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Low-tech, high-tech – as long as it works ...

It’s no surprise that the Scheepers have popped up in the Cape to secure a harvesting contract with Cape Pine with a new company, Enviromech. The Scheepers family has built a reputation in mechanised harvesting with Bosbok Ontginning, which harvests pine sawlogs for York Timbers in Mpumalanga.

In 2008, they acquired their first John Deere tracked harvester and forwarder and turned it into a highly efficient and reliable system. Since the beginning, they placed a huge emphasis on selection and training of operators, and this – coupled with a strict machine maintenance schedule – has been one of the cornerstones of their success.

Bell Equipment, who distribute and support John Deere and Waratah in this country, recently held a field day in Tsitsikamma in the Cape to demo the John Deere/Waratah harvesting system owned by Enviromech. In the article on page 6, Derek Howe of Bell and Danie Scheepers of Enviromech explain their thinking behind the machine selection for this system.

Meanwhile, back in KwaZulu-Natal, the SA Forestry magazine team visited two very different, hands-on farming operations selected by NCT as their tree farmers of the year for 2013.

Holme Lacy is a typical midlands farming operation with just over 1000 ha of wattle, pine and gum. The extended Mason family have run it for generations. The harvesting and silviculture work is done by hand using traditional motor-manual systems. With excellent silviculture practices, effective site-species matching, market diversification and good labour relations, they have been able to improve productivity on their farm. Read all about it on page 13.

The Izanqawe Community Trust, which runs a small tree farming operation of a few hundred ha near Greytown in the Midlands – and not far from Holme Lacy – are NCT Tree Farmers of the Year in the category of farms managed on communal land. With very little resources and help from their more established neighbours and other stakeholders, the Izanqawe team has managed to run the farm effectively and sustainably, creating jobs and benefits for their members (see page 17).

The interview with Thokozani and Patrick from Izanqawe took place in an open shed, huddled around a fire to keep warm. It was 5 degrees C and overcast outside, with rain threatening. It was low-tech but hospitable. Thokozani and Patrick of Izanqawe impressed me with their determination to make the farm work, and gave me confidence that with the right support forthcoming, land restitution in South Africa can have a positive outcome.

There is good news on the subject of timber transport as well. NCT and Zabalaza Hauliers, working closely with the KZN Department of Transport, have put two new PBS vehicles on the road, which significantly improve the cost of transporting timber by road (see story on page 9). These are the third generation PBS vehicles to be developed by the timber industry – the first and second generation PBS vehicles were deployed by Sappi and Mondi and their transport contractors. The Zabalaza-operated vehicles are slightly shorter at 23.1 metres, yet they carry an impressive payload of 49-50 tons. These vehicles have the potential to significantly reduce the number of heavy trucks on our roads, while putting more money back into farmers’ pockets.

Meanwhile, freight rail tariffs on some branch lines are becoming more competitive again, raising hopes that more timber can shift from road to rail with benefits for road users and tree farmers.

Chris Chapman
Editor
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Last issue’s subscriber competition winner

Congratulations to Brendan Raw of Karkloof Timber Contractors, who won a Silky Saw. He is pictured here with Sharon Buysat at Merri-Mow Enterprises in Merrivale, KwaZulu-Natal.

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Remembering Wendy

It is with heavy hearts that the forestry industry bids farewell to Wendy Déathe who passed away in July this year.

Wendy, born on 25 August 1958, had forestry in her life from a young age living on plantations such as Jonkershoek. She was employed in the public service for 34 years after joining the then Department of Water Affairs, Forestry and Environmental Conservation in 1979 and stayed loyal to the forestry department through its many manifestations.

She loved to spend time talking to colleagues about her childhood on Jonkershoek and the old days working with some of the great names associated with the history of South African forestry. Wendy might not have been a forester or forest scientist, but she shared the same passion for forestry as we all do.

Wendy will be sorely missed by her colleagues, friends and family.

Ons onthou Jaco Kruger

Jaco Kruger, Direkteur van Barry Collier & Co., is laat Donderdag aand 25 Julie op die ouderdom van 41 skielik oorlede. Hy laat sy vrou, Janet, sy drie догters, Jenni, Julie en Jaciazi, sy ouers, Fanie en Winnie, sy broer, Rudi, sy suster, Winnie en baie vriende agter. ‘n Gedenkdiens was op 2 Augustus in die Gereformeerde Kerk in Nelspruit gehou.

New FSC director in Africa

Chris Burchmore has been appointed Africa Regional Director for the Forest Stewardship Council (FSC). His brief is to lead and coordinate the establishment and implementation of a FSC African regional strategy, in close collaboration with the FSC network partners in Africa and FSC International.

Chris, who has a Masters degree in Environmental Management, was previously employed as Environmental Manager for Mondi South Africa’s forestry operations.

Since 2004, FSC has had a regional office in Africa. Initially, this was located in Ghana, and for the past two years, it has been in Cameroon. FSC’s work in Africa has mainly focused on the Congo Basin/West Africa.

However, Chris says that meetings with stakeholders in South Africa (June 2012) and East Africa (September 2012) have shown that there is a deep interest in certification from the forest sector in Africa.

As a result, FSC, in consultation with FSC Network Partners and stakeholders, has decided to develop an FSC presence in three African sub-regions:

- In the Congo Basin: a sub-regional coordinator will be appointed to provide support on technical issues in forestry and market development, and support and guide development in the Congo Basin.
- In East Africa: a sub-regional coordinator will be appointed to support FSC certification of plantation forestry while ensuring social engagement and participation.
- In South Africa: FSC will establish the African Regional Office, headed up by Chris Burchmore.

Andrew Morris joins ICFR team

Andrew Morris has left Sappi to take up the position of Research Manager at the ICFR.

Andrew brings to the ICFR a wealth of experience in research management and knowledge of the industry from his previous position as Sappi’s General Manager Research.

“A move from general management to research management will allow me to focus more on applied science where my interest and, I think, value is best realised,” said Andrew.

Andrew believes the ICFR is poised to deliver important and highly relevant knowledge into a fast changing industry, and at the same time, serve a wider scope of ‘customers’. In the short term, existing good research must deliver value adding recommendations, and in the longer term, new research must begin that will continue to add value to our stakeholders.

Andrew has BSc(Hons) Soil Science and PhD degrees from University of Reading. Prior to joining the ICFR, Andrew spent 16 years with Sappi Forests (1997-2013) as the General Manager Research, and before that he worked for the Usutu Pulp Company in Swaziland (1979-1997), first as Research Officer and then Forest Research Manager.
Parasitism levels of *S. neseri* on the rise

It has been about one year since the first releases of *Selitrichodes neseri*, biological control agent for *Leptocybe invasa*. This minute parasitic wasp was first released in the Zululand region in July 2012 after about two years of intensive research at the quarantine facilities of the FABI Biocontrol Centre, University of Pretoria, which led to approval for its release from the Department of Agriculture, Forestry and Fisheries (DAFF).

Now, one year later, *S. neseri* has been released at over 300 sites across the most highly infested areas in the KwaZulu-Natal, Mpumulanga and Limpopo provinces. This translates to the release of over 6 000 female wasps.

It is not known how long it will take before there is noticeable impact on the populations of *L. invasa*, but results from post-release studies are very positive. *Selitrichodes neseri* has been recaptured from all the release sites included in the post-release study, and parasitism levels of up to 9% have been obtained at some sites just five months after the original release.

Expectations are that, in time, parasitism rates will increase to over 70%, as noticed in contained release sites in Pretoria.

Efforts are underway to investigate the establishment of *S. neseri* at a larger number of release sites and so determine whether further releases are required in those areas. FABI PhD student Kwabenya Baffoe is also investigating factors that could possibly influence parasitism of *S. neseri*, including the interaction between biological control and host resistance strategies.

Bio-control for the Bronze Bug gets green light

The TPCP has received permission from DAFF and the Department of Environmental Affairs to release the parasitic wasp *Cleruchoides noackae* (*Mymaridae*) for the bio-control of the Bronze Bug *Thaumastocoris peregrinus*. This is an incredibly important milestone in terms of ensuring sustainable plantation forestry in South Africa, writes Brett Hurley of the TPCP.

*C. noackae* was first imported into the FABI Biocontrol Centre at the University of Pretoria in 2008. This minute parasitic wasp is extremely difficult to rear, in part because it is very delicate and difficult to handle. Only after new rearing techniques were developed could studies on its biology commence, which showed that it is host specific and thus safe for release.

An application to release it was submitted to DAFF in January 2013. The release strategy will likely follow a similar approach to the release of *S. neseri*.

At this stage, it is impossible to know what impact *C. noackae* will have on *T. peregrinus* populations in South Africa, but it has been released as a biocontrol agent in Chile and Brazil, and preliminary results show that the insect has established itself well in these areas.

Assisting small growers to combat *L. invasa*

**Dear Editor**

As the person tasked with the responsibility for acting on pests and diseases in Sappi Forests, I wish to put a different perspective to the article published on page 5 in the June 2013 issue of *SA Forestry* magazine, titled ‘Leptocybe invasa hits small growers hard’.

In December 2012, representatives of Sappi Project Grow, Mondi Khulunathi and NCT met with me in KwaMbonambi. The purpose of this meeting was to decide on a strategy for the release of *Selitrichodes neseri*, the bio-control agent of *Leptocybe*, specifically targeted at the small growers in Zululand. The area north of the Tugela was divided up between the relevant corporate representatives into areas where they had the majority of contracted growers. Each of these would be responsible for the releases in their allocated areas.

To date, more than 45 of the 75 batches of *Selitrichodes* sent to KZN have been released in these small grower areas, at no cost to the growers. The exact coordinates of each of these release sites has been captured for future monitoring purposes and is available from the ICFR.

In 2010, at their annual clonal deployment meeting, Sappi forests made a policy decision to provide all farmers under the Project Grow scheme with the exact same commercial *E. grandis* clonal material as used by their own plantations. This was specifically done to mitigate the impact of *Leptocybe* and other new pests and diseases and to improve the timber yield of these small grower plots. Project Grow farmers are actively encouraged to replant all *E. grandis* and *E. gxc* plots with *E. gxc* clones after harvesting the previous crop.

I agree that some State intervention is required but I disagree that nothing has been done to support the small growers with regard to the Leptocybe problem.

Marcel Verleur
Senior Research Officer, Land Management

White grubs

Meanwhile, we are asking foresters who come across sites with high infestations of white grubs to contact Brett Hurley at Fabi. This could be either wattle, eucalypt or pine sites. We have a new PhD student, Birhan Addisie, who is looking at the potential use of EPNs (entomopathogenic nematodes) for the management of white grubs, and we would greatly appreciate any assistance in identifying sites for collection.

Brett Hurley, TPCP team
brett.hurley@fabi.up.ac

Leptocybe invasa

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I agree that some State intervention is required but I disagree that nothing has been done to support the small growers with regard to the Leptocybe problem.

Marcel Verleur
Senior Research Officer, Land Management
Many foresters and Saarsveld students braved cold and wet July weather to attend a demonstration of John Deere and Waratah forestry equipment in action in Tsitsikamma in the Eastern Cape.

Bell Equipment, the official distributor of the John Deere range of forestry equipment and Waratah processing heads, hosted the forestry field day in Cape Pine's plantation in Tsitsikamma. Also in attendance were Simon Shackleton of John Deere Forestry and Jules Larsen of Waratah, who provided in-depth information about the equipment on show. Their presence at the field day illustrated the close working relationship that exists between the partners.

