentum in the past several years.

While agriculture previously displayed cyclical, commodity-type returns, there are now signs that we are entering a period of sustainable growth. This is being driven by a variety of global factors including rising population, rising income levels in emerging markets, and a growing scarcity of arable land and water.



Africa itself is showing demographic factors that suggest a rapidly rising demand for food in the coming decades: economic growth across the continent compares favourably with growth in traditional markets and the foundation for investing has been steadily improving across many of the countries in Africa, with better transparency and a more stable legal framework.

Finally, valuations remain attractive in Africa. With land available at prices that are attractive in an international context, much of sub-Saharan Africa benefits from rich soil and a climate that allows for double-cropping, or two crops per year. This leads to the potential, in

well structured investments, for high productivity and strong cash returns relative to other agricultural markets.

Investors are treading carefully, as it is a new asset class for many. As a result, investments that have been well structured with proper governance and control

will likely be sought after. Investors are fortunate to have available a wide range of tools to mitigate risk. As an example, we have worked with the Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group, to obtain political risk insurance on our investments. In our view, such coverage is a beneficial protection mechanism for our investors and provides comfort to those concerned about the types of risk typically present in the region.

How do you see your investment in Zambia contributing to food security, affordability and technology transfer in southern African?

Chayton Capital has a very specific investment strategy. We believe that the domestic markets within Africa will experience the same kind of secular growth we are seeing globally, perhaps to an even greater extent. Most countries in sub-Saharan Africa are relatively large net importers of food. As a result, we believe that properly managed commercial farming operations in the region will benefit from the secular trends in the region.

Zambia is an attractive market and we selected it as the country in which to make our first investments. With good availability of land and abundant water, the location is also attractive as several neighbouring markets are importing food. Additionally, the country has a very good investment climate and is a relatively easy place to do business.

We are in the process of aggregating 20,000 hectares of production in one specific region of the country. We intend to focus on primary food crops such as maize, soya and wheat. By achieving scale in production we will be able to upstream the business into storage, milling and transportation.

The total investment required for this investment is roughly \$85-million. Once established, our project will have numerous competitive advantages. The scale of the operations will allow us to overcome some of the infrastructure issues that mid-sized commercial farmers are challenged with, often due to lack of capital and expertise.

Our production model is technologically advanced. Cropping is done under full irrigation and we employ conservation tillage practices, an environmentally friendly style of farming that lowers the cost of operations, reduces erosion, and enhances soil fertility. By concentrating our assets in one geographic location, we are able to better utilise the capital we are putting into the project.

Additionally, by establishing a meaningful presence in one specific region, we are able to work closely with the community on an out-grower basis. This means we can provide training on soil

management, inputs and the use of our capital investments. As a result, the overall productivity in the region rises.

Which areas of the agribusiness sector are the most profitable?

We believe that a successful agribusiness investment that incorporates primary production must include other elements in the value chain such as processing, storage and transportation. We are interested in expanding in all of these sectors. Geographically, we are looking to markets that meet our requirements for investment, including secure availability of water and access to markets. Additionally, we look for political stability and a good legal framework for land investments. We have identified Botswana, Malawi, Mozambique and Tanzania as target markets for our investments.

Where is the potential for linking small-scale farmers to larger agribusiness supply chains?

Traditional small-scale farmers in Africa face many challenges, including limited access to markets, availability of inputs and often a lack of education on effective farming techniques and soil management. Our strategy of building large scale 'production hubs' allows us to overcome many of the challenges within Africa.

Our scale will allow us to build related businesses that not only support our operations but support the small-scale farmers in the region.

We can provide the community with access to inputs and access to markets. At the same time, by working with the local farming community, we can help enhance their ability to increase productivity on their farms. There is a clear benefit to the community, but our business benefits by greater use of our operating businesses.

Why isn't Africa attracting enough international investors despite the potential benefits of investing in agriculture?

