A SHARP CHAIN IS AS IMPORTANT AS A POWERFUL ENGINE

FILE THE DEPTH GAUGE
File all the way down to the gauge. If you file the depth gauge without a tool you risk filing them too far down and the chain will produce toe nick clips.

FILE THE CUTTING TEETH
File using light and even pressure with gentle pushing strokes, parallel to the gauge. Try to get the same length on all cutters.

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Fired up for 2019

The end of 2018 is hovering on the near horizon, reaching out to 2019, just out of view.

This is a time of reminiscence and introspection, a time of assessment and planning. What could we have done differently and what are we aiming to achieve next year?

The first thing that springs to mind for me personally, are the number of wildfires that ignited around the planet this year, involving multiple continents. In South Africa we need to understand and accept that we are on an arid continent and that climate change plays an important part in this phenomenon, as temperatures soar in (some cases) the most unlikely environments.

This year, heatwaves killed 50 in Canada and 80 in Japan, caused droughts in Germany and Scandinavia, set record temperatures in Algeria, Morocco, and Oman, and left stereotypical verdantly green UK looking parched from space.

In Sweden – that habitat of reindeer and ice castles – several cities experienced the hottest July in 250 years, according to the Swedish Civil Contingencies Agency, spurring historic wildfire outbreaks, with one burning on the Russia–Finland border near the Barents Sea on 20 July.

Over the ocean, by the end of June 2018, there had been over 560 wildfires in British Columbia, burning more area than in any prior recorded year. The smoke spread across Canada and as far as Ireland, causing mass cancellation of flights and, as of 28 August, initial estimates put 2018 as the largest burn-area in a British Columbia wildfire season, surpassing the historic 2017 wildfire season where 1 216 053 hectares were destroyed.

While lighting strikes were partially to blame in BC, in California fires incinerated 90 000 acres and destroyed more buildings than any other wildfire in California history, killing at least 85 people. After the deadly California fires, the US government plans to use more aggressive forest management, including controlled burning, partnering with for-profit companies to cut down trees, and opening more forest lands to livestock grazing in order to clear underbrush.

These examples haven’t even mentioned fires in other parts of the globe, but lest we forget the 2017 Knysna fires, in October this year, we had a déjà vu moment when fires once again ripped through the Garden Route, wiping out more acreage than the previous year’s horrific blaze that was caused by a lightning strike.

According to Cobus Meiring of the Southern Cape Landowners Initiative (SCLI), a concern was that the stripped landscapes would be covered by a surge of invasive alien plants, known to outcompete indigenous plants, such as lowland fynbos. But a recent survey throughout the Knysna burn scar has shown that there is positive indigenous plant regrowth throughout the area.

“The herbicide assistance programme rolled out on selected properties by the Southern Cape Fire Protection Association (SCFPA), and sponsored through Nedbank and WWF SA, provided assistance to the respective landowners to very effectively stem the growth of invasive alien plants, allowing indigenous plants to flourish,” says Cobus, adding, “In addition, the fire gave landowners a clean slate in terms of vegetation types on their land, and an opportunity to gain the upper hand in dealing with invasive alien plants such as wattle, blackwood and rooikrans.”

We can only hope that the regeneration will heal the land and the human population will not only learn from the experience but be better equipped to prevent future occurrences and our forests and fynbos will be safe from the ravages of further fires.

Forestry – what’s not to love?

“He who plants a tree. Plants a hope.” — Lucy Larcom.
Prof Klaus von Gadow has had a long and distinguished international, scientific career in Forestry that is deeply rooted in South Africa. His association with South African forestry began in earnest when he moved to South Africa to take up a position with the (then) Department of Forestry in the indigenous forests of the southern Cape in the early 1970s.

He later moved to the Stutterheim area of the Eastern Cape where he developed a deep love for the natural forests of that area, and already began to establish himself as a scientist of excellence. At the University of Stellenbosch, Klaus first undertook an M.Sc. degree, followed by a PhD degree, the latter which he completed in near-record time, in 1979. Just prior to finishing the PhD, he took up an academic position in 1978 at the Faculty of Forestry (now the Department of Forest and Wood Science, DFWS) at Stellenbosch University, where he remained for 13 years.

During this time, he impacted innumerable future forestry professionals which would work in South Africa and abroad and made a major contribution to forest management research and practice in South Africa. He moved to the University of Göttingen in Germany in 1991 but retained a strong connection to South Africa and South African forestry.

Prof von Gadow’s great impact is clearly demonstrated by the many accolades he has received internationally. Among others, he has been awarded honorary professorships by the Chinese Academy of Forestry and the Beijing Forestry University, an honorary doctorate by the Estonian University of Life Sciences in Tartu and was appointed Eminent Foreign Scholar by the Ministry of Education of the People’s Republic of China.

Recently, he was elected to the degree honoris causa doctorate of the University of Santiago de Compostela. In summary, Prof von Gadow’s experience, expertise and deep professionalism in the area of forest growth and yield, and forest management more generally, has been, and continues to be, of inestimable benefit to numerous current and future forestry professionals in South Africa.

What’s in a desk?

Body Fighting invaders, teaching skills and equipping schools! South Africa’s Eco-Furniture Factories are creating jobs and delivering quality products that equip schools across the country with new desks. Every little bit helps and in September the MTO Group assisted SANParks in providing dozens of desks to schools.

Each desk was manufactured at one of the Eco-Furniture factories, a project of the Department of Environmental Affairs. These factories, managed by SANParks and supported by municipalities and private companies such as MTO, create quality wooden products including the school desks, using material harvested from alien invader trees.

One core part of this network is the Graskop Wet Mill, located in Mpumalanga. An MTO site, the mill is now being used free of charge by the Eco Furniture Programme. Here alien invader trees are brought in and cut, after which the wood is dried with kilns located at Ga-Rankuwa, Gauteng.

Currently, there are seven factories, with some possible extension of the programme to support the other Value Added Industry initiatives such as the construction of houses from alien invasive material. Each contributed significantly to skills development as well as job creation.

Hired and transported from nearby communities, workers at the factories are being trained and skilled in a variety of trades, including tree harvesting, mill operations and carpentry. While the project currently focuses on school desks, it also produces other products such as eco-coffins.

What the factories produce are not only of top quality but made for good purposes. Today there are numerous pupils who can work on new, sturdy school desks. “MTO has been involved since 2014,” said Jan Huyser, environmental manager at MTO Forestry. “We mainly supply the wet mill that is used in Graskop and the invader trees are supplied from our adjacent plantations and private land. It’s been a fantastic relationship and the level of overall quality and benefits in what these factories create is excellent. The eco factories are an amazing project that deserves our support and patronage. Today it’s about school desks, but in the future, we can expect even greater things.”