The Enviromech team carefully selected the harvesting system for the Cape Pine contract in collaboration with Derek Howe of Bell Equipment. Derek did an in-depth analysis of Cape Pine's Annual Plan of Operation for a three-year period, taking into account the volumes, terrain, sites and conditions. Then he and Danie Scheepers of Enviromech configured a specialised, cost-effective, purpose-built harvesting system suitable to handle anything that would be encountered on the Cape Pine contract.

"We had a challenge to co-ordinate the introduction of the harvesting systems to ensure that the mills were adequately supplied over the transition from a motor-manual system to a fully productive mechanised system, from day one," explained Derek.

"We decided on a John Deere 753JH Harvester carrier fitted with a Waratah HTH623C head, along with a John Deere 1710DS 8x8 Forwarder to harvest and extract the cut-to-length timber from the plantation to the roadside, from where it is transported by road trucks to the saw mills," Derek said.

Enviromech secured the contract to harvest timber in the Tsitsikamma area for Cape Pine following a tender process, and took delivery of the John Deere/Waratah harvesting system recommended by Bell Equipment. Completing the fleet is a Bell 225A Logger that is fitted with the safety kit, including doors and a three-point safety harness, which is used for housekeeping duties.

"The John Deere 753JH Harvester is equipped with John Deere's highly fuel-efficient 180kW, 9l engine with integrated design hydraulics. This machine has best-in-class reach with a purpose-built 8,5m harvester boom. Enviromech's unit also features wider and double grouser tracks along with the extremely stable U7 undercarriage, which is longer and wider, installed to suit the contract underfoot and slope conditions," explained Derek.

According to Jules Larsen of Waratah, the HTH623C Head is built in New Zealand and is mid-range in the Waratah product offering. With an operating weight of 2 800kg, the head operated by Enviromech has been fitted with "every conceivable accessory you can find", including an automatic paint marking system.

The HTH623C is a highly efficient harvesting head suited to the toughest conditions thanks to large, high-torque feed motors, delimbing power and good balance of feed speed. Importantly, the head is
supplied fully integrated from the factory so it is just a matter of ‘plug and play’ when fitting the head to the harvesting boom before operations can commence.

In addition, TimberOffice software accurately captures daily and lifetime information for effective production and equipment management.

"The Waratah 623C head boasts power and torque, which is more than capable to suit the tree sizes and species to be encountered on the Cape Pine contract," continued Derek. "This particular head was selected for its durability and ability to process and optimise the various market demands of precision log lengths and quality, from 75cm down to 5cm. A first for South Africa, this head has diameter sensing, saw limiting cross cutting and felling, which only demands power when required, thereby increasing fuel efficiencies. This allows for precision automated log optimisation as per mill request, tree form and value. In addition, the head has a paint applicator for multiple market identification."

Once the timber has been felled and cut-to-length, the John Deere 1710DS 8x8 Forwarder gets to work extracting and neatly presenting the logs from the compartment to roadside.

"While various configurations are available, the Enviromech machine has a 5.4m bed with a 8.5m reach," continued Derek. "The Forwarder, when fitted with double wheeled bogey tracks, is capable of extracting a load of over 20 tons on slopes of up to 50% in clear fell or thinnings operations. These bogey tracks enable all weather on-the-move loading and extraction, while the fuel efficient 160kW, 9l John Deere engine 'just purrs along'."

Mechanisation

This is the third fully mechanised CTL harvesting system that Danie Scheepers has worked with as his family’s timber operation in Mpumalanga, Bosbok Ontginning, took delivery of its first system in 2008. This joint family concern now harvests about 400 000m³ annually with these three CTL systems.

"These operations have received accolades by many a visitor to our shores as being world-class," said Derek.

Danie explains the move to mechanised systems: "Back then, the stumbling block to marketing the full harvesting system to corporate companies was the reliability factor due to the scarcity of skills and parts, and the perception that these were First World systems not suited to our conditions. However, we realised that with the scarcity of skilled labour willing to participate in the harsh conditions found in the forestry sector, it was necessary to distinguish ourselves with mechanised systems.

"We did our homework well and we are familiar with these machines, having already used them for about five years in our Highveld operation. They are really working well and performing as we expected," he said.

"Currently, the machines work a full day shift, and training of new operators takes place during the night shift to ensure that they have the consistency and speed required by the operation."

"Since the arrival of our first units, Bell Equipment has also come a long way with their now large, stable and highly skilled after sales and technical support teams. We have exceptional commitment from Bell Port Elizabeth and it is reassuring to see people who are so hands-on. I believe we have made the right decision with our machines and Cape Pine, although they didn’t buy the machines, can see that their contractor is getting the required service from their equipment supplier," he said.

He adds that daily maintenance is key to achieving a high level of mechanical availability. "If you neglect daily maintenance, you will pick up problems like a leaking hose or blocked grease nipple that could lead to more serious and collateral damage, increasing downtime. We are strict on maintenance and use John Deere’s recommended maintenance schedule and it is working for us," concluded Danie.

Simon Shackleton of John Deere Forestry and Danie Scheepers of Enviromech with Enviromech’s John Deere 753JH Harvester in the background.

The John Deere 1710DS 8x8, operated by Enviromech, is fitted with double-wheeled bogey tracks and is capable of extracting a load of over 20t on slopes of up to 50% in clear fell or thinnings operations.
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Zabalaza Hauliers has two new ‘3rd generation’ PBS vehicles on the road, transporting timber for NCT. These vehicles have been developed and designed by NCT and Zabalaza Hauliers, working closely with the KwaZulu-Natal Department of Transport.

The key difference between these vehicles and previous generation PBS vehicles developed for use in South Africa is that they are a little shorter, with an overall length of just 23.1m. Thus they are more compact which makes them more versatile and able to travel on more routes than the longer vehicles.

Crucially, however, these vehicles carry a similar payload of 49-50 tons vs a standard timber truck payload of 38-39 tons. This translates into a saving to the timber grower of 10%-15% of R/Ton transport rate compared to a standard timber truck.

These vehicles are based on a 6x4 design with a single axle in front and a five-axle drawbar trailer, manufactured by Afrit. The trucks are Mercedes Benz Actros 3350s.

NCT’s Commercial Manager, James van Zyl, said that the vehicles are the culmination of extensive research and development, including comprehensive simulation exercises which were performed in Australia, where the PBS concept originates.

The timber industry has been at the forefront of...
the development of PBS vehicles in South Africa, with Sappi and Mondi the pioneers who put the first PBS vehicles on the road.

James said that NCT adopted a cautious approach to see how the first generation PBS vehicles were accepted before developing their own PBS trucks, which are currently hauling timber from the KZN midlands area to NCT Durban Woodchips and Bay Fibre and Shincel in Richards Bay.

Richard Borain of Zabalaza Hauliers and the trailer manufacturer did the technical design of the PBS vehicles. The development team also worked closely with KZN DoT’s Technical Manager, Shane Millward, and Senior Manager Freight Transport, Chris Stretch.

Strict conditions for operation of PBS vehicles are required in terms of the DoT permit. The transport operator must be RTMS accredited, which means the company adheres to high standards of safety, driver training and wellness, vehicle maintenance and record keeping, etc. The vehicle can only be operated on approved roads, ranging from district roads to national highways, and the transport operator must report to the DoT monthly on routes and performance.

“The DoT wants to see a reduction in the number of vehicles on the roads, so they are supportive of the PBS vehicles,” said Richard Borain of Zabalaza Hauliers. Zabalaza currently has 20 trucks on the road, two of which are PBS vehicles. The company transports timber for NCT and private farmers, and does ad hoc work for Sappi. Zabalaza is also haul-sugarcane.

Richard said that only their most experienced and skilled drivers who have received advanced driver training, are assigned to the PBS vehicles. The vehicles are equipped with on-board weighing and satellite tracking systems.

“The PBS vehicles have been on the road for over a month now, and they are performing very well,” commented Richard.

NCT currently moves around 800 000 tons of timber a year, and James says they are keen to increase the number of PBS vehicles hauling their timber because of the benefits to the growers, to the other road users and to the environment.

“The cost of transport has been steadily increasing, while the price of timber has stayed the same, so this has been eroding the farmers’ margins,” said James. “The PBS vehicles represent a 10% to 15% reduction in the Rand cost per ton of timber transported, which slows down that erosion and puts more money back into the farmers’ pockets.”

Considering the fact that the PBS vehicles carry a 24% bigger payload than standard timber trucks, their use reduces the number of timber truck trips on our country’s roads – a win-win for farmers, for the environment, and for other road users.

Following their successful introduction by the timber industry, other sectors are now also introducing PBS vehicles into their operations in order to reap the benefits.

What are PBS vehicles?
PBS refers to ‘Performance-Based System’. The traditional approach to heavy truck and trailer design is that prescriptive legislation sets mass (GCM <56 tons) and dimensional limitations (max length 22 metres). PBS vehicles are evaluated against a defined set of standards to ensure road safety and infrastructure protection, thereby making it possible to increase the payload without increasing the impacts on the roads, infrastructure and other road users. The ultimate objective is to improve payload efficiency.

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The Mason family from Greytown is synonymous with forestry in KwaZulu-Natal, both as timber growers and as industry representatives over many years. Now NCT has chosen them as the Tree Farmer of the Year for 2013 in the category of farms managed on private land, providing due recognition for ‘excellence in sustainable plantation management’.

The Mason’s forestry operation covers a total area of 1 350 ha on the family-owned farm Holme Lacy and a neighbouring leased farm Perbrook, just outside Greytown. Members of the extended family have owned Holme Lacy since the 1860s, and current manager, Andrew Mason, represents the 6th generation living and working on the farm.

It started off primarily as a sheep, cattle and maize farm, and wattle would have been introduced later to take advantage of the markets for bark, building poles, firewood and possibly mining timber. When Jack Mason arrived at Holme Lacy around 1969, some 250 ha of timber had been established on the farm. This included wattle and pine, planted by John Slatter (Jack’s father-in-law) in the early 60s, to supply timber for the sawmill he had established in Greytown.

Today, the farm comprises 384 ha of wattle, 550 ha of gum and 165 ha of pine. The unplanted areas are managed primarily for fire protection and conservation. The farms are generally blessed with good soils and above average rainfall, but the high altitude (1 200m-1 500m) provides some challenges for tree farming, mainly due to occasional heavy snowfalls. Thus, the Masons have been converting some of the high altitude sites to snow-tolerant gum, and establishing wattle on the lower altitude sites.

“We get snow here every year,” says Jack, “and...
occasionally we get very heavy snowfalls like we did in 1996 and 2004 that hammered the wattle. We’d grow more wattle if we could but we’re limited by the altitude.”

In recent years, Andrew has planted an increasing area to *E. grandis* x *E. nitens* clones, which have proven themselves in trials on the farm already. This will increase the yield per hectare of pulpwood, while also providing opportunities to sell transmission poles, which attract premium prices.

Pulp timber is marketed through NCT, of which the Masons are founder members. Pine is sold to Midlands Pine Products Seven Oaks and Greytown, while wattle bark is sold to UCL in Dalton. Other products include poles, charcoal timber and eucalyptus leaf material used for the manufacture of essential oils.