Investment activity into agriculture is increasing within Africa, but there is still a need for greater commitment of capital from investors outside Africa. While there have been well publicised investments made by Middle Eastern and Far Eastern investors looking for food security, we have also seen growing interest from more traditional international private equity investors. Although it has been slow to develop, there has been a noticeable increase in activity over the past year.

Further, we would put the pace of investing in context: according to a recently released MIGA report, following the onset of the global financial crisis, in 2009 FDI inflows to developing countries dropped

by 40%. The good news is that as the global recovery continues to strengthen, these inflows are projected to increase and it is our view that the agriculture sector in Africa should benefit.

We believe that over the past year investors have largely been educating themselves on the potential returns and risks associated with an investment in Africa; in a global context, it remains a frontier market.

It will take time for the continent to be considered more mainstream amongst traditional investors. However, we have seen a dramatic increase in our activities in the past year and I am sure this is reflected at other firms as well.

How would you advise international investors interested in farming in Africa?

I think there is an extremely compelling case for investing in agriculture in Africa. A properly structured investment, we believe, will generate superior returns to any we have looked at in other emerging markets around the globe. However, Africa has its own challenges and nuances across the continent and each country is different in terms of the investment framework.

Investors need to take the time to understand the issues specific to Africa to judge if any investment is well-researched, structured and that it will be well managed over time.

FOOTNOTE

Neil joined Chayton Capital from Goldman Sachs where he was a partner managing director. Most recently, Neil was co-head of European Research and co-chief operating officer of the Global Investment Research Division. Prior to Goldman Sachs, Neil worked for American Express and St. Paul Companies gaining both direct and indirect real estate investment and workout experience.

Chayton Africa seeks to make pioneering investments in African agriculture, agribusiness and related infrastructure and intends to unlock the potential of agricultural land and assets by optimising production and operational efficiency across the agricultural value chain.

Spiced Portuguese Pork Roast



INGREDIENTS

1 x 2.5 kg pork loin, on the bone
6 cloves garlic

For the sauce

675 ml chicken stock
1 tsp ground cumin
1 tsp grated lemon zest
1/2 tsp salt
1 tsp freshly ground black pepper
3 tbsp chopped coriander