Progress happens through collaboration. Even the best intentions and most diligent work ethic cannot thrive in
Forestry is isolation. But something as humble as a school desk shows that South Africa’s challenges can be met on multiple levels by bringing the right parties together. As the Eco-Furniture Factories expand across the country, SA’s progress will grow as well.

New Frontiers in Forecasting Forests conference
New Frontiers in Forecasting Forests (NFFF) brought together 85 experts from 16 countries to present research and discuss advances in models predicting future attributes of forests. The meeting was held from 25th September to 28th September 2018 in Stellenbosch, South Africa, hosted by the Department of Forest and Wood Science at the University of Stellenbosch and supported by several units in IUFRO Division 4 (particularly 4.01, 4.02.07, 4.03 and 4.04) as well as by Working Party 5.01.04 (Wood Quality Modelling).

The conference website is: http://conferences.sun.ac.za/ff2018/NFFF2018

How to apply for SACNSAP registration
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• Read the instructions carefully
• Click on the category (in blue) that applies to you and prepare your documents
• Select your category from drop down menu
• Select field of practice (Forest and Wood Science) at the bottom of the list
• Click on start submission
• SACNSAP will send you a confirmation email. Please keep this correspondence for any enquiries.

For any other information or questions, please consult the website http://www.sacnasp.org.za/

The 2017 Knysna Fire and its impact on natural forest
By Wessel Vermeulen
On 7 June 2018, residents in the Garden Route commemorated one year after the devastating fire that raged through the area, burning large areas of commercial plantations and other vegetation, destroying houses and infrastructure in its path. Often compared with the Great Fire of 1869 along the southern Cape coast, the Knysna Fire is regarded as the biggest wildfire disaster in the history of South Africa. Although the fire left many devastated, residents now have a much better appreciation of the importance of fire and fuel management in the peri-urban areas.

Changes to the CFA Charter and Bye-laws
Over the past two years, the Trustees and the Executive Committee of the Commonwealth Forestry Association (CFA) have been working on a renewal of the Charter and Bye-laws of the Association.

Many things have changed in the world since the establishment of the Association in 1921 and while some of these changes were accommodated in successive revisions to the charter (such as the establishment of the Commonwealth) it had become clear that a substantive revision of the Charter and Byelaws was necessary. The most important changes are as follows:
• The wording of the Charter has been revised to make it easier to make changes to it in the future, removing the necessity of any future changes having to be approved by the Privy Council in the United Kingdom.
• The management structure has been simplified, with an Executive Committee consisting of the President, Secretary and Executive Director. The Committee will be responsible to an independent group of trustees.
• The CFA have clarified the term limits of each of the positions, and also defined the responsibilities of all individuals and groups within the administration of the Association.

If SAIF members would like to comment on these changes, which are still in draft, please contact the SAIF secretary, Corine, for a copy of the revised Charter and Bye-laws. Once Members’ comments have been addressed the revised Charter and Bye-laws will be formally adopted.
Environment, and associated challenges in a transformed landscape. Invader plants, plantations and fynbos all add to the fuel load in a landscape where fire is excluded, in favour of protecting assets that will, ironically, come under huge threat during uncontrolled wildfires.

The ecological importance of fire in fynbos has been well publicised. Fire is the most important disturbance agent in fynbos, and essential in maintaining biodiversity and natural ecological processes. Less well known, though, is the ecological role of fire in closed-canopy forest. Unlike fynbos, forest is not a fire driven system and fire would only penetrate forest interior under extreme weather conditions. Although forest development is habitat-dependent, the location and distribution of forest in the “sea” of fynbos (or grassland in other regions) is largely determined by how fire moves through the landscape, which is influenced by topography and wind patterns. In the absence of fire, forest expands, while the opposite occurs during intense fires.

In the forest interior, small gaps caused by dying trees or trees falling over, are important for the functioning of the forest ecosystem. Larger gaps are caused by lightning fires or spot-fires from burning fynbos, and adds to habitat and species diversity. Some of these ground fires could smoulder for weeks, until they are put out by good rains. Although forest recovery and regrowth in these larger fire disturbed areas is slow, it forms part of the natural disturbance dynamics of forest. The forests in the Garden Route are also known for their so-called “fynbos islands”. These are regarded to be remnants of a once continuous extent of fynbos, isolated by expanding forest. In a natural system they are maintained by fire, with lightning and spot fires from “mainland” fynbos, the natural source of ignition. Where fire is excluded, they are invaded by forest.

With the recent fire, fire as disturbance agent in forest was allowed to play itself out to the full. The fire distribution pattern and how it impacted on forest vegetation, support the current thinking of the role of fire in shaping the distribution of forest in the landscape, and its natural disturbance role in the forest interior to maintain habitat and species diversity. Also, many of the fynbos islands were ignited as the fire spread through the landscape.

However, there are also some issues of concern. In addition to the 3 580 ha of natural fynbos, a relatively large area of 570 ha of closed-canopy forest was burnt, while ground fires in the forest interior were also extensive. At the Harkerville coast in the Garden Route National Park, for example, large areas of dry Scrub Forest, bordering a large water body (the ocean) and normally protected against fire in the deep river gorges, burnt. Some fires in the forest interior also burnt over much larger areas than what is normally observed, while forest surrounding islands with old fynbos was badly impacted on.

Excessive damage to forest vegetation is often indicative of the absence of fire in the landscape for extended periods of time, resulting in forest development and a built-up of the fuel load. This, together with other disturbances such as invader plants, impact on fire regime and behavior, and contributed to the extent of forest fires that was experienced. A natural fynbos-forest ecotone is essential to protect the forest from extreme fire damage. In the Garden Route this is a major challenge considering the high forest edge to area ratio, and incompatible adjacent land-use practices.

In addition, at landscape level natural fire distribution patterns have been severely disrupted. This emphasises the importance of an integrated approach with fire management, providing for fire protection without compromising on the need for fire in the landscape.

Natural forest is resilient and should recover over time. However, it would require protection from further disturbances and longterm monitoring, to assess forest recovery and the need for management intervention.

Considering the extent of the fire, it also created a unique window of opportunities for research to better understand the ecological role of fire in forest, and how it shapes the distribution of forest as it sweeps through the landscape. Current research in this regard focuses on the response of different tree species to fire, as well as forest succession and recovery after fire.

South African Institute of Forestry
Delivering a professional service to forestry

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December 2018 // Wood Southern Africa & Timber Times
It’s a winner!