**Silviculture**

“A notable feature of the farm is the exceptional standard of silviculture,” states the NCT citation. This is evident in the clean compartments, excellent growth of tree stands and well maintained open areas. Andrew explains that they prefer not to burn the slash where possible, opting instead to scatter it across the site by hand. However, they do cool burns in areas around homesteads and in fire-prone areas. They have tried mulching but found it an expensive exercise.

External firebreaks are well prepared and green wattle belts are strategically placed to contain wild fires in small areas. There are also a number of power lines running through the farms, which are used to augment fire protection.

**Transport and roads**

Harvesting is done by motor-manual systems using labour for felling and cross-cutting (using chainsaws) and de-barking by hand. Logs are loaded with Bell loggers and pulp-wood hauled to depots using tractor-drawn tip-trailers. Bark is delivered to the factory using a seven-ton truck.
Andrew said that in the past, they were forced to move much of their long-haul timber from rail to road as a result of rising rail tariffs, but recently, rail tariffs have become competitive again, and so they are now shifting some of that timber back to rail. A lot of work is being done on the farm to improve the road infrastructure, sloping eroded banks, shaping roads and building side drains, culverts and concrete drifts across perennial streams. Rocks are stacked in many side-drains and ditches to slow water run-off and prevent erosion.

The Masons have a number of tenant families that have been living on the farm for generations. Their labour force of 102 people is drawn from the tenant families, and long-standing relationships have been established over many years. Each household has access to electricity and reticulated borehole water. They are encouraged to grow their own vegetables and are allowed to graze their cattle in open areas. Zero-interest loans are provided for individual tenants to enable them to build solid concrete-block houses. The Masons support a creche and a school, and young matriculants unable to find employment are assisted to acquire marketable skills.

**Employment**

The Masons, together with many other medium-size tree farmers in the region, feel they have a responsibility to continue to provide employment opportunities for local communities. Andrew says they are not planning to mechanise their forestry operations, despite the huge increase in minimum wages that came into effect earlier this year. He says that workers are paid just above the minimum wage, and work a six-and-a-half-hour day.

Members of the Mason clan have also played leading roles in the local timber industry. Jack has served as President of SAWGU and as a Director of the NCT board. Andrew has represented medium growers at FSA and is the current President of the regional agricultural society, affiliated to Kwanalu. Andrew’s older brother, Murray Mason, is Forestry Manager at Bracken Timbers and Vice Chairperson of FSA.

The Masons have successfully increased productivity on their farm through effective site-species matching, exceptional silviculture practices, good labour relations and effective diversification of markets. Their operation is ‘compliant with all aspects of sustainable plantation management,’ which makes them worthy recipients of the Tree Farmer of the Year Award, according to the NCT citation.

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The wattle and pine plantation owned by a community trust following a successful land restitution claim has won NCT’s Farmer of the Year award for farms managed on communal land.

The Izanqawe Community Trust took ownership of the land that was previously owned by private farmers in 2007, after it was bought by government and handed back to the dispossessed community. The farm is situated in the hills east of Greytown in the KwaZulu-Natal midlands.

About 200 ha of wattle and 35 ha pine was already well established on the farm when the community took it over.

Despite the promise of government funding through discretionary grants and/or recap and development grants, there has been no money forthcoming from government to help the commu-
nity to get the farm up and running, barring money to purchase a tractor and trailer coming from DAFF. However, the Trust, led by chairperson Thokozani Zondi and secretary Patrick Dlamini, and with considerable help from neighbours and other stakeholders, has managed not only to keep a timber business going, but has won a prestigious award from NCT in the process.

Neither Thokozani nor Patrick are trained foresters. In fact, Thokozani is Principal of Lukazi Primary School in Estcourt, and Patrick is the admin clerk at Siphakeme Combined School in the nearby Tugela valley, so they are only able to devote holidays and weekends to the farm. However, they have both grown up in the timber-growing Midlands area and so they are not completely new to forestry. Patrick grew up on Holme Lacy, a nearby timber farm owned by the Mason family, and has worked in plantations during his school holidays.

“When we took ownership of the land in 2007, we realised there was an opportunity to carry on with tree farming, but we had nothing,” remembers Thokozani. “We met with Martin Hill of Bracken Timber, our neighbour, and he agreed to help us. He loaned us a tractor and trailer so we could get going. That first year, we felled some wattle and managed to make some money and were able to pay our employees,” said Thokozani.

Today, the Trust employs 24 people working under ‘induna’ Ncamisile Zulu. The team does silviculture and general maintenance work on the farm, has been clearing wattle growing in riverine areas and rehabilitating wattle jungles, and has harvested wattle for pulp and bark.

All timber cleared and harvested is utilised by the community or sold. Wattle pulp is sold through NCT while the bark is sold to NTE. Bracken assists with the burning of fire breaks, pine thinning and high pruning, and harvests and purchases the sawlogs for their sawmill.

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**SANBI Grasslands Programme**

The SANBI Grasslands Programme, which has been engaging with small growers in a bid to improve land use practices and conserve high conservation value grasslands, came on board and deployed an experienced forester, Gilbert Plant, to assist and mentor the Izanqawe Trust. The Grasslands programme team is collaborating with NCT in a bid to facilitate FSC certification for small growers, including Izanqawe Trust, under NCT’s group scheme. This, explains the Grassland Programme’s Steve Germishuizen, ties in with their aim of promoting better land use management, thereby contributing to the conservation of threatened natural grasslands.

The Grasslands Programme team has brought Ezemvelo KZN Wildlife in to assess the grasslands on the farm, and they have recommended the establishment of a protected area incorporating the grasslands and game reserve areas, creating exciting ecotourism opportunities.

Gilbert Plant acts as mentor to the Trust and
meets with Thokozani and Patrick regularly. He assists with planning and budgeting (with help from Bracken accountant Martinus Steyn), provides advice and guidance on maintenance of open areas, roads, silviculture, fire protection, compartment planning, harvesting and marketing of timber.

Following the successful claim of another timber farm nearby, the total landholding of the Izanqawe Trust is around 8 000ha. This farm includes 850ha of pine and a sawmill. Thokozani said they had agreed that the former owner would continue to run the operation for at least a year until the Trust is ready to take it over.

In addition to the timber business, the Trust is exploring opportunities to grow cash crops, raise livestock and operate a game farm. However, their ability to respond to business opportunities continues to be hamstrung by a severe lack of resources.

Thokozani put it in perspective, saying: “We need farm equipment, we need a bakkie and a fire tender. We need a four-ton truck so we can deliver our bark, and we need a farm manager. We were told that there were government grants available to help us establish our business, but our applications have been in for more than five years already and we’ve received nothing,” he said.

Meanwhile, the Izanqawe Community Trust continues to manage a productive timber business that has impressed the NCT panel.

“The operation was judged on general farm management and adherence to forestry standards in silviculture, harvesting, road construction and maintenance, environmental management and social responsibility,” stated the NCT citation.

“Izanqawe Farming is a worthy winner in this category. They managed to run the operation on high standards starved of any financial backing from the government or financial institutions. It was their determination and commitment that rendered them respect and assistance from neighbouring farmer, Martin Hill.”

The Izanqawe Community Trust has 199 beneficiaries, which includes 34 labour tenants who have been living on the farms for years. ☺
Harvesting, forwarding and handling equipment

Well known forest engineer Frank Uzzell has established a forestry equipment supply company, Green Projects, and has wasted no time in building up a stable of reputable brands supplying a range of timber and sugar cane harvesting, forwarding and handling equipment.

Frank has 26 years experience in the field working with companies such as Bell Equipment and Matriarch Equipment, and now with Green Projects.

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- Enfo 2000 – biomass bundlers
- Quadco – tree shears and attachments
- Raptor – stump harvesting attachments.

In addition, Frank offers a consultancy service, specialising in the design and development of both forestry and sugar cane harvesting, handling and forwarding solutions.

The Ponsse, Enfo 2000, Quacdo and Rotobec equipment is manufactured overseas and distributed in southern Africa by Green Projects. The Raptor stump harvester was designed and built in South Africa by Frank. This highly effective attachment is currently being used by Silicon Smelters in Limpopo.

Frank has also developed tri-wheeler logger and sugar cane loader diesel and hydraulic-oil filler cap breather conversion kits.

Frank recently arranged a trip to Uruguay and Argentina for South African clients to see mechanised systems for harvesting transmission poles. Frank said the trip was an eye-opener for his clients who are considering mechanising this operation. Tests have been done on harvesting transmission poles with various Ponsse heads to guage their effectiveness.

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Space-age technology helps curb runaway wildfires

Smart ways of preventing runaway wildfires from causing widespread destruction will be needed as climate change raises temperatures and creates larger tracts of tinder-dry veld.

These smart methods already exist, and many are being used by South Africa’s best Fire Protection Associations (FPAs). They include the use of space-age technology to detect wildfires; controlled burns to create buffer zones that protect property and vulnerable young veld; and moves by the insurance industry to educate landowners and encourage them to follow best practice in fire management.

Death, taxes and wildfire

“There are three things that are unavoidable: death, taxes and wildfire,” says Tony Marshall of CapeNature, which is responsible for 780 000 hectares of nature reserves.

“However, wildfire can be managed through pre-emptive preparations.”

The observations streaming down from satellites orbiting the earth include data on wildfire. In 2004, remote sensing specialist Philip Frost at the Council for Scientific and Industrial Research (CSIR) began developing an information system that could receive, process and distribute this data.

His ‘Eureka’ moment has been a massive boost for wildfire detection and prevention in South Africa and worldwide.

At the time, Frost and his CSIR team were working with Eskom, which was experiencing large numbers of line faults due to fire as its 28 000km of transmission lines pass through highly fire-prone terrain. In world-first research, the scientists worked out a way of turning observations of large fires into real-time SMS alerts and email messages. On average, over 30 000 SMS fire alerts are sent out per fire season to FPAs and Eskom.

“The technology that we developed allows FPAs to detect fires and respond immediately, instead of having to wait until someone sees it or smells the smoke, which may well be too late,” says Frost.

The data is on the Advanced Fire Information System website (www.afis.co.za), permitting viewers to see maps of fires in real time in any part of the world, for any stated period, using Google Maps as a backdrop. Monthly estimates of the area burnt and weekly fire danger maps are also distributed to hundreds of fire managers in South Africa.

The data is sent through the AFIS field terminals that have been installed across the Eastern and Western Cape, so there is no need for an internet connection.

GEF Fynbos Fire Project

The GEF Fynbos Fire Project was established to support adaptation and technology transfer in all developing counties party to the United Nations Framework Convention on Climate Change (UNFCCC). Co-funders of the project include the South African National Department of Environmental Affairs, through the Working for Water and Working on Fire Programmes, the Department of Agriculture Forestry and Fisheries, [Western Cape], Fire Protection Associations, the FFA Group of Companies and the United Nations Development Programme. www.fynbosfire.org.za

Block burns

The CSIR forecasts of fire risk also enable fire managers to assess the best conditions for doing block burns.

“These burns are a crucial component of fire risk management and they have been happening, although not to the extent we would like,” says Marshall.

Block burns are used to create buffer zones adjacent to valuable property, crops and plantations. They are also undertaken to burn vegetation that needs rejuvenating – most vegetation types across the country need fire in their lifecycle – and to manage invasive alien vegetation.