For the spice paste

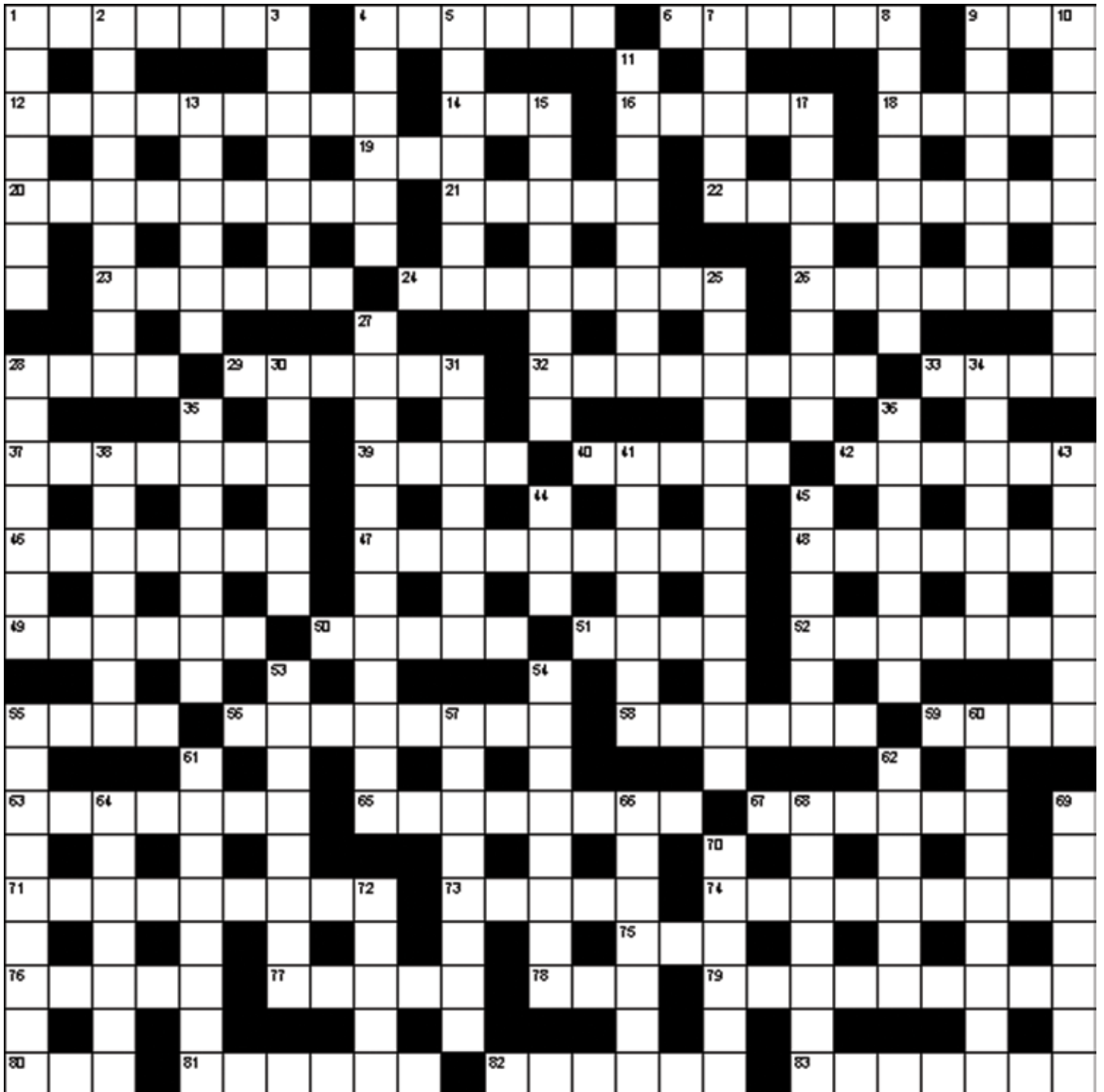
3 tbsp ground cumin
6 cloves garlic, very finely chopped
1 tsp salt
1 tbsp freshly ground black pepper
25 g coriander leaves, chopped
3 tbsp lemon juice

Method

1. Pre-heat the oven to 200C
 2. Cut the garlic cloves into thin slivers. Make shallow incisions in the fat side of the pork and insert a garlic sliver in each pocket.
 3. For the spice paste, combine the cumin, garlic, salt, pepper, coriander and lemon juice to make a wet paste.
 4. Rub the paste over the meat and roast for about 1 hour. Remove from the oven and leave to rest for about 15 minutes. Take the meat from the bone in one piece, and wrap in foil.
 5. For the sauce, pour off any excess fat from roasting tin. Break the bones into manageable pieces and add to the tin with the chicken stock.
 6. Bring to a boil and simmer until the stock has reduced by half. Strain the stock and pour into a saucepan. Stir in the cumin, lemon zest, salt, pepper and coriander.
 7. Return the pork to the oven to warm through, while still wrapped in foil. Arrange on a serving plate and spoon over the sauce.
- Serve this succulent spice-rubbed roast from with a baby spinach salad. Delicious with a dry white wine.