The lightest professional machine of the 70cm³ displacement class, yet no lightweight in performance, the STIHL MS 462 chainsaw has been designed for forestry, agriculture, landscaping and gardening applications.

A focus on user-friendly features has seen STIHL whittle down this machine’s weight to an easy-handling 7.4kg with 20” guidebar and chain. The improved ergonomics and reduced vibrations and gyroscopic force add to its operator-appeal with no loss of delivery.

This professional-grade machine has an impressive power-to-weight ratio of around 1.4kg/kW, the lighter weight being made possible by a new engine unit design with enhanced cylinder geometry.

The enhanced anti-vibration system lessens vibrations at the handle and improves rigidity, reducing strain on the operator’s joints and muscles, limiting fatigue and ensuring a more precise control of the cut, even when using longer guide bars.

This professional-grade machine is ideal for felling, pruning, cutting, and for harvesting thick wood. The MS 462 has incredible acceleration and is well-equipped for extreme loads and harvesting large timber as it has a significantly improved torque build up because of its new economical 2-MIX engine technology, which also ensures a fuel-efficient and cost-effective performance.

Another new feature is the plunge bar, a useful mark on the fan housing, which facilitates directional control and machine
control in plunge cutting. In addition, the tooth length of the spiked bumper has been adapted to the radius of bigger trees, so the saw bites deeper into the wood when cross-cutting and control is undemanding and accurate, requiring less effort from the operator.

This professional-grade machine has an impressive power-to-weight ratio of around 1.4kg/kW, the lighter weight being made possible by a new engine unit design with enhanced cylinder geometry.

The R&D experts at STIHL have focused on reducing the system weight – that is, the weight of the dry chain saw, including the cutting attachment. Redesigned cylinders, slimmer chain sprocket covers (which minimises clogging) and consistent changes of material for other components, in the engine units in particular, have led to major weight saving – without compromising on ruggedness or service life. The MS 462 has been designed by those who understand the forestry industry to be a hard-working and economical machine requiring little downtime, and STIHL has prioritised servicing and maintenance.

The MS 462’s new HD2 air filter with a radial seal has a longer life and improved fine dust filtering efficiency. It is easy to clean and has an oil and water-repellent surface. Proven features have been carried over, including the side chain tensioner, captive nuts and a one-part shroud with quarter-turn locks for ease of access to all maintenance components, such as the filter or spark plug.

Now available in South Africa, the STIHL MS 462 is set to transform the local forestry industry. Make sure the MS 462 is part of your team!

See you soon...

After a year of using STIHL products, we’re sure you’re looking forward to a little downtime. But don’t worry, there’s a whole range of STIHL power tools to use, even when you aren’t at work. In case you’re worried about missing us: Happy holidays – and thank you for sharing the STIHL story.

Like any premium item, STIHL products are only available at specialised dealers nationwide, for expert advice and superior after-sales service.

www.stihl.co.za
Getting shot of the beetle...

The spread of shothole borer beetles in South Africa is proving tough to control

A tiny tree-killing beetle with the awkwardly long name of Polyphagous Shothole Borer was detected in South Africa for the first time last year. It’s now attacking and inserting its deadly fungal ally, Fusarium euwallaceae, in a wider array of tree species across a much wider geographical area.

The beetle was initially discovered in a Botanical Garden on the country’s east coast. It has since been detected along the southern Cape coast line as well as in several inland urban areas.

The number of tree species attacked in South Africa has also risen alarmingly. It currently stands at more than 80, 35 of which are native.

The shothole borer, which is native to Southeast Asia, has the potential to affect fruit, nut and wood production, but also to permanently change urban landscapes and natural forest ecosystems.

This has happened on farms, in suburbs and in forests along river valleys in California.

The South African government has started to take steps to manage the problem. The Department of Agriculture, Fisheries and Forestry has set up a steering committee to guide national efforts. It’s made up of representatives from various government departments, the forestry and agriculture sectors, as well as academics, arborists, and nurserymen.

The major challenge with the beetle infestation is that the insect is crossing the boundaries between agriculture, commercial forestry, natural forests, and urban trees.

Never in the country’s history has any insect attacked and killed trees in all these sectors.

The protection of trees in the different sectors is typically dealt with by different government departments, namely Department of Agriculture, Fisheries and Forestry,
the Department of Environmental Affairs, and municipalities. But given the beetle’s unusual behaviour, routine action plans aren’t enough to curb the problem.

**The threat to South Africa’s trees**

Of the 80 species of trees under attack in South Africa, about 20 are reproductive hosts in which the beetle inoculates its fungus and then multiplies. These trees pose a serious risk to the environment around them as they become a source of infestation.

In the remaining 60 host species the beetle also inserts the fungus, but it doesn’t reproduce in them.

Although some of these trees may eventually die, they don’t pose a threat to the other trees around them.

The species of ornamental and street trees most affected in South Africa’s cities are the London plane, Boxelder, Japanese maple, Chinese maple, English oak and Liquidambert.

Several streets of maples and liquidambert have died in some cities, and large, old English oaks and plane trees have been severely affected in some areas.

During countrywide surveys conducted by our team at FABI, we found several fruit trees (peach, olive, grapevine, guava, fig) infested in urban areas. However, the only commercial crop that’s affected at present are pecan nut trees on farms in the Northern Cape.

In Israel and California, the beetle caused substantial damage in avocado orchards, and although South African orchards are closely monitored by FABI team members, we have only detected it on a single backyard avocado tree in Johannesburg.

Similarly, we found it on roadside wattle and eucalyptus trees, but so far, the pest hasn’t been detected in commercial eucalyptus, wattle or pine plantations.

In our opinion the most significant threat, but also the most difficult to predict and manage, is to South Africa’s native tree species such as coral trees, wild olives, yellow woods and Natal figs.

**Managing the problem**

California has been battling the beetle problem for the last 10 years. A recent visit to the area helped us to establish what practical actions have been taken to bring the problem under control.

An effective public awareness campaign was launched, informing residents and local governments about the beetle and its impact. Municipalities removed reproductive host trees, most of which were going to die anyway.

The state also introduced legislation preventing infested wood from being moved from one area to another.

Although researchers there have shown that chemical control of the beetle and fungus on individual trees can protect them, this has not been applied widely, and is typically only used to protect high value individual trees.

The major challenge in South Africa is to connect different stakeholders and government bodies through effective communication.

Roles and responsibilities (also financial) of all contingents, at national, regional and local levels, should be clearly defined to avoid a duplication of efforts, and to ensure appropriate management strategies are devolved to regional and local government.