Block burns are not the same as firebreaks, which are generally much longer than they are wide and create cleared strips from which to fight encroaching wildfires.

“There is a risk in doing these block burns,” says Marshall, “but there is a far greater risk if we don’t do them.”

Braam du Preez is forestry risk manager for Cape Pine, the largest plantation owner in the Western Cape. Block burns play a large role in protecting the company’s property and plantations, and keeping the large tracts of fynbos on its properties healthy.

“There were severe thunderstorms in the George area just before Easter, and the lightning caused six fires that threatened two of our plantations,” he says. “The rain put out one of them and we had to fight the other five.

“We did a block burn about three years ago and could fight the fire from this area, stopping it from spreading further. If we hadn’t done that burn, we would have had a very big problem indeed.”

Another successful block burn was done some time ago around the Garden Route Dam, to burn old vegetation so that the stream flow into the dam would increase, he says. “Cape Pine, CapeNature, DAFF, SANParks and the municipalities all collaborated. It was a wonderful example of how an FPA should work.”

However, far more block burns need to be done, says Marshall. There are resource constraints. Many experienced fire managers have left the industry, and training is sorely needed. FPA members also need training to participate in block burns.

Santam, WWF and CSIR

Meanwhile, insurance giant Santam, WWF and the CSIR are collaborating on how to reduce the risk of uncontrolled wildfires. Their work focuses on Eden District Municipality due to its varied topography,
volatile weather conditions and the large value of assets that Santam insures there.

There were seven declared disasters in the Western Cape between 2003 and 2008, causing damage that cost R2.5 billion to repair in infrastructure costs alone. Over 70% of this damage occurred in the Eden region – the worst incidence of disasters ever over such a period.

Modelling by the CSIR showed that the Eden region has experienced and will continue to experience climate changes, most notably, temperature increases. Winter and spring temperatures in the area have risen by 1.4°C in the past century, and are predicted to rise by 1°C more by 2040.

As a result, the number of high fire-risk periods (lasting more than three days) is likely to increase by about 41% by the period 2020-2050, compared to that of 1960-1990.

This increase will be worst in winter, due to large temperature increases during this time – a trend that is already evident.

**Human impact vs climate change**

“Interestingly, we found out that the human impact on the environment was equal to or even more influential as a risk factor for fire than climate change,” says Onno Huysers, the WWF South Africa programme manager responsible for the initiative.

“The data showed us that historically, invasive alien trees have been the greatest driver of wildfire in this region.”

Invasive aliens increase the fuel loads and result in more fires outside of the natural fire season, as well as fires of greater intensity.

One of the focus areas of research is on FPAs, which play a powerful role in managing the risk of wildfire in South Africa by co-ordinating the efforts of municipalities, business and property owners, and ensuring that best practice is followed.

**A sustainable model**

The Fynbos Fire Project is providing FPAs in the fynbos biome with the resources to help them become self-sustaining. The ultimate aim is to develop a sustainable fire management model that can be replicated across South Africa, and even in other countries, in the face of a changing climate.

This multi-million Rand project is funded by, among others, the South African government, the United Nations Development Programme and the Global Environment Facility.

“How in South Africa, we have some of the best expertise in the world, and the most sophisticated systems ever invented for proper fire management,” says Fynbos Fire Project Director, Val Charlton. “Our role is to help support this work and expand these efforts to create a sustainable model for proper fire management.”

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**The impact of fire on chemical and physical forest soil properties**

by Neels de Ronde

One of the highly significant outcomes of research – observed by myself and others at national and international level – is that the impact of fire is positively linked to (i) fire intensity and (ii) fire residence time (i.e. the soil is exposed to high fire temperatures).

The higher the fire intensity and the longer the fire residence time, the more severe will be the impact of fire on forest soils. Light intensity, fast moving fires have little harmful effect on physical and chemical forest soil properties, and can even be beneficial to their chemical status, although this is mostly of a temporary nature.

In contrast, high-intensity fires – especially when linked to long residence times – can decrease macro-element budgets, particularly in the topsoil, and seriously damage physical soil properties.

There are also some basic characteristics of forest floors (above the topsoil) to consider, as these can protect the soil surface effectively against fire. In severe wildfire situations, even the thickest of forest floors will be consumed completely, exposing the underlying soil to serious damage. In medium intensity fires with a long residence time, (such as slash fires ignited after clear felling), fires can be applied in such a way that much of the forest floor layers remain intact, thus protecting the soil.

Some important observations regarding the effect of fire on soil properties are:

- Sandy soils are often already poor in nutrients, and their loose structure and texture make them more susceptible to both physical and chemical damage.
- Soil is a poor conductor of heat so the impact of fire is generally limited to the top few centimetres of the soil surface.
- Most of the available macro-nutrient budgets are sitting in the topsoil layer, and can thus be susceptible to fire effects if directly exposed to high intensity fire.
- In severe wildfire conditions, all forest floors are completely consumed, and much more of the top soil layers can be damaged seriously, requiring special management attention. The best way to identify such damaged sites is to look for discolouration of the top soil, normally in shades of orange, pink, red and/or yellow.
- If you observe that a significant percentage of the forest floor layers has been kept intact, expect no significant damage, but rather look for ‘ash-bed effects’, particularly where improved seedling growth has been present for a while after the fire.

**Impact of prescribed under-canopy burning**

Prescribed fires beneath the canopy of even-aged plantation stands are the least of a forester’s worries as, if applied correctly, such fires cannot do any chemical or physical harm to the soil properties. Instead, most benefit from the ‘ash-bed effect’. Where significant forest floor layers were present before a prescribed fire was applied, most of this material will remain intact, ensuring that any fire effects will be minor and positive.

The following table illustrates the affect of prescribed fire (light intensity), slash fires (medium intensity) and wildfire (high intensity) with regard to nitrogen (N) levels:

<table>
<thead>
<tr>
<th>Above and below ground</th>
<th>High fire intensity</th>
<th>Medium fire intensity</th>
<th>Low fire intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-litter layer (kg/ha N)</td>
<td>145</td>
<td>115</td>
<td>128</td>
</tr>
<tr>
<td>H-humus layer (kg/ha N)</td>
<td>0</td>
<td>140</td>
<td>188</td>
</tr>
<tr>
<td>Below soil surface – top soil (particles per million)</td>
<td>4 843</td>
<td>3 795</td>
<td>2 911</td>
</tr>
</tbody>
</table>

The higher the fire intensity experienced, the more above-ground N is replaced to below-ground soil levels, as the forest floor material is consumed by the fire and transported in the form of ash to below-ground levels. The above table only provides part of the nitrogen movement cycle, as some is also volatilised into the air, and the remaining levels in the forest system will be replenished over time as a result of increased nitrification.

So, nothing to worry about when applying prescribed burning correctly. However, be very careful about this type of fire application on sandy soils. Limit the application of prescribed burning to stands with a significant above-soil surface forest floor, and avoid complete fuel consumption of forest floor layers to avoid direct heat exposure to the soil.

**Table 1. Illustration of Nitrogen levels above and below the soil surface after a wildfire experienced at Hogsback plantation in the Eastern Cape province**
Impact of burning slash after clear felling

Slash burning after clear felling of trees is the subject of endless debates among foresters. However, I think all agree that when slash levels are no problem with tree establishment, slash burning should not even be considered, but slash should rather be spread out within the stand. When reduction of slash is a necessity, foresters normally decide on one of the following options:

A. Spreading the slash without burning application, after clear felling and timber exploitation.
B. Spreading the slash with broadcast burning application.
C. Stacking the slash in rows without burning application.
D. Stacking the slash in heaps and then burning the heaps.

I don’t want to enter into a discussion about the merits of burning or not burning hair, apart from pointing out that handling the slash in some way can as much as double the establishment costs. Burning applications, on the other hand, require some precautions to avoid damage to soil and nutrient status.

Intensive work studies in the Tsitsikamma region have proven that stacking slash in heaps and then burning the heaps is an expensive treatment, with broadcasting and burning slash being significantly cheaper.

From a safety point of view, burning of slash heaps produces spots (burning stacks) of very high intensity fires, which can easily become uncontrollable, even with relatively light winds (own experience and observations).

More disadvantages of stacking and burning of slash heaps vs. broadcast burning application can be summarised in Table 2.

Experience has taught foresters that after severe wildfires, an accurate assessment of wildfire damage is needed. This should be done within weeks of the fire. Such ‘assessment procedures’ should preferably be carried out by experts in the fields of (i) fire impact assessments on trees and (ii) fire impact assessment on physical and chemical soil properties.

Table 2. Comparison of advantages and disadvantages of two common slash fire treatment methods

<table>
<thead>
<tr>
<th>Advantages and disadvantages</th>
<th>Relative</th>
<th>Stacking slash in heaps and then burning the heaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire intensity per unit area</td>
<td>Relatively mild to medium fire intensities spread throughout area.</td>
<td>Medium to high fire intensities, concentrated on stacked/burned spots.</td>
</tr>
<tr>
<td>Duration of fire residence time</td>
<td>Relative short, seldom longer than 10-20 seconds.</td>
<td>Long periods of fire heat exposure on stacked/burned spots, lasting several minutes.</td>
</tr>
<tr>
<td>Smouldering fire problems: Probability and seriousness</td>
<td>If found, normal, restricted to old stumps, never lasting long if treated soon after fire.</td>
<td>Serious where heaps were burned, with particular deep smouldering in old stumps and root channels, but also in humus layers, which could last days and even weeks.</td>
</tr>
<tr>
<td>Safety grade during and after burning application</td>
<td>Reasonably safe, if strip head burning is applied correctly.</td>
<td>Safe in ‘no wind’ situation, but can become uncontrollable very quickly, even with relatively light winds.</td>
</tr>
<tr>
<td>Effect of fire on physical soil properties</td>
<td>Seldom if any damage to top soil, if burning is applied correctly.</td>
<td>Can cause serious damage to physical soil properties where heaps are burned.</td>
</tr>
<tr>
<td>Effect of fire on chemical soil properties</td>
<td>Mostly only slight improvements in the top soil, but special care required on sandy soils.</td>
<td>Serious nutrient depletion can be experienced on sites where heaps are burned.</td>
</tr>
<tr>
<td>Weed problems after fire application</td>
<td>Normally manageable, provided humus layers are not consumed completely.</td>
<td>Serious weed problems can be experienced, concentrated on burned micro-sites.</td>
</tr>
</tbody>
</table>

Ash-bed effect

The ‘ash-bed effect’ is exactly that – ash from the fire is deposited onto the topsoil, and nutrients concentrated within it are carried into the soil with moisture and this is made available to plant roots. This effect is only temporary, but can be highly beneficial, particularly to young tree plants, as it increases growth significantly.

Prescribed burning

By far the most common application of prescribed burning inside stands is in Pinus compartments, after crown canopy closure. However, the latest results show that its application inside Eucalyptus stands is also feasible, provided that some added precautions are taken. The application of the technique is seldom required in Acacia mearnsii stands after crown canopy closure, because of its excellent decomposition rates.

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STIHL leading the way

In its dedication to innovation and progress, renowned German power-tool manufacturer STIHL is continuously refining existing applications and finding new ones for its products. To this end the company recently sponsored a field day at Mondi Boscombe in KwaZulu Natal, where STIHL area sales manager, Duncan Fryer, and others, demonstrated some of STIHL’s most popular products in the silviculture industry. This was followed by a discussion exploring existing and possible new applications for these products.