Giant Crossword



Across

- | | | |
|---------------------------|----------------------|---------------------------------------|
| 1. The fifth planet (7) | 18. Jumped (5) | 28. System of beliefs and rituals (4) |
| 4. Elevated (6) | 19. Unwell (3) | 29. Buy from abroad (6) |
| 6. Edge (6) | 20. Cut (9) | 32. Amulet (8) |
| 9. Consumed (3) | 21. Fails to win (5) | 33. Sort (4) |
| 12. Algebraic symbols (9) | 22. Vitality (9) | 37. Perplexed (7) |
| 14. Edible tuber (3) | 23. Hinder (6) | 39. Diplomacy (4) |
| 16. Notions (5) | 24. Happened (8) | 40. Publish (5) |
| | 26. Illicit (7) | 42. Profited (6) |

Giant Crossword

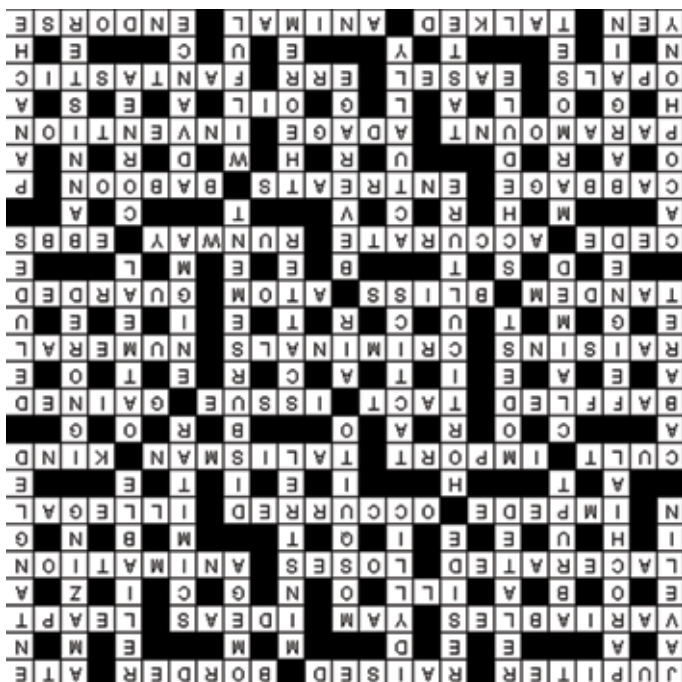
- 46. Dried grapes (7)
- 47. Felons (9)
- 48. Number (7)
- 49. Bicycle for two (6)
- 50. Extreme happiness (5)
- 51. Particle (4)
- 52. Protected (7)
- 55. Yield (4)
- 56. Precise (8)
- 58. Airstrip (6)
- 59. Flows out (4)
- 63. Vegetable (7)
- 65. Pleads (8)
- 67. Chacma (6)
- 71. Predominant (9)
- 73. Proverb (5)
- 74. Innovation (9)
- 75. Lubricant (3)
- 76. Gemstones (5)
- 77. Tripod (5)
- 78. Stray (3)
- 79. Tremendous (9)
- 80. Japanese currency (3)
- 81. Spoke (6)
- 82. Creature (6)
- 83. Support (7)

Down

- 1. Field event (7)
- 2. Insular (9)
- 3. Associated (7)
- 4. Dwell (6)
- 5. Pastoral (7)
- 7. Greek letter (5)
- 8. Dependable (8)
- 9. Astounding (7)
- 10. Embroided (9)
- 11. Troubador (8)
- 13. Sudden (6)
- 15. Insect (8)
- 17. Oriental sword (8)
- 25. Expenditure (12)
- 27. Gardening (12)
- 28. Floor show (7)
- 30. Humble (6)
- 31. Plans (7)
- 34. Disregarded (7)

- 35. Asserted (7)
- 36. Porridge (7)
- 38. Pretended (7)
- 41. Disperse (7)
- 43. Deceives (7)
- 44. Atmosphere (3)
- 45. Mystery (6)
- 53. Agenda (8)
- 54. Drink (8)
- 55. Blare (9)
- 57. Really (8)
- 60. Handrail (9)
- 61. Type of monkey (8)
- 62. Part of the eye (6)
- 64. Haggle (7)
- 66. Proposition (7)
- 68. Go forward (7)
- 69. Flair (7)
- 70. Intentional (6)
- 72. Sample (5)

Solution



Farming Humour

Tales From the Funny Farm

Poor Memory

An elderly couple had dinner at another couple's house, and after eating, the wives left the table and went into the kitchen. The two gentlemen were talking, and one said, "Last night we went out to a new restaurant and it was really great. I would recommend it very highly.