Structures are in place at the national level to deal with pests like these.

Most pest invasions affect agricultural or forestry crops, and the Department of Agriculture, Fisheries and Forestry then engages with relevant stakeholders with strategic guidelines for control.

For its part, the Department of Environmental Affairs is responsible for protecting the country’s natural forests and ecosystems. But it’s focus is usually on things like climate change, pollution and alien invasive weeds or animals.

At the local level municipalities has never had to deal with a problem like this, are not equipped to deal with it, and need clear and practical guidance from the national departments.

The Department of Agriculture, Fisheries and Forestry has set up a steering committee to guide national efforts. It’s made up of representatives from various government departments, the forestry and agriculture sectors, as well as academics, arborists, and nurserymen.

A consolidated strategy and pragmatic action plan is urgently needed.

Pest risk assessments and countrywide surveys need to be done for the different sectors.

We can learn a lot from ongoing research efforts in California, but local research is needed to determine the impact of the pest on different tree hosts, especially native trees, and to evaluate possible control measures in different South African climatic regions.

Research results need to be translated in management strategies that can be rolled out to stakeholders like farmers, commercial foresters, nurseries, arborists, municipalities, and quarantine authorities.

This implies that people need to be trained to recognise the problem in order to appropriately deal with it.
Special policy might need to be formulated by the different levels of government, but legislation is only as good as its enforcement.

For any of the above to succeed, efficient communication channels and a public awareness campaign is needed.

All of this needs leadership, dedicated and competent human resources, and funds.

One thing is sure, the little shothole borer is here to stay. Protecting the country’s trees is everybody’s responsibility, but our government needs to lead the way.

This article is reproduced in its entirety from ‘The Conversation’ with permission from the Forestry and Agricultural Biotechnology Institute (FABI).

The major challenge in South Africa is to connect different stakeholders and government bodies through effective communication.
Nature gives a helping hand

Alien invasive plants poses a major threat and risk to land owners within the farming, conservation and forestry sectors. The only effective way of eradicating and managing alien invasive plants is with responsible use of the correct selective herbicide.

Brand new to the market, is a unique highly effective systemic herbicide, which collaborates with nature for the control of a broad range of alien plant species. Turbodor 29 mpa is a ready-to-use formulation, containing Triclopyr in a unique propriety blend of raw natural and processed plant oils for low volume basal, cut stump and foliar treatment of various plant species.

With the ready-to-use formulation, it provides for easy application and requires no mixing with water.

Turbodor 29 mpa is highly effective on certain invader plant species, which are currently difficult to control with conventional herbicides.

On Nature’s side

The propriety natural oil blend has been observed to enhance biological activity including both insect and microbial activity accelerating natural decay in the treated area.

Turbodor 29 MPA also has a low toxicity to animals and can be used on grazing lands with livestock and game.

A bonus of the product is that with precision application, minimal volumes is needed to effectively kill target plant species. Ecoguard Biosciences has developed specialised spray equipment to apply Turbodor 29 mpa correctly.

The natural oil blend is designed to spread and stick onto the target plant material for effective penetration, making it ideal for use in the conservation, forestry, agricultural, and bush encroachment sectors.

If applied correctly and if the plant is not entirely dormant, Turbodor 29 MPA - which is Tipwig registered - can be applied throughout winter and the dry season.

**Application methods**

Foliar application requires a light full cover spray of the foliage of the target plant. Be wary of spray drift however, especially near crops.

For cacti species, a low volume full cover spray is required on all cladodes and stem, essentially covering the entire surface of the plant.

For cut stumps, clear around the circumference of the cut-stump to expose the root-crown and then spray onto the exposed surface of the cut-stump as well as the full circumference of the base of the stem down to and including the root crown. **Note:** Do not apply Turbodor 29 MPA to stumps that are wet.

For basal application, clear grass, twigs and other obstacles from around the base of the stem and then spray Turbodor 29 MPA onto the full circumference of the base of the stem from the specified height down to and including the root crown.

Invasive pines fuelled 2017 fires in Knysna, South Africa.
The AGFO Expo makes its mark

The third annual Agriculture and Forestry (AGFO) Expo continued to grow its successful trade platform for the agriculture and forestry sectors, offering significant networking and business opportunities and a new start for five bursary winners.

Held at the Casterbridge Lifestyle Centre in White River, Mpumalanga, from 8 to 10 November, the expo joined forces with the Southern African Macadamia Growers’ Association (SAMAC) to showcase the latest research and industry information at the Macadamia Industry Day.

Close to 450 macadamia stakeholders, from across South Africa, bought tickets to listen to impressive speakers, such as Australia’s world-renowned plant pathologist Prof André Drenth and well-known economist Dr Roelof Botha, who shared the results of a study on the impact of land expropriation without compensation and how this will affect South Africa’s economy.

Congratulations to the companies that won SAMAC’s annual awards this year, namely: Mpumalanga’s Joubert & Seuns, which won the Lowest Unsound Kernel in 2017 (category: 25 to 100 ton dry nut in shell - 0.05% unsound); Du Twa Boerdery in Mpumalanga, Lowest Unsound Kernel in 2017 (category: more than 100 ton dry nut in shell - 0.26% unsound); Canestay Manufacturing (Kwazulu-Natal), Highest Sound Kernel in 2017 (category: 25 to 100 ton dry nut in shell - 44.5% sound kernel recovery); Sea View Farm, Highest Sound Kernel in 2017 (category: more than 100 ton dry nut in shell - 43.1% sound kernel recovery); and Limpopo’s Zetmac, Most Meticulous SAMAC Handler to Supply Industry Data in 2018.

“Benchmarking compared over several years indicates improvement of quality, which is attributed to farmers following best practices principles. Producing quality macadamias is what has always given South Africa the competitive edge and will be of even more importance in the future, with expected increase in supply from China, Vietnam and other producing countries,” says SAMAC CEO, Lizel Pretorius.

“The expo committee is grateful to SAMAC for this opportunity and we look forward to future collaboration to ensure the growth of the macadamia industry,” says AGFO Expo chairperson Joey Lascelles.

This year the expo also hosted a Fire-Tech Workshop where speakers addressed various aspects of effective fire management that are applicable to the agriculture and forestry sectors.

To further grow the agriculture sector, the AGFO Expo and one of its prestige sponsors, Agricoleges International, ran a bursary competition which saw over 330 entries pour in from across South Africa. Of these, 140 entrants passed the qualifying exam.