One of these products was STIHL’s FS 460 C-EM brushcutter with the fully electronic M-Tronic engine management system, coupled with STIHL’s shredder blade, which has proven very effective in clearing thick overgrowth to make access easier when spraying appropriate chemicals. The double shredder blade is uniquely designed to easily thin and remove tough scrub and thorny bushes, as was demonstrated by Ray Kinsey from ICE Training and Consulting.

Of particular interest was STIHL’s most advanced clearing saw, the new STIHL FS 460 C-EM K. With a shorter shaft and slightly less angled head than the brushcutter, an optimised 25° gear system and chisel tooth blade, it is suitable for a range of forestry applications including the effective clearing of regrowth and coppice reduction, for which it is ideal.

The STIHL brand is known round the world today for state-of-the-art engineering, quality and service – this is a brand you can rely on.

Demonstrations of STIHL’s HT 101 mechanical pole pruner and the Super Turbocut telescoping saw were also well-received. They allow for quick and effortless pruning of branches.

Another product was the SR 430 mistblower, which showed its superior performance in pest control. With a spraying distance of up to 14.5m and easy-to-use functions, the SR 430 effectively covers two rows of trees simultaneously. Both the SR 420 and the SR 430 can be fitted with an ergonomic hip belt which reduces the weight on the operator’s back and shoulders, allowing for all-day operator comfort.

The BR 600 backpack blower, which is very popular in forestry applications, especially for clearing leaves and other debris for fire breaks, was also demonstrated. STIHL MD Hayden Hutton stressed, however, that while blowers have proven their ability to quickly and cost-effectively clear dry earth mineral firebreaks, they do have their limitations and can be dangerous for use in fire-fighting. He added that all the risks should be carefully assessed before deciding to use blowers for fire-fighting, and said that more research needs to be done to ascertain the best practice in South African conditions.

A focus point of discussion was operator safety - the need for safety gear and equipment and for policies to be put in place to ensure the safe use of the power tools. Similarly, correct use and proper maintenance of equipment is crucial to ensure optimum performance and to prolong the working life of the product. Operators need to be trained to use the equipment, how to maintain it and to know when it needs to be serviced.

With a nationwide network of over 140 speciality dealers, STIHL is able to offer expert advice and unparalleled after sales service wherever you are. This, along with STIHL’s guaranteed parts availability, means that contractors can be sure that their STIHL products will have minimal downtime. The STIHL brand is known round the world today for state-of-the-art engineering, quality and service – this is a brand you can rely on.

For more information, contact STIHL toll free on 0800 336996 or visit www.stihl.co.za.
Weekend farmer Dave Wibberley needed to fell 200 trees, but had limited access for large transport to move the logs once the trees were felled. This presented a real challenge that called for an innovative solution.

"As I have limited access for large transport vehicles on the farm, I was probably going to end up cutting the trees into blocks and firewood, a real waste given I had some beautiful 30-year-old cedar and pine in the woodlots that form part of the property," remembers Dave.

He then thought about how he could add value and after scouting around, found an old Wood-Mizer LT30HD sawmill at a wood yard in Belfast, near his farm in Dullstroom. The machine was in a sorry state with all the hydraulics and control systems in pieces.

Dave, a mechanical engineer who runs an industrial automation business, decided there and then that the challenge was on. After purchasing the scrapped machine, he shipped it to Johannesburg where he worked with a fellow electrical engineer to renovate it.

"I visited Wood-Mizer Africa who assisted me no end by giving me all the operating and maintenance manuals for a similar machine," said Dave. "Even though the manuals were for a more modern LT, the diagrams and information were good enough for us to work from."

Dave and his team then completely stripped and reconditioned the mechanical and electrical parts and fitted a new control board. "I was amazed that the 30-year-old hydraulic pack and actuators still worked. Although we had to get new springs made, once we had power in the unit and re-primed the actuators, it all worked."

It took two months working in the evenings and on weekends but eventually the machine was ready to go and was towed to the farm for the big start-up. Wood-Mizer Africa’s sales representative for Mpumalanga, Rob Moxham, joined Dave to assist with the initial set-up.

"It took a morning and lots of questions from my side to fully understand the machine, but once the set-up was complete, the old lady ran like a dream," he said.

After learning a little about cutting, Dave used his skills learned in the field of industrial control systems to add a few enhancements to the mill.

"I managed to run the blade into the clamp and supports a couple of times so I decided to put a couple of additional sensors on the machine to prevent this from happening again. Two Omron cat whisker sensors now fitted to my Wood-Mizer has saved me from some serious damage. The sensors are wired directly into the cutting head forward motion motor and automatically stop the advance motor if the clamp and side supports are too high. I also added a current sensor so that the hour meter only advances if I am actually cutting wood.

"I have decided to plank all the wood and build myself an old style wooden barn and I have no doubt that my LT30 will handle anything I throw at it," Dave said.

Dave’s story applies to many farmers whose land includes woodlots or parcels of timber that have lain fallow. Their origins might be partially to blame for that – some might have been planted or are feral or have resulted from subdivisions or have sprung up over obstacles that prevent the farmer from using the land. They could also be the remnants of commercial logging operations where profitable diameters have been extracted or the trees have been compromised by disease and abandoned.

One distinguishing characteristic of a woodlot is that the parcel size or quality of wood on the parcel does not generally justify full-scale commercial harvesting. However, sensible forest management practices, even on a small scale, can turn a woodlot into a useful resource.

Finding the right machine to plank timber doesn’t necessarily involve buying new and expensive equipment either, as Dave has proven.
Locally manufactured cherry picker

A Pinetown-based engineering firm has developed a versatile, locally-manufactured cherry-picker that can make working at heights safe, easy and cost-effective.

The machine has been designed and built by Pinetown-based Protea Engineering, with the base model coming in at just under R300 000. It is based on a three-wheeler, and is powered by a three cylinder, 20 kW Lambardini engine.

Two models are currently available, a BL 650 and BL 550. The numbers indicate the height of the platform, i.e. 6.5 and 5.5 metres above ground level respectively. An interesting innovation is the availability of hydraulic power on the platform, which enables a worker to connect a hydraulic saw for purposes of pruning at height.

According to Andrew Kelly of Protea Engineering, it is a self-drive machine with plenty of torque and good ground clearance, so it’s nimble on rough terrain and can easily be driven from tree to tree from the working platform. It also has quick-release wheel hubs, which means it can be hitched to a bakkie and towed.

Customers have the option of choosing a boom that hinges so it can be folded back on itself to reduce wear and tear while travelling.

Andrew says that they started manufacturing the machines just over a year ago, after receiving a number of requests from clients. To date, seven machines have rolled off the production line, and are being used in the fruit industry as well as in mining. There are another two machines currently in production.

Andrew believes that the machine is ideal for use by nurseries and tree breeders for pruning and collecting seed at heights, and could also be used for pruning branches in sawlog plantations.

Protea Engineering was founded some 30 years ago, serving mainly the textile industry, but has diversified into automation design, and produces components and equipment for clients across southern Africa.

Enquiries: Andrew@proteaengineering.co.za
Mondi Zimele Jobs Fund

Mondi Zimele is the enterprise development arm of Mondi South Africa. Our aim is to encourage long term economic empowerment and job creation by developing small businesses in Mondi’s forestry value chain and surrounding communities.

Mondi Zimele has established the Mondi Zimele Jobs Fund which provides business support and low interest loans to emerging businesses that create sustainable employment.

Find out more about us at www.mondizimele.co.za

Who is eligible?

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Mondi Zimele has stepped in to support an emerging nursery and garden services business that has secured a contract to operate Mondi’s tree seedling nursery in Piet Retief.

The low interest loans, business coaching and mentoring provided to Fanyana Nursery and Garden Services by Mondi Zimele, through the Mondi Zimele Jobs Fund, has proven to be invaluable for the fledgling business, especially after the sudden passing of its founder, Fanyana Nkosi.

Fortunately, Fanyana’s widow, Doris Shabangu, and the Fanyana Nursery management staff, have considerable nursery experience between them, and with guidance from the MZJF team and Mondi’s nursery manager, Thokozani Mnguni, they have maintained continuity and production.

Fanyana Nkosi established Fanyana Nursery and Garden Services in 2011 after he took early retirement from Mondi. Fanyana was an experienced nurseryman, having worked in many of Mondi’s nurseries around the country over a period of 26 years.

Initially, the new business secured a one-year contract to operate Mondi’s Piet Retief nursery, which produces eucalyptus seedlings for Mondi’s plantations. After successfully fulfilling the contract, Fanyana secured another three-year contract to operate the nursery.

Mondi Zimele’s role was to provide comprehensive business support including advice, coaching and mentorship, and to extend low interest loans for the purchase of a bakkie, a tractor and four seedling trailers through the Mondi Zimele Jobs Fund. Prior to the purchase of the tractor and trailers, the seedling trays were moved around the nursery in wheelbarrows, which created a bottleneck in the production process. Each trailer is capable of carrying 36 seedling trays, which has speeded up and simplified this process.

Production target

Fanyana’s production target is to produce 3 000 trays per month. Each tray has 128 seedlings, so that converts to 38 400 seedlings per month. In terms of the contract, they prepare the trays and growing medium, sow the seeds, move the trays into the germination room and then out into the nursery where they are carefully nurtured until they are ready to be dispatched to the field for planting.

This work is performed with a total staff complement of 25 people, which includes the management team. All of the nursery infrastructure, including tunnels, irrigation systems, offices, workshop and germination room, are provided by Mondi. The improved eucalyptus seed is produced at Mondi’s Mountain Home Nursery in Hilton.

The Fanyana team also maintains the gardens at the nursery.

After Fanyana passed away, the business was taken over by his widow, Doris, who has worked in Mondi nurseries since 1987. The day-to-day hands-on management is provided by acting manager Thobi Nhlabathi and supervisor Sicelo Mncwango, both of whom were existing Fanyana employees.

Mondi Zimele appointed Hendrik Klopper as mentor for several months to transfer essential business admin and management skills to the Fanyana management team. In addition, MZJF’s Business Development Manager in Piet Retief, Ntsiki Mthethwa, is on hand to ensure that the business runs smoothly, and she meets with the management team regularly.

A key player in Fanyana Nurseries’ continuing success is Mondi’s Piet Retief nursery manager Thokozani Mnguni, who has heaps of experience and goes out of his way to ensure that the Fanyana team meets their production targets.

One of the challenges they face is a shortage of
space at the Piet Retief nursery. To overcome this, they have transferred some of their operations to Mondi’s eDumbe nursery at Paulpietersburg.

They supply seedlings to Mondi’s plantations around Piet Retief and Paulpietersburg, and have recently filled orders from Mondi plantations in Melmoth in Zululand.

Speaking on behalf of the Fanyana Nursery management team, Thobi acknowledged the support they had received from Mondi staff, and especially Piet Retief nursery manager Thokozani, and from Mondi Zimele. She said they are keen to grow the business in the future.

“As Fanyana, we want to provide more services to Mondi and other companies so that we can create more jobs for our community,” said Thobi.