The other man said, "What is the name of the restaurant?" The first man thought and thought and finally said, "What is the name of that flower you give to someone you love? You know... the one that's red and has thorns."

"Do you mean a rose?" "Yes, that's the one," replied the man.

He then turned towards the kitchen and yelled, "Rose, what's the name of that restaurant we went to last night?"

Old Man Confessing His Sins

An elderly man walks into a confessional. The following conversation ensues:

Man: 'I am 92 years old, have a wonderful wife of 70 years, many children, grandchildren, and great grandchildren. Yesterday, I picked up two college girls, hitchhiking . We went to a motel, where I had sex with each of them three times.'

Priest: 'Are you sorry for your sins?'

Man: 'What sins?'

Priest: 'What kind of a Catholic are you?'

Man: 'I'm Jewish.'

Priest: 'Why are you telling me all this?'

Man: 'I'm 92 years old ... I'm telling everybody

Never Argue With a Woman

One morning the husband returns after several hours of fishing and decides to take a nap.

Although not familiar with the lake, the wife decides to take the boat out. She motors out a short distance, anchors, and reads her book.

Along comes a Game Warden in his boat. He pulls up alongside the woman and says, 'Good morning, Ma'am. What are you doing?'

'Reading a book,' she replies, (thinking, 'Isn't that obvious?')

'You're in a Restricted Fishing Area,' he informs her.

'I'm sorry, officer, but I'm not fishing. I'm reading.'

'Yes, but you have all the equipment. For all I know you could start at any moment. I'll have to take you in and write you up.'

'For reading a book,' she replies,

'You're in a Restricted Fishing Area,' he informs her again,

'I'm sorry, officer, but I'm not fishing. I'm reading.'

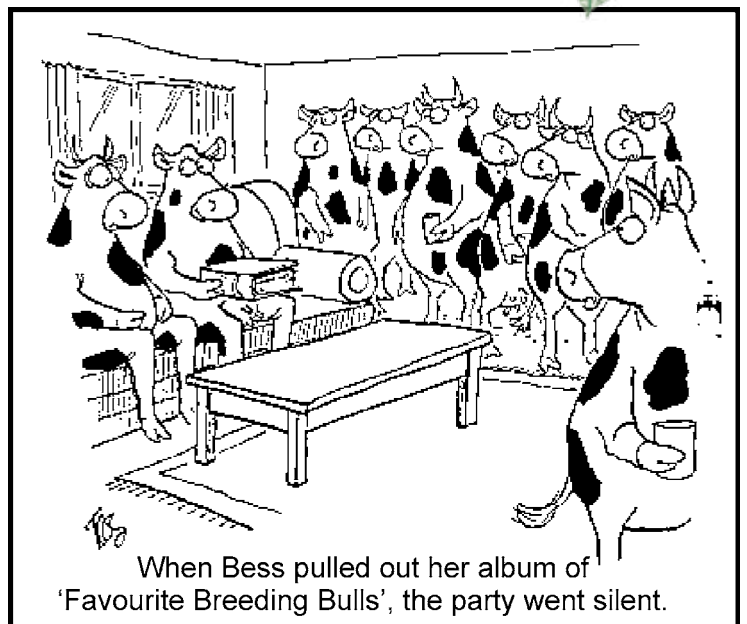
'Yes, but you have all the equipment. For all I know you could start at any moment. I'll have to take you in and write you up.'

'If you do that, I'll have to charge you with Sexual assault,' says the woman.

'But I haven't even touched you,' says the game warden.

'That's true, but you have all the equipment. For all I know you could start at any moment.'

'Have a nice day ma'am,' and he left.