The lucky winners were announced at the expo. Congratulations to Vincent Chambers, from Barberton, who won a one-year bursary at Agricoleges International to obtain a National Certificate in General Agriculture. The bursary, valued at R30 000, was 60% sponsored by United Forest Products and 40% by Agricoleges International.

“United Forest Products is extremely proud of the calibre of entries received for the bursary competition and we are proud to back Vincent in the next step on his journey,” says the company’s Joey Lascelles.

Thank you to Winelands Civils for coming on board and sponsoring an Introduction to Agribusiness bursary for Mukulani Dlamini. Dlamini travelled all the way from Pietermaritzburg for the bursary draw.

The other bursary winners, sponsored by Agricoleges International, are Mirriam Mnis (Fundamentals of Macadamia Production); Ayanda Mahamba (Introduction to Plant Production) and Prudence Selemane (Introduction to Agribusiness).

DUNNS generously added to this magic by sponsoring five gift packs, each containing a 3G 7-inch tablet, with a free 3.5-inch cell phone, headphones and power bank to assist the bursary winners to study online more easily.
This year the expo also hosted a Fire-Tech Workshop where speakers addressed various aspects of effective fire management that are applicable to the agriculture and forestry sectors. Over 135 stakeholders attended the workshop and were also able to watch the latest firefighting equipment being demonstrated. “Climate change has ensured that fire risk increases significantly every year and the importance of fire risk strategies cannot be overestimated,” says Lascelles.

The expo extends a special thanks to the Lowveld and Escarpment Fire Protection Association which sponsored two demonstrations of a black hawk, two bombers and spotter, which showed visitors how expertly water drops are performed to douse fires. The networking event, which was only open to sponsors, exhibitors and Macadamia Industry Day visitors, enabled the who’s who in the forestry and agriculture sectors to gather in one place and open doors for each other.

Over the past three years AGFO has become a recognised trade platform for the agriculture and forestry sectors and exhibitors were encouraged to use this platform to its fullest. “The feedback received from our exhibitors has been extremely positive, with many indicating that the targeted market that the expo attracts has ensured significant sales leads for them,” says Lascelles.

Leading up to, during and post event, the AGFO Expo creates much-needed employment for general workers and students. “We also support local businesses and charities and various other organisations and charities use the platform to host their own events,” says Lascelles. This year, all the proceeds from the trail run are being donated to Hospice White River, which provides palliative care to the lowveld community. Proceeds from the boerewors sales will be utilised by Solidarity’s Helping Hand to provide food parcels for needy families over the festive season. Other activities enjoyed by all at this year’s expo included MTO Forestry’s mountain bike outride; chainsaw, axe-chopping and pitsaw competitions and boeresport for the children.

“All the AGFO Expo relies on the support of the agriculture and forestry sectors for its growth and success and is grateful to all of our sponsors, exhibitors, visitors and other stakeholders, especially those who have supported us every year since inception,” says Lascelles. AGFO 2018 thanks all of its sponsors, namely Mascor and Agricolleges International (prestige sponsors); Ezigro Seedlings (diamond sponsor); Novon Retail Company, Nedbank and Systeco Automation (gold sponsors); and Adama, Silvix Forestry, United Forest Products, Sanlam, Green Farms Nut Company and GAC Laser (silver sponsors).

The expo also thanks Aramex, the Chill Zone sponsor; Electra, the WiFi Zone sponsor; ANCO Manufacturing, for its donation towards the Fire-Tech Workshop; SIMMS Plant & Equipment Hire, for its donation towards the AGFO Fund; and JMC Transport, for sponsoring a tri-axle trailer for AGFO to use during the event.

Leading up to, during and post event, the AGFO Expo creates much-needed employment for general workers and students.
Many well-known brands were on view at the Agfo event.
Local adaptation is a winner

Surge in SA wild fires sparks development of locally produced CAFS system

Through the recent launch of the ANCO CAFS300, ANCO Manufacturing has responded to the cry from South African Fire Fighters to offer a locally designed and produced Compressed Air Foam System (CAFS). Although Compressed Air Foam is not a new technology, the team at ANCO responded by adapting existing technology into an easy to use and very effective, 100% South African CAFS system.

ANCO Manufacturing has established itself as a market leader through offering efficient fire fighting vehicles and equipment of the highest quality to the South African Forestry industry, wild fire agencies, industry and recently also the urban firefighting community.

Although the ANCO CAFS300 is one of the most recent developments from ANCO, the company continues to design, develop, produce and deliver a wide range of vehicles and equipment based on technology that has been tried, tested and working in the harsh African conditions.

CAFS is a system used in fire-fighting to deliver fire retardant foam onto a fire. A CAF-System uses a Class A or B foam concentrate combined with water and compressed air, to create a continuous supply of fire extinguishing foam that has greater firefighting ability than the sum of its parts, and has proven to be a superior firefighting medium compared to only water.

When used as a fire-fighting agent, a steady stream of compressed air foam has a very high heat absorption quality (almost ten times that of water) that will suppress a fire in a fraction of the time when compared to conventional water methods.

This is since CAFS attacks and works on all three elements of the fire-triangle by penetrating carbon-based fuel loads, depriving the fire of oxygen and absorbing heat.

“Traditional CAFS units have been available from the USA and Europe for many years but in our typical South African way we had to respond to continued demands from the local industry to come up with an effective, locally produced and more affordable system.

Producing the unit locally not only allows for a reduction in cost compared to imported units but also allows us to offer better after-sales support” says Andre Scheepers, MD of ANCO Manufacturing.

The ANCO CAFS300 is a self-contained CAFS generator that can be installed onto almost any fire fighting vehicle platform, even onto a standard LWB Bakkie.

According to Andre, “The benefits of the system lies in the fact that traditional water carrying vehicles can be retro-fitted with or have, this system installed as part of the design and will effectively multiply the usable water load by up to ten times.

Just imagine the positive impact the multiplication effect of a CAF system on a fire fighting vehicle could have when facing enormous fires such as those recently experienced in the Knysna and George areas?”

Currently the ANCO CAFS300 has supplied to York Timbers, Mondi Ltd, Working on Fire and City of Cape Town Metro Fire Department, with more units in production for various other users.
Matriarch forestry conversions

To provide a professional and thorough approach to the conversion of Kobelco excavators for the forestry industry, Bell Equipment has chosen its partner, Matriarch Equipment, as the preferred service provider, which already has a number of various conversions under its belt.

Matriarch’s Ashley Bell says that the first Kobelco conversions were carried out on three 26-ton SK260LCs to make them suitable for a mill yard application where they are used to feed the lines to the mill as well as off-loading trucks to stockpile.