Training

One of Mondi Zimele’s aims is to ensure that the Fanyana team continues to improve their capacity through training and mentorship. Ntsiki said that they have developed a comprehensive training matrix for Fanyana to ensure that they acquire the necessary skills to enable the business to grow. She said that Sicelo has recently enrolled for a computer course at the local, Mondi-sponsored, FET college, and that Seda had come on board to help Fanyana implement a Five-Star NOSA grading.

Fanyana Nursery and Garden Services has successfully overcome the challenges that have come their way, and they are quietly confident that they will continue to meet their targets and grow the business into the future.

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SGASA Certified Seedling Nursery
Sunshine Seedlings has purchased a new seed planting system from Italian manufacturers Urbinati to further improve their seeding accuracy and production. Sunshine will also market the Urbinati machines into the central and southern African regions.

Bryn Pollard, one of the directors of Sunshine Seedling Services, visited Urbinati in Italy and saw first-hand how the machine works and where they are manufactured. It took very little convincing that Urbinati was the way forward in order for Sunshine Seedlings to achieve its goal of superb seedling quality, productivity and efficiency.

Urbinati have not had a presence in southern Africa and they have requested that Sunshine Seedlings, as one of the major nurseries in South Africa, market their machines into central and southern Africa. This will ensure that service and back up will be provided for all Urbinati products in this region.

The seeding machine arrived at the nursery recently and the team wasted no time in assembling the various components.

Rainbird watering system
Sunshine Seedling Services has been irrigating and watering with the age-old method of boom sprayers and handline watering. With the progression of technology, the nursery management has opted for the Rainbird watering system operated by computer. This system is set on timers and each table is watered for one minute and repeated four times at a specific time.

The system uses a rotary nozzle. The time settings are set according to size, type, age etc. of the seedlings grown. Each table can be treated differently according to its specific requirements.

This new system has made watering the nursery more time efficient and has saved on labour expense. The evenly spaced sprayers are fitted with a nozzle which sprays water in a rotational movement at a constant pressure. All the plants get watered evenly, and only small spaces need to be hand watered.
Setting up a community honey project

James Ballantyne of Rural Forest Development explains how a honey bee pilot project was set up at the Zintwala community forestry project in southern KwaZulu-Natal...

After some fires at the Zintwala plantation, caused mostly by youngsters trying to get honey from wild swarms of bees, myself, Themba Radebe and Lawrence Ntsizwana went to see a commercial bee-keeping business in Byrne near Richmond, to find out how to start a honey bee project.

We found out that the honey flow in the KZN Midlands takes place between April and July/August each year. We also found out that we should purchase hives from McGladdery's in Eston and make them up ourselves.

The catcher boxes were placed in the plantation at Zintwala, and three swarms were caught in 2011. These boxes were placed at Lawrence Ntsizwana’s house near the Zintwala plantation.

One cannot collect honey from a swarm the year you catch it, so it was only in 2012 that the first honey was collected. We collected 19 frames, which produced a total of 19 bottles of honey.

The bottles were labelled and given away as gifts to various people who had done a lot in terms of the various forestry projects. These included members of RFM, Mabandla, Zintwala, Sihleza, advisors to projects and the Chiefs from the different projects.

This year, we purchased our own spinner and heating tanks, etc. A further two swarms were caught at Zintwala in 2012, so there are now five swarms. We collected 25 bottles of honey from the first robbing in June, and we look forward to many more bottles being produced in future.

Challenges and opportunities

One of the main challenges we faced was that Lawrence did not have enough time to rob the bees regularly (it should be done every two weeks during the honey flow season). This meant that the honey in the combs started crystallising, and so we didn’t get out as much honey as we could have. The problem is that the honey season coincides with timber harvesting at Zintwala and that is where it is important for Lawrence to focus his attention.

Rob Winters, the commercial beekeeper from Byrne whom we visited, has 34 active hives and gets roughly 2 000 to 2 200 bottles per season. This is equivalent to 58 bottles of honey per hive in the season.
The way forward
A lot of interest has been generated from the honey collections. Lawrence Ntsizwana has had an initial meeting with eight members of the community who are interested in pursuing a honey project at Zintwala.

Zintwala Forestry project
Zintwala is a community forestry project situated in the Umzimkulu area in the southern KZN Midlands, with 310 ha planted.

Lawrence Ntsizwana is the Manager of the Zintwala Development Company (Pty) Ltd and the Chairman of the Zintwala Community Trust. The Trust represents all the people living at Zintwala (the households who, in 2000, invested their Government grants in a forestry project). The Trust then ‘lent’ the money to the forestry project to establish the plantation and create jobs.

Rural Forest Management, headed up by Peter Nixon and Themba Radebe, has a contract with Zintwala to provide business management skills, mentorship and technical expertise to the forestry project. James Ballantyne assists the RFM team to support the Zintwala project, which is FSC-certified.

Left: Beehives are kept in a protected enclosure close to the plantation.

Members of the Shhaza community, including iMxosi Nwadla, checking on the bees that have moved into the bee box inside the tractor tyre.
Rare forests and apes on the world’s largest island, Borneo

by Michal Brink

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Forests
Borneo, the third largest island in the world, is situated between Indonesia, Malaysia and Brunei. It was once covered with dense rainforests, but along with its tropical lowland and highland forests, there has been extensive deforestation in the past 60 years.

In the 1980s and 1990s, the forests of Borneo underwent a dramatic transition. They were burned, logged and cleared, and commonly replaced with agricultural land or palm oil plantations. Half of the annual global tropical timber production currently comes from Borneo. Furthermore, palm oil plantations are rapidly encroaching on the last remnants of primary rainforest. Much of the forest clearance is illegal.

The majority of Borneo’s landscape was once covered by the tropical lowland evergreen forest which is also called the mixed dipterocarp forest. The name comes from the dominating tree family found in these forests, the Dipterocarpaceae. Most of Sabah’s timber trees are dipterocarps, such as seraya, keruing and kapur. These forests, which once covered a large area of Sabah, occur from sea level up to 1200m.

Most of the biggest and tallest trees (called emergent) are found in this forest, protruding above the canopy of crowns and reaching heights of over 60 metres. Underneath the forest canopy one finds a profusion of trees of different sizes and kinds and in different stages of development, as well as other plant life such as bamboo.

Bamboos are giant grasses – they are classified in the plant family of grasses – Poaceae. There are more than 1200 species of bamboo worldwide.

Bamboos range from plants the size of field grass to giants up to 36m tall. All continents have native bamboos except Europe. In Malaysia, 80 species of bamboos are found, including those introduced from other countries.

Bamboos grow very fast. The world record is the common Japanese madake bamboo (Phyllostachys bambusoides), which was recorded growing at 1.2m a day. In Sabah, bamboo was traditionally the most important raw material used by the natives of...
Sabah. It is used for house building, making bridges and rafts, fences and water pipes. Other uses of bamboo include making animal traps and cages, blowpipes, kites, musical instruments, household and kitchen utensils and ornaments.

After the dipterocarps, the second most important natural forests are the peatswamp forests. These forests support a unique kind of vegetation different from that of the dry land, and which are specially adapted to grow under waterlogged conditions.

Peat is an organic type of soil which is formed by undercomposed plant material. The peat is formed because the normal decomposition of plant material is slowed down by constant flooding by rainwater (as opposed to mangrove forests, which colonise the muddy shores of coasts and river estuaries). Sabah also has mangrove forests along the coastline, which are all protected by law.

Fauna

The Bornean orang-utan, Pongo pygmaeus, is a species of orang-utan native to the island of Borneo. Together with the Sumatran orang-utan, it belongs to the only genus of great apes native to Asia. Like the other great apes, orang-utans are highly intelligent, displaying advanced tool use and distinct cultural patterns in the wild. Orang-utans share approximately 97% of their DNA with humans. The Borneo orang-utan is an endangered species, with deforestation, palm oil plantations and hunting posing a serious threat to its continued existence. An orang-utan male may stand up to 1.4 metres tall and can weigh up to 100kg. Their arms are almost twice as long as their legs, giving an enormous reach of up to 2.4 metres. The adult female is much smaller, weighing about 50kg.

Another unique primate found in Borneo is the proboscis monkey or long-nosed monkey, which is a reddish-brown arboreal Old World monkey that is endemic to Borneo. The protruding nose of the proboscis monkey develops with age, with infants having more monkey-like noses and older mature males having larger and more bulbous ones.

Although scientists are still unsure as to exactly why the nose of the proboscis monkey grows so big, it is widely believed that it is used to attract a female mate as the noses of females are much smaller.

In the 1980s and 1990s, the forests of Borneo underwent a dramatic transition. They were burned, logged and cleared, and commonly replaced with agricultural land or palm oil plantations. Half of the annual global tropical timber production currently comes from Borneo.

Due to the fact that the proboscis monkey requires a good fresh water supply such as a swamp or river, they are excellent swimmers and are known to travel across very deep areas to find food or to escape approaching danger.

Proboscis monkeys. This species of monkey enjoys swimming and they have been found in the ocean by fishermen, more than a km from land.

Oil palm – the agricultural crop that has led to the devastation of millions of hectares of tropical rain forests in Asia.

Native bamboo species growing in the Bornean forests.

Typical dipterocarp forest that dominates the tropical forest landscape.
The many uses of *Pterocarpus angolensis* aka ‘Kiaat’

**by Dr Coert J. Geldenhuys**

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**Introduction**

What strategy would you follow if you are a tree growing in tall dense grass with seasonal droughts and ravaging fires? Furthermore, you have to deal with animals that like your bark and the nutrients you have stored in your roots. There are many tree species in the deciduous woodlands of southern Africa that have tried to overcome such threats. We have to understand the survival strategy of each species to know how to manage it sustainably.

*Kiaat, Dolfhout, African leak, Bloodwood, Umbila, Mulwa and Mulombe are just some of the many common names of *Pterocarpus angolensis*, one of the prime timber species of the woodlands of southern Africa. The names reflect its wide distribution and the many different cultures of people who use this tree in many different ways. Structural and furniture timber are only some of the uses. Foresters may wonder why it is not more widely planted.**

**Distribution and woodland types**

*Pterocarpus* is a tropical genus of trees within the subfamily Papilionoideae of the legume family Fabaceae. The scientific name means ‘wing fruit’, i.e. the unusual shape of the pod within the genus. There are about 35 currently recognised species, of which three African species are well known for their good timber, wood carving and traditional medicine. *Muninga* or *P. erinaceus* grows in the Sahelian woodlands in West Africa and is also used as a nitrogen_fixer in nutrient-depleted farmland. *Padouk* or *P. soyauxii* grows in the tropical moist forests of the Congo Basin and is also used to make musical instruments for the acoustic quality of its timber. *P. angolensis* grows in the northeastern parts of South Africa, and in Swaziland, Mozambique, Zimbabwe, Botswana, Namibia, Angola, Zambia, Malawi, southeastern Democratic Republic of Congo and Tanzania, in Miombo and undifferentiated woodlands of the Zambezian Regional Centre of Endemism. It grows over a wide range of sites with a wet season alternating with a dry season, and generally well-drained substrates.