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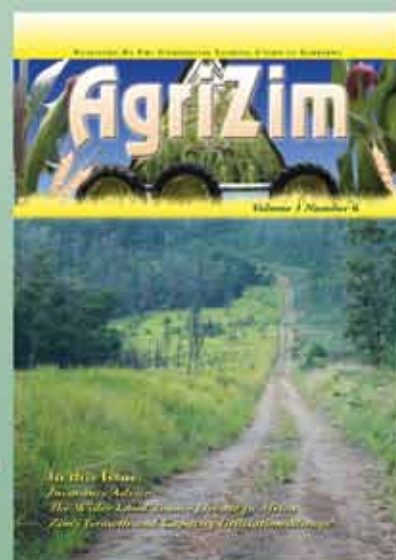
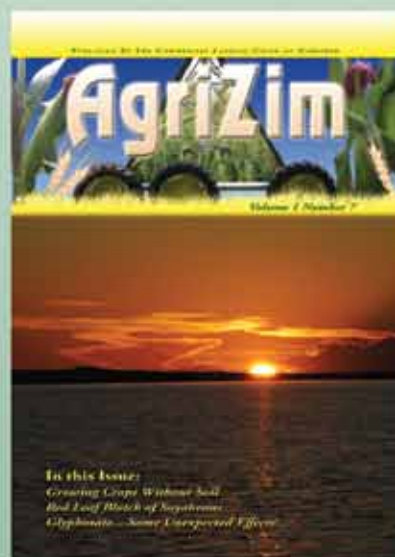
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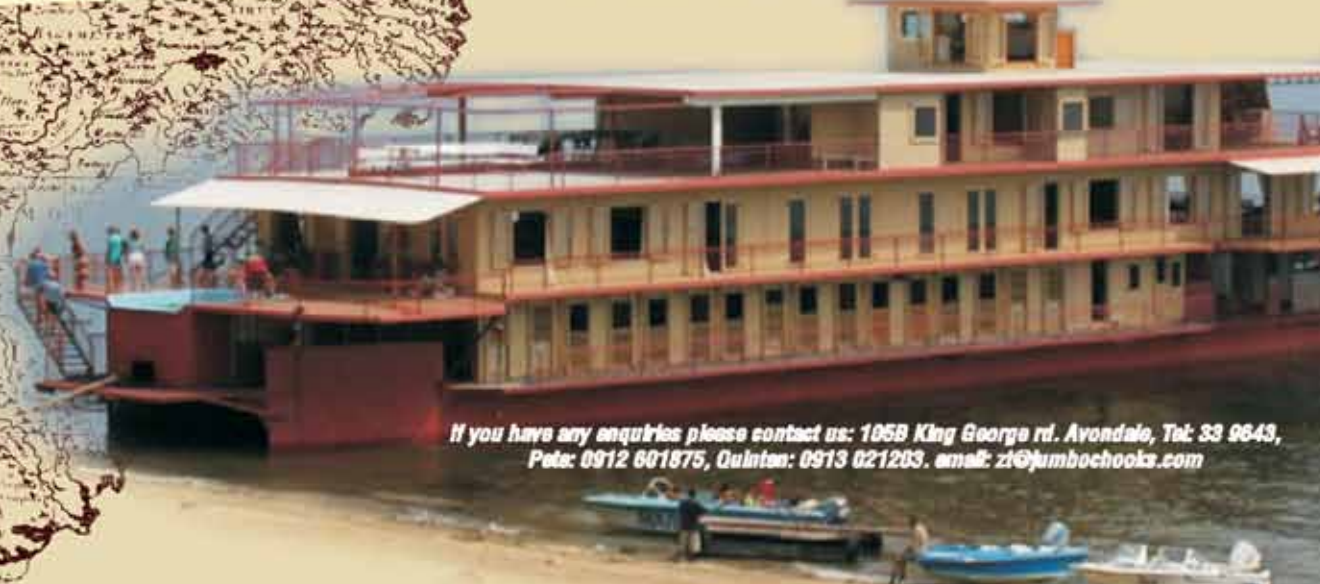
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