To enhance the carrier’s mobility and reduce long term running costs, the customer requested that the excavator tracks be replaced with custom-built wheeled chassis. Since the excavators did not need to comply with road legislation, Matriarch designed a wider wheeled chassis configuration to provide sufficient stability for the machine to handle timber ‘on the move’ without the need for hydraulic stabilisers, as is the case with a standard road-going wheeled excavator.

Oscillation lock cylinders were incorporated into the design of the rear axle to lock up when the upper structure slews off centre at 90 degrees. This offers a more stable platform by preventing movement in the chassis when picking up a load over the side.

To complete the conversion, the bucket was removed to make way for a nose cone and grab.

These machines were fitted with Matriarch’s MT1000 grab with a 1m³ capacity and a XR400i Indexator rotator from Sweden with a static load rating of 55 tons. Cab and windshield guarding completed the conversion.

Kobelco is strong in the forestry industry elsewhere in the world and takes a keen interest in timber applications. A Kobelco delegation visited the Matriarch workshop in KwaZulu-Natal earlier in 2018 to see how the local conversions are being done. More recently Matriarch has carried out a conversion to fit a Waratah H215E processing head to a SK210LC.

“The installation of a processing head, as a more complex attachment compared to a grab, is a more complicated fitment as there are additional controls that are installed to the machine, some auto-electrical work required along with additional hydraulic valving, plumbing and an auxiliary hydraulic cooler,” explains Ashley.

In addition to fitting the head, Matriarch can also extend the track grousers for additional ground clearance and traction.

Machine structural guarding is more comprehensive in line with the operating environment and heavy-duty belly plates have been fitted along with forestry guarding to the entire upper structure for protection against falling trees. Cab protection includes a bullet proof windshield to guard against chain shot and polycarbonate windows on the side of the cab.

While the fitment of processing heads to excavators is not a new development, Matriarch Equipment has chosen to differentiate itself by offering a complete package – from the full fabrication of the guarding to the installation of the guarding and head.

A thorough and professional approach to the design, installation and support means that a standard excavator is converted and delivered to the customer as a fully functioning forestry processor, complete with an illustrated parts manual for the Matriarch kit.
Through our carefully selected combination of own and partner products, Bell Equipment provides solutions that meet customers’ needs as they move from manual to fully mechanised operations. Driven by providing lowest cost per tonne solutions, we look at the whole mechanised system and not only specific parts of the system, with a keen view to improve operational safety and productivity.

Bell Equipment - a proudly South African company committed to helping businesses realise Africa’s potential.
Dezzi’s Eco-Grab

Eco-Grab attachment for a TLB, designed and manufactured by Dezzi Equipment is gaining traction in brush clearing operations within the forestry sector

TC Werner, one of Dezzi’s TLB owners based on the KZN North Coast, mentioned that in a new property development, civil contractors faced a major problem when it came to clearing brush effectively before laying down the infrastructure.

TC explains, “The trees are uprooted by either the excavators or the back-hoe on a TLB. They are then put in piles to be collected later. The bucket of the TLB can only load a small amount of brush into the trucks at a time with quite a bit falling out, so this process takes a lot of time and often involves manual labour.”

Drawing on knowledge already gained with the development of grab attachments produced for the Dezzi 2500 Loader and the 3-Wheel cane and logger machines, Carl Gutzeit, MD of Dezzi Equipment met with Wesley Marnitz, Dezzi’s product development manager, to solve the brush clearing problem.

Dezzi’s tried and tested R&D process had already brought to market game changing equipment like the Dezzi 2300 Cane Grab, the Dezzi 2300 Cane Crane, the Dezzi 2300 with Sweeper, the Dezzi 2300 with High lift Bulk Material Bucket, the Dezzi 2300 Timber Loader, along with the Dezzi Rear Tip Timber Trailer and the Dezzi 1700 with Forklift, just to name a few of the OEM’s many innovations over the years.

Wesley and his team finalised the drawings and specs, producing the first prototype brush grab for a TLB in the Port Shepstone factory. Further input from factory and product manager Mike Edmonds, brought more refinement in the final stages of development. With a working prototype, Carl and his sales team solicited input from select clients whom they believed would benefit from this innovation.

Before long, this client input and further refinements from team Dezzi, birthed the Eco-Grab.

Once the first machine rolled off the Dezzi production line, Carl invited TC Werner to take it for a test ride.

TC was so impressed that he said, “This one is mine.”

In partnership with Westwood Civils, TC put his Dezzi TLB with the Eco-Grab attachment through its paces, testing it on the Brentwood Coastal Estate property development, at Sheffield Beach.

TC had this to say, “The strong hydraulic system that operates the grab gives it great strength and amazing flexibly.

Fully extended, the grab opens just over a metre with a width of more than two metres.

This means it can pick up much larger amounts of brush and drop it into the waiting truck than anything currently available.”

Feedback from TC revealed that they conducted a comparative test on two similar stands. One was cleared using conventional methods, taking 7-8 days to clear – and the other, using a Dezzi CMI TLB fitted with a the Eco-Grab, took 2-3 days to do the same job.

In conclusion TC said: “Taking less than 40 minutes to fit the Eco-Grab to the TLB, it was a no brainer that when clearing a site for development you only needed a Dezzi CMI TLB with this attachment.”

The Dezzi Eco-Grab fitted to a TLB is the solution to brush clearing challenges within the forestry sector.
Held every four years, INTERFORST showcases the latest technological developments in the forestry industry, including vehicles.

At Interforst this year, Mercedes-Benz exhibited three Unimog models designed specifically for forestry applications.

Three highlight exhibits

Three highlight exhibits of the Unimog implement carrier series showed the great bandwidth and flexibility of the Unimog in forestry applications.

On display at the 2018 INTERFORST show were a Unimog U 529 with a two-axle tandem push-trailer by Fliegl and a Unimog U 530 with long wheelbase equipped with a front-mounted chipper by Schliesing Machinery GmbH; its cable winch and high-level bucket loader are by Fahrzeugbau Huber GmbH in Chemnitz.

Also presented was a Unimog U 530 with a height-adjustable cab by Werner Forst- und Industrietechnik GmbH.

This is for professional operation of the body-mounted crane and the towed chipper by Jenz Maschinen- und Fahrzeugbau with which the exhibit was equipped.

With this combination of implements, the Unimog exhibited its outstanding performance potential during various live demonstrations taking place on the Mercedes-Benz stand during Interforst 2018.