**Characteristics and reproduction**

The mature tree has a beautiful umbrella-shaped spreading crown on a short to long cylindrical stem, covered with dark-brown rough bark. This bark oozes a reddish-brown sap when damaged and this seals the wound; this is the origin of the name bloodwood. The light-green compound leaves are deciduous; the tree is one of the last of the woodland species to get new leaves during the start of the rainy season and the first to drop its leaves during the start of the dry season. It is common to see the leafless trees in the woodlands. The yellow flowers generally appear before the leaves, and develop into the characteristic pods with bristles surrounded by a wing. The wing enables the fruit to drift in the wind for short distances away from the parent tree. Some people think the bristles help to anchor the fruit into the sandy soil surface, and burn during a hot fire. That enables the seed to germinate. The seed germinates relatively easily and well, but in nature, we often do not see many seedlings developing, or maybe we do not know what the seedlings look like.

**Establishment and growth**

The seedling does not like competition from grass and benefits from regular burning of dense tall grass to become established. It has developed a strategy to deal with such regular fires. During the first few years, the plant (seedling) develops a swollen root and makes only temporary small shoots that die...
back every year during the dry season. Once the plant has adequate reserves in the swollen root, it makes a strong enough shoot with a relatively thick bark (sapling). This characteristic is genetically fixed in the plant; even under very favourable conditions in a garden with no drought or fire, the shoots will die back for several years before the strong shoot grows up. It has been said that this process may take 10-15 years for a plant to develop a strong, permanent shoot (pole) that eventually grows into a tree. However, the stored reserves make the plant vulnerable to being dug out by elephant and porcupine, and elephant also often damage the bark of the tree to make it vulnerable to damage by grass fires. Once established, the young plants require enough light to establish and grow and therefore need large gaps. Young Kiaat plants are often found near settlements and along the edges of cultivated fields where grass competition is reduced. The tree develops a long, straight stem within a tree stand if the gap is big enough, but in the open, it often develops a spreading crown, with more than half the tree volume in the branches.

Use value
The brown heartwood of Kiaat is resistant to woodborer insects and termites, is durable and has a pleasing spicy fragrance. The attractive light brownish-yellow wood is stable during drying, polishes well and is a sought-after timber for furniture and veneer. In the sandy soils of northern Namibia, trees were cut into planks by pit-sawyers. The planks were then stacked against a tree to dry. The wood is often used for woodcarving, implements and building canoes. The wood produces a rich, resonant sound and is used to make different musical instruments. The tree is valued for several medicinal uses such as to treat ringworm, eye problems, blackwater fever, stabbing pains, malaria, and to increase the supply of breast milk. The bark is stripped for traditional medicine and for binding fibre. Debarked wounds recover well through renewed bark growth on the edge of the wound.

Sustainable resource use
Integrated multiple-use management is the key to sustainable use of Kiaat, and has to go hand in hand with specific management to facilitate establishment and growth of the regeneration into trees with long, straight cylindrical stems. The current practice is for different users to each cut a tree, use the main stem and discard the rest of the wood in the crown portion. However, integrated use of one cut tree and use of all parts of the tree could satisfy the needs of the timber concessionaire for large logs for structural timber and veneer, of the local carpenter for small and larger pieces of wood, the wood carver for smaller pieces of wood with both heartwood and sapwood, and the traditional healer for bark. This would result in fewer trees being cut. At the same time, branchy stems of small kiaat trees could be pruned to ensure the development of straight, branch-free stems up to about 10-12 m. Spot-burns in areas of good kiaat regeneration could reduce the devastating effects of wild fires and at the same time facilitate the height growth of the kiaat poles and small trees.

Resource managers in the woodland areas often say that kiaat has been depleted from their areas because they see no big trees. However, on closer inspection, one sees many kiaat seedlings, saplings and/or poles. It is often a matter of not knowing what these plants look like and how to manage the vegetation to help these kiaat plants to develop into future timber trees. We need to know what we have before we can manage our precious resources effectively.

CUTTING GUIDE
1st cut: at base of tree; for good coppice regrowth near ground. Red lines indicate logs for veneer or good large-size high-quality furniture timber. Green lines indicate timber for furniture timber of larger surfaces. White lines indicate extra utilisable timber from a tree if suitable mobile saw could be used to cut small logs into pieces for do-it-yourself furniture such as chairs – that should not be cut from the larger logs. Throughout pieces could be used for woodcarving of home utensils and curios for tourism industry. Point of cutting for the furniture industry should be guided by straightness, minimum length and portion of brown wood (not white sapwood) required for a particular product. All bark could be used for traditional medicine and fibre.

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QUALITY • RELIABILITY • SERVICE • CONSISTENCY
Developing a standard, industry-wide work study protocol

by Simon Ackerman (FESA) and Pierre Ackerman (University of Stellenbosch)

FESA is implementing an industry-wide productivity standards development protocol which will put the South African forestry industry at the forefront of productivity management and reporting ...

I t is common knowledge among foresters that the harvesting and transport phase of the forestry supply/value chain is responsible for about 75% of wood procurement costs, with silviculture and forest management costs making up the balance. Often the cost of wood procurement is partially overlooked due to the inherent short duration of this portion of the value chain; a matter of hours as opposed to a number of years for other components.

Although mention is made of harvesting and transport as particularly high cost drivers, modern day supply chain thinking dictates reductions in total supply chain costs rather than in individual elements. Hence the supply chain encompasses all aspects of forest operations from planting to final product. Costing and productivity benchmarks are used in all forestry operations, and productivity figures used for particular systems, operations and machinery can assist in determining and evaluating the economic viability of the enterprise.

The reliability of productivity standards in forestry has often been questioned. Although some of the historic standards used are sound and based on sound methodologies, much of the equipment and systems where these standards were implemented has become outdated. This leads to the questions, “what standards are being used?” and “how is the data being gathered and interpreted?”

It appears, from various sources, that contractors and companies have their own unique set of standards. Many of these are based on experience, and use data from specific systems. However, these practices are situation-specific and not replicable or useable outside of the specific context. This lack of sustainable standards results in wide variation, both in calculated productivities and costs across otherwise similar operation types. As such, there is no meaningful way to compare and evaluate operations on a sound basis.

The South African forest industry is ever-changing with the adoption of new technologies and the development of new operation research techniques. For this reason, FESA is in the process of implementing an industry-wide, productivity standards development protocol. A standard South African Forestry Industry Work Study Protocol will allow the different role players across the industry to follow the same approach for the collection of data through FESA. This allows for a sound comparison of gathered time study data and maintenance of the relevance of these standards into the future. These standards, created through consideration of historic data, will also use both current and new technologies as well as modern analysis techniques.

It is envisaged that this protocol will assist towards putting the South African forestry industry at the forefront of productivity management and reporting. Data will be collected in a statistically sound manner, rigorously analysed and made available through FESA for the benefit of the Industry as a whole. Interaction and feedback from contractors, companies, academics, consultants and other interested parties are welcomed as this will assist in driving this initiative forward and making it a success.

Contact: Simon Ackerman – 033 386 2314 or fesa@icfr.ukzn.ac.za

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The College of Machine Operators (CMO) has presented the first training module attended by eight learners who entered into a formal Learnership programme.

The Learnership programme, which targets unemployed and employed learners, has been made possible through a discretionary grant received from the FP&M Seta and a partnership between the SA Forestry Contractors Association (SAFCA) and the FP&M. Sappi, AfrEquip, Husqvarna SA and Ntuso Holdings have supported this initiative with the identification of beneficiaries who are enrolled on the learnership.

SAFCA applied to the FP&M Seta for funding for the Learnerships, while CMO is the training service provider and also a learner sponsor. Sappi has sponsored three of the learners who are employed with the company, AfrEqip is sponsoring two learners (currently unemployed), Husqvarna is sponsoring one learner (unemployed), and CMO is sponsoring two learners (one employed and one unemployed).

Thami Zimu of Ntuso Holdings has offered to provide two of the learners with the practical experiential learning required to complete the programme.

Zelda Immelman of CMO explained that the Learnership is a one-year programme. After successfully completing the course (fundamental, core and elective components), the learners will be awarded a National Certificate: Forestry: Timber Harvesting, which is at NQF Level 3.

The Learnership programme is intended for people who are working or intend to work in timber harvesting, and equips these learners with essential skills in forestry operations.

Recipient of this qualification will be able to enhance safety and productivity in timber harvesting, use felling or extraction systems, prepare a timber harvest plan and to manage/supervise a harvesting team.

The learnership is further broken down into the following specialist areas, namely cable yarding, feller-buncher, harvester, tractor, skidder or forwarder.

The course, presented by CMO in Pietermaritzburg recently, was ‘Management/Supervision of Mechanised Operations for Foresters/Supervisors’. It is a five-day course built around the Plan-Do-Check-Act management approach, covering both the theoretical knowledge and practical components.

The objective of the course is to equip foresters/supervisors with the skills to manage/supervise a mechanised operation, and enable them to prepare a harvesting plan, manage operators and do shift scheduling. They will be equipped with an understanding of harvesting machines, felling patterns and extraction methods, and the implications of maintenance and productivity on costs.

The Learnership programme is open to learners with or without forestry experience. It is designed to provide job seekers with a recognised qualification that will help them in their efforts to find employment, while providing those already employed in forestry with an opportunity to advance their careers in their chosen field. It also provides a stepping-stone to further qualifications.

The Learnerships are offered in areas where there is a recognised shortage of skills, so the chances of successful learners finding employment is enhanced. The industry also benefits by moving towards closing a critical skills gap and having a pool of skilled people in key operational disciplines.

After verification, the FP&M SETA will certify learners with a nationally recognised qualification.
Sappi sells Usutu plantations

Sappi has announced the sale of Usutu Forest Products to locally-based Montigny Investments Ltd, for R1 billion. Finalisation of the sale is subject to fulfillment of a number of conditions, including approval by the competition authorities of both South Africa and Swaziland.

Usutu includes 67 000 ha of softwood plantations, a decommissioned pulp mill and two villages. This is the same plantation that was badly damaged by runaway fires in 2008.

Montigny is a Swaziland registered company that supplies timber products to the mining industry, produces finished products for the building industry, supplies by-products to the bio-fuel, leather and charcoal industries, and produces packaging materials and poles.

A Sappi spokesperson said that one of the reasons for the sale was that conversion and expansion of its Ngodwana mill to produce dissolving pulp rather than bleached softwood pulp, has reduced its softwood requirements. The proceeds will be used for general corporate purposes and will reduce Sappi’s net debt level.

It is anticipated that the above conditions will be fulfilled by 30 September 2013, which will enable the transaction to be implemented.

Sappi has invested heavily in research and the development of chemical cellulose, and has in recent years expanded and modernised its Saiccor mill in KwaZulu-Natal, Ngodwana mill in Mpumalanga and Cloquet mill in North America.

Once the expansion and modernisation of Ngodwana is complete, Sappi will have the capacity to produce about 1.3-million tpa of chemical cellulose, and will be the world’s biggest producer by far.

Leo cherry picker

The picture of a cherry picker used in the June 2013 issue of SA Forestry magazine on page 36 under the title ‘working at heights’ was not a Leo. Apologies for creating a wrong impression that the photo depicted a Leo, when in fact it was a Nifty 170. Above is a photo of the real Leo, distributed in South Africa by Goscor.

STIHL’s Bithrey carves out top spot

After winning the chainsaw carving event at the WoodEX for Africa trade show’s Timber Games recently, David Bithrey went on to take top spot again at the Royal Show in Pietermaritzburg, with an exquisitely executed seahorse. This is the second time in three years that the STIHL area sales manager has taken both titles.

Bithrey’s victory also cemented a highly successful Royal Show for STIHL. Michael Tosen, of Middelburg STIHL dealer Sherenco Grassnyerdienste, using STIHL chainsaws, was crowned national speedcutting champion at the same event.