As a universal, professional implement carrier with a high payload and towing capacity, the Unimog is available for use 365 days of the year, and dependably takes care of a wide variety of applications related to forest management. Auxiliary rear axle steering is available to reduce the already small turning circle by a further 20% or so, which further improves manoeuvrability.

Thanks to its fast road speed of up to 80 km/h, the Unimog is always quick to get where it is needed. At the same time its outstanding off-road capabilities ensure good progress even on difficult terrain.
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Enabling training

Upskilling the timber workforce requires a different mindset of the instructor who must understand the challenges faced by the trainees

As Abel Banda, Tirhani Skills for Africa, so eloquently outlined during the recent SASDEA conference held in Johannesburg, training is all about how it is presented to the person who is being trained. He focused on conveying the skills accumulated over years by the lumber industry’s saw-doctoring sector, to an illiterate new generation of workers.

He says: “There are numerous ‘behind-the-scenes’ saw maintenance staff, without whom the country’s lumber milling industry would come to a standstill. Most of these people may have accumulated valuable experience performing certain tasks, which form an integral part of the saw-doctoring discipline,” and points out that these people nevertheless, need to be developed. However, the road ahead is paved with challenges.

Challenges of the illiterate

Language:
One of the most important abilities of the facilitator is to use language that is simple and easy to understand.

And, despite having 11 official languages, it is the responsibility of the facilitator to learn to communicate in more than four of the languages spoken in the country “otherwise it will be a futile exercise to try and teach the content of any course in a language that is foreign to the learner”.

Terminology:
Coupled with this is the jargon that comes with each sector and saw-doctoring is no exception. Through a method of association, Abel uses interesting and entertaining examples to help bridge this challenge. Some of the examples he brought up at SASDEA were:

• Honing
• Jointing
• Gumming
• De-burring
• Saw-doctoring versus sore-doctoring
• The difference between shaft speed and peripheral speed.

“How do we get around this language problem? The best is to ‘Zululise’ or ‘Sotholise’ the original word eg i-Thenshini for tension or i-Anvili for anvil while pointing at the real object to explain what you mean.”

Mechanical exposure:
While handling tools correctly is an assumption made by those who can, there are many people who have not had some form of exposure to tools and mechanical equipment. These people may therefore find it difficult to handle these tools.
“One has to exercise a lot of patience when training people with this challenge,” Abel urges. Another challenge is CDS.

**Conceptual Deficiency Syndrome (CDS):**
This happens when people do things without the slightest understanding of why they are doing them the way they are doing them, he explains.

Abel explains that there are many concepts and principles that are applied in the saw-doctoring discipline and these need to be relayed in a simple sequence, applying the old tried and tested principles of teaching viz: moving from the known to the unknown.

This is through using understood examples to describe a process and slowly introducing more complex principles. Progressing from the simplest to the most intricate, from concrete to the abstract.

Through this method, complex concepts can be relayed in a simple manner using an analogy that allows the recipient to visualise and then understand the concept.

He cautions however that “there are limitations to how far an individual can be developed”, some of which are dependent on:

- Level of education or literacy
- Physical challenges
- The will and determination to develop.

In conclusion he adds: “Success is 20% intelligence and 80% determination.”

**One of the most important abilities of the facilitator is to use language that is simple and easy to understand.**
Wood-Mizer’s recently launched planer moulder range rolls planing and moulding into one machine. The affordability and advantages of the range give furniture manufacturers and wood processing businesses in South Africa and Africa real ability to grow and prosper.

The new planer moulder range is the result of Wood-Mizer’s acquisition of the business interests of Swedish woodworking machine manufacturer, MOReTENs AB.

The acquisition will add a full range of 4-sided moulders, planers, table saws, spindle moulders, planer/thicknessers and CNC routers to Wood-Mizer’s globally available product range.

The range will be known as the Wood-Mizer Planer Moulder range.

Wood-Mizer’s initial successes in the thin kerf narrow bandsaw portable sawmilling created the momentum that resulted in new acquisitions, product innovations, expanded ranges into new sectors and fast developing global manufacturing footprint that now includes the USA, Europe and Sweden.

The addition of the Planer Moulder line-up now gives Wood-Mizer the ability to offer a full range of equipment that can seamlessly convert logs into dried lumber and finally into finished wood products – all backed by Wood-Mizer’s expertise and commitment to excellent customer service.

Wood-Mizer’s globally available product range MOReTENs’ product range is the result of solid engineering with the company’s founder, Bo Mårtensson starting the company over 30 years ago. “Throughout our history, Wood-Mizer has been committed to providing the best quality equipment to process logs into finished wood products,” said Wood-Mizer president and CEO Richard Vivers.
“The affordable and versatile moulder and planer product lines from MORETENs have been proven worldwide for decades, and are now backed by the high-quality service and support network customers expect from Wood-Mizer.

“To add to the tradition of excellence and continuity in expertise, Wood-Mizer has asked Bo Mårtensson to join us as the general director of the MORETENs factory in Ostersund, Sweden,” Richard Vivers continued.

“Many years ago, I was a young engineer with carpentry experience when I started MORETENs and began building woodworking machinery,” said Bo Mårtensson. “I’m proud to see my products in workshops worldwide. Our incorporation into the wider Wood-Mizer product family will allow us to take our existing products to a much bigger customer base and will also accelerate our capability to introduce new products to meet our customers’ needs.”

**Wood-Mizer Planer Moulder range now available in South Africa**

Wood-Mizer started with the phased introduction of the Planer Moulder range into its global distribution network in 2018, which will now be known as the Wood-Mizer Planer Moulder range.

Wood-Mizer Africa will introduce the Wood-Mizer MP260 and MP360 4-sided moulders to South Africa first, with the rest of the product family following later.
“We are confident that the Wood-Mizer Planer Moulder range introduces a new chapter for Wood-Mizer in affordable, high quality, moulding and planing capacity,” Gavin Prowse, managing director of Wood-Mizer Africa says.

“New and existing producers now have access to technology that can plane and profile in one pass, which to date fell well outside the budgets of most producers and prevented them from entering the market or improving their production capacity and quality.

“The small footprint of the unit makes it easy to slot into existing layouts and inexpensive to link to support services like dust extraction.

“A full range of planer and profiling knives that slot onto the four individual spindles extends the flexibility that manufacturers now have with the Wood-Mizer Planer Moulder range,” Gavin Prowse continues.

MP260
The Wood-Mizer MP260 four-sided planer/moulder is a versatile, compact machine engineered for professional woodworkers, carpenters, or joiners in the construction trade.

It planes and moulds boards on all four sides in a single pass into a variety of professionally finished products including flooring, planed boards, crown moulding, cabinet trim, panelling, door and window frames, and furniture components.