Chainsaw carving is a fast-growing art form that combines the modern technology of the chainsaw with the ancient art of woodcarving. In competitive chainsaw carving in South Africa, carvers have an hour to fashion anything of their choice from a large piece of timber (at least 1 200mm high and with a diameter of at least 400mm).

“Competitive carving requires a high-quality machine,” Bithrey says. “You put the chainsaw through a lot of strain in a relatively short space of time. So the engine, the chain, the guide bar – every part has to be strong.”

Bithrey uses two saws – the powerful STIHL MS 660 for the block work, the large initial cuts, and the MS 250 for the fine, detailed work.

In addition to excellent tools, a competitive chainsaw carver needs a combination of qualities to distinguish himself from the pack. Bithrey says that creativity, chainsaw skill, practice, and fearlessness are all important – as well as the ability to “listen to the timber”.

“You come in with certain ideas, but to really achieve results that stand out from the rest, you have to be able to listen to the timber,” he says. “Each piece of timber has a different composition, depending on its growing conditions. Is the core hard or soft? How close are the year rings together? These are are crucial things you can know only once you are cutting, and then you have to adjust to what the timber is telling you,” he concluded.

95 trees planted in Orange Farm

Miss Earth South Africa, in conjunction with Fourways Farmers Market, Reliance Compost, Consol, UTR and Garnier South Africa, planted 95 trees at Solwazi Primary School in Orange Farm ahead of Mandela Day. The organisation decided to honour the former statesman by planting one tree for every year of his life. Founded three years ago, Solwazi Primary School is nestled deep within Gauteng’s Orange Farm. The school, which has been formally adopted by the Miss Earth South Africa organisation, is without electricity and, until recently, was without running water as well, which made it impossible to sustain any trees. That has all changed, largely thanks to the Miss Earth South Africa organisation and its partners who will do a full “green make over” at Solwazi Primary School over the next few months. See their website, www.missearthsa.co.za.
Forest Sector Codes re-alignment

The DTI has been busy reviewing the National Codes of Good Practice upon which the Forest Sector Codes and Scorecard are based. Once this process has been completed later this year, the forest sector will have one year to align the Forest Sector Codes and Scorecard with the National Codes.

The proposed changes to the National Codes include the following:

- Increasing the turnover threshold for Qualifying Small Enterprises from R5m/annum – R35m/annum to R10m/annum – R50m/annum. This effectively means that more small enterprises will be exempt.
- Reducing the seven elements of the scorecard to five elements by combining Management Control and Employment Equity, and Preferential Procurement and Enterprise Development.
- QSE’s to be scored on all five elements of the Scorecard, whereas currently, they can choose to be scored on any four of the seven elements.
- Executive Director of FSA, Michael Peter, has cautiously welcomed the proposed amendments which will be advantageous for the forest sector which, in any event, is acknowledged as being one of the best performing sectors in terms of transformation.

Help us to fight chainsaw theft

Task force: Stolen chainsaws and timber theft (joint forces – SAPs and private security companies)

Platorand and Lowveld, Mpumalanga

Our task force has been doing raids in various areas and retrieving stolen chainsaws. We have retrieved over sixty chainsaws within the last month alone. We have our informants scouting for stolen chainsaws and we then plan and raid these areas. Unfortunately, this is time-consuming as we have to set up the suspects in order to catch them in possession of the stolen chainsaws.

Our problem is finding the rightful owners. Some of the chainsaw serial numbers have been removed and are not marked properly by the rightful owners for identification. Even if there is a serial number available, we are struggling to identify the rightful owners. We even strip some of these chainsaws down to get the serial number at the back of the chainsaw’s flywheel. We cannot do a successful arrest without positively identifying the rightful owners.

Mark your chainsaws

We want to advise all chainsaw owners to mark their chainsaws properly with their own personal identification number. This can be done by engraving it onto the casing and/or using a small soldering iron to burn the number onto the handle. A record of all your personal serial number identification and the factory serial numbers must be kept on record.

A database of all stolen chainsaws must also be kept for future identification. This will help to combat the crime of stolen chainsaws, which is getting totally out of hand.

Willem Loock
Tusk Security
willemtusksecurity.co.za

Innovative chainsaw scabbard

As anyone hauling a chainsaw around knows that transporting it safely is a real concern. Enter the newest product from Mac’s Tie Downs, the Chainsaw Scabbard, designed to keep your chainsaw safe and secure, no matter where you haul it and regardless of the size or bar length.

This American-made product is a scabbard that the chainsaw bar simply slides into and is clamped down against so that both the bar and the chain are protected from damage while in transit. Made out of aluminium that has been powder coated black for maximum durability, the scabbard has a universal design that can be mounted on different surfaces and fits most chainsaws. The product comes with a Master Lock for security. www.macstiedowns.com.

National speed cutting champs

Speed cutting is becoming increasingly popular in South Africa, as was evident at the National Speed Cutting Chainsaw Championships at this year’s Royal Show in Pietermaritzburg. At this year’s event, chainsaws ranged from 70cc standard machines used by the forestry industry to super modified 120cc giants that produce incredible horsepower and chain speeds in excess of 180km/h.

In the Novice category, Husqvarna owned the podium with Craig “Woody” Newman, Zayne Kemp and Ian McDonald in 1st, 2nd and 3rd place.

It was a rather different picture in the hotly contested Pro Standard class with Marius Taljaard and Theo Kraaimink both from Enviro Chainsaws and Deon Boshoff from Solo in 1st, 2nd and 3rd respectively.

The Modified categories were once again dominated by Husqvarna with Husqvarna SA managing director, Dylan Lane, taking gold in both the Small Modified and Open Modified Classes. Bronson Gunter from Husqvarna and Michael Tosen from Sherenco scooped up the silver and bronze medals in both categories.

For more information on Husqvarna, visit www.husqvarna.co.za.

Timber and thatch paradise in Mozambique

Cova de Tubarao Lodge, situated on Macaneta Island off Mozambique, has been announced by Lonza Wood Protection as the 2nd winner in their ‘Keep The Tanapole Flying High™ Ambassador Programme. Designed and constructed three years ago by the owner, Roelie and Louise Jacobs, the lodge stands as an example of maintaining the beauty of wood in its natural form through the use of Tanapole™ wood preservation products. Cova de Tubarao comprises four magnificent log chalets.

The Jacobs are the owners of Graskop Pale treatment plant who supplied the Tanapole™ treated poles.

The wood used for the decking, cladding and plywood were sourced from various suppliers in South Africa and all the thatching, reed and reed grass were sourced from the local market on Macaneta Island.

One of the winning entries of the National Thatch Photo Competition, an exciting feature of the Thatching Association of South Africa’s annual congress, was this entry by David Hoffman of Hoffman’s Thatching Specialists. The competition is sponsored by Lonza Wood Protection.

Cova de Tubarao Lodge.

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Willem Loock
Tusk Security
willemtusksecurity.co.za

Scabbard, designed to keep your chainsaw safe and secure, no matter where you haul it and regardless of the size or bar length.

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For more information on Husqvarna, visit www.husqvarna.co.za.
SAFETY TIP

Effective limbing

Advice from Husqvarna’s National Training Manager, Roger Jackson

Limbing is the most time-consuming and labour-intensive operation when working with a chainsaw. As most operators deal with this heavy-duty machinery for long periods of time, it is essential that this activity be conducted as effectively as possible.

Roger explains that back fatigue resulting from limbing a tree, may well be an indication that your technique needs fine tuning. Use Roger’s list below as a quick reference guide to ensure that safe and effective limbing techniques are being adhered to.

1. Comfortable working height – try to work at a height that doesn’t require you to lean down. To achieve this, try to fell a tree so that it falls over other felled trees, logs or stones in your environment. Bend your knees, not your back. The most comfortable working height you can achieve when limbing is waist height down to knee level.

2. Safe working position – stand firmly with your feet apart at a 45 degree angle to the tree trunk and work with the saw close to your body. Roger notes that it is very important that your position is stable in two directions as it is dangerous to move your feet while limbing. You should be able to reach the trunk without having to move your feet.

3. Balance the chainsaw on the trunk or your leg – the chainsaw must not be lifted away from the trunk more than necessary. Use the chainsaw as a lever, with the saw body resting on the trunk or your leg. The use of a short guide bar (13”-15”) is easier and more effective.

4. Safe movement – the chain must be stationary when you move. Hold the saw by both handles when moving short distances, never by the rear handle only. For longer movements, you should activate the chain brake and carry the saw by the front handle.

5. Beware of kickback – avoid cutting with the guide bar tip. Your thumbs and fingers must be wrapped around the handles during limbing work.

6. Consider the weight of the branch – determine how the branches are tensioned. Cut on the opposite side of the branch where the guide bar is not likely to ‘pinch’ because of the weight of the branch. If you are unsure, cut the branch in stages, from the outside in towards the trunk.

7. Remove any branches that are in the way – let the saw rest on the trunk while lifting off severed limbs or branches with your right hand. Activate the chain brake. If the saw has TrioBrake™, this exercise will be even easier to perform. Rogers says that by learning a quick limbing method, one is able to effectively save time and effort in field.

For more information on Husqvarna, visit www.husqvarna.co.za
Specially designed PPE for women

MSA Africa helped to celebrate Women’s Day by selling its specially designed ladies’ personal protective equipment (PPE) at a discounted rate during August, in addition to donating a portion of its sales to breast cancer awareness initiatives.

Women’s Day was celebrated on 9 August in a tribute to the thousands of women who marched to the Union Buildings in 1956 to protest against the extension of Pass Laws to women. MSA Africa senior product manager HEFHC Loren Pearson reveals that, as part of its corporate social responsibility, the company will donate R1 to the Cancer Association of South Africa (CANSA) for every pink CANSA-branded V-Gard hardhat sold.

“The pink V-Gard hardhat range comes standard with a small size FasTrac liner to fit smaller heads. This is especially important for women as they have often found themselves in the perilous position of wearing dangerously loose hardhats designed for men,” explained Loren.

Recent studies have revealed that more than 2,6-million women in South Africa required some form of PPE as part of their work requirement. The push for female-specific PPE is also becoming increasingly relevant, as the Department of Mineral Resources and the Department of Labour recently agreed to implement new legislation surrounding the issuing of purpose-designed PPE for women in industrial operations.

China Yiwu International Forest Products Fair

The 6th China Yiwu International Forest Products Fair (China Forest Fair for short) will be held in Yiwu City of Zhejiang Province from 1-4 November 2013. China Yiwu International Forest Products Fair, hosted by the State Forestry Administration and the People’s Government of Zhejiang Province, has been held every year since 2008 in Yiwu International Exhibition Expo Centre.

China Forest Fair covers seven categories of products including bamboo and wood household supplies, handicrafts and articles for daily use, forest leisure products, forest food, flower and gardening products, and forestry machinery. Last year, the Fair had 3 329 exhibition booths with over 1 418 domestic and foreign enterprises displaying their products and services. Buyers from 88 countries and regions attended the Fair in 2012.

The Forest Fair will be a grand meeting to showcase China’s famous forestry enterprises, the essence of China’s forest products and latest forestry developments. It will also be a good place for professionals of the forestry industry worldwide to tap into the huge Chinese forestry and forest products market.

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