Key parameters for the unit includes four-sided planning and moulding with a maximum material height / width that can pass through the unit sitting at 230 mm and 410mm. The unit’s four cutter heads are driven by 3 kW motors.

MP360
The Wood-Mizer MP360 four-sided planer/moulder is a high-production, large capacity machine engineered for professional workshops. It’s a further development of the tried and tested Wood-Mizer MP260 planer/moulder.

Its robust design allows for the processing of thicker timber on four sides offering a maximum planning/moulding height of 230mm and a maximum cutting width of 510mm.

The unit’s four cutter head motors range in size from 3 – 5.5kW with the feed speed pinned at 3 – 15m/minute.

For a full rundown on the specifications and options on the Wood-Mizer Planer Moulder range visit www.woodmizerafrica.com

Infeed speed is also easily adjusted.
Advances ‘at the cutting edge’

Although tungsten-carbide saw tips are by no means used on all saw blades in the industry, they represent a significant proportion of all materials ‘at the cutting edge’ in the industry. By Ian Schwartz – Ultramat

To provide a clear insight into the carbide tips and their supply, it is convenient to divide attention into three areas relating to these products.

Structure of the industry

In the late 1980s, the world supply of tungsten carbide was dominated by a small number of large multi-national players, mainly of Scandinavian, American, European and Japanese origin. Specifically, Chinese suppliers were essentially unknown outside of their homeland. China, however, is home to approximately 70% of the world’s known tungsten deposits, with the remaining known deposits at the time split between North America and continental Europe.

Tungsten raw materials were exported from China in large amounts to the major (mostly-western) players. Interestingly, the Chinese government in those days provided export incentives for part-beneficiaries of raw materials, tungsten carbide powder being relevant here.

In the 1990s however, China began to open up to world markets with their own beneficiation and manufacturing facilities. It is instructive to examine the GDP per capita graphs for both India and China in the nineties and since. While India continued to grow steadily, China accelerated at first mildly from 1994 to about 2005, and then rocketed forward with growth rates well in excess of 8%. The most apparent effect of this growth on the tungsten industry is that in about 2005, the internal demand for China’s mined tungsten exceeded their production. Simply put, the Chinese tungsten carbide manufacturers for the first time in history required all of China’s tungsten mining output, and then some. The price of tungsten raw material more than quadrupled, almost overnight.

With Chinese growth having been double-digit since then, and still nearly 7%, this situation seems extremely unlikely to change, unless other major deposits are discovered and developed.

The net result is that China looks set to maintain its current dominance in the tungsten industry into the indeterminate future, although most of the traditional western and Japanese players have arranged significant links through Chinese partnerships/shareholdings.

Commercial aspects

Although the tungsten price itself has increased dramatically as discussed, during this twenty-year period, the price of finished components has benefitted significantly from the extra competition in what used to be a highly technical and specialised industry, with associated First-World labour costs. An example is a high-precision 7mm diameter carbide drill costing about R700 in the mid-90s, still costing a
similar Rand amount today. In effect, tungsten carbide products, although still somewhat specialised, have become commoditised.

**Technical aspects**

Probably the greatest technical advance in tungsten-carbide production since the 1960s has been the widespread uptake of sinter-HIP (Hot Isostatic Pressing) furnaces in this time.

Essentially, a sinter-HIP is an ‘oven’ into which high pressure inert gas – usually argon at say 30 bar – is introduced during the hottest part of the cycle. The effect of this argon pressing so hard on each semi-molten component from all directions (isostatic) is that any porosity or holes in the component are ‘squashed’ and disappear, or at worst, are significantly reduced in size to usually non-harmful dimensions.

The net effect of this HIP technology on the carbide industry has been that poor-quality raw material – even containing previously unacceptable levels of contaminants, and scrap carbide recovered using sub-optimal processes – can be used to manufacture acceptable components.

This applies chiefly to mining consumables and wear parts, where costs to the end user can be significantly reduced successfully. The advantages of this processing however are far less applicable to industries requiring sharp-edged tooling such as rotary metal cutting and sawing; the reason is that sharp edges are, on a microscopic scale, a direct reflection and result of the sizes of the tungsten carbide raw material grains and of careful control of grain-growth during sintering.

The better class of Chinese tungsten carbide manufacturers (there were reportedly well over 1 000 Chinese carbide factories in the early 2000s and surely more now) are able to provide high quality tungsten carbide raw materials and products of sub-micron grain sizes, some variant’s grains being as little as 0.3-0.4 microns in size.

Components carefully made from these materials, such as microdrills less than 1 mm diameter for PC board drilling, exhibit extremely sharp edges and perform excellently.

Such drills are sold in quantities ranging into the tens or even hundreds of millions, even at a contractually specified reducing price every year, given the proliferation of consumer electronics such as mobile phones etc.

Specific to the sawing industry are tungsten carbide grades developed using not cobalt binders to hold the carbide grains together, but alloys of cobalt, nickel and or chromium, to result in components less subject to corrosion during use from acidic conditions such as pine-gum sawing. These grades, developed originally for sawing, have found far wider application in the minerals processing industry such as moist coal-conveying, where mild sulphuric acids may be present from the sulphur usually contained in coals.

One special case of material advance is polycrystalline diamond (PCD). PCD is diamond grit, either natural or synthesised (but still real diamond) carefully hot-pressed together at extremely high pressure with a small amount (maybe 2%) of a binder, such as cobalt.

The resulting material is both extremely hard, being 98% diamond, but also reasonably ductile (non-brittle), considering its hardness.

This excellent resistance to cracking results because, unlike in a diamond which has well defined planes of brittleness, the PCD is made up of many diamond crystals (polycrystalline) lying with differing orientations of their ‘weakness’ planes.

A crack therefore cannot simply start and then run along an easy fracture plane right through the component.

Such components have also become commoditised in recent years, costing for example, approximately USD10 in certain sizes, not hugely expensive in industrial terms.

PCD saw tips have been used for example for precision sawing of abrasive Melamine/Formica kitchen counter tops, so that these can be accurately joined.
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Pinnacle Locally Manufactured by multisaw
LIGNA 2019

Next year, from 27 to 31 May, the world’s leading trade fair for woodworking and wood processing plant, machinery and tools will present a wealth of innovations and applications for the entire wood industry.

LIGNA 2019 will occupy some 130,000 m² of net display space, spread across 10 exhibition halls and the open-air site at the Hannover Exhibition Centre. The primary wood industry is an integral part of LIGNA and will feature prominently in halls 25, 26, 27 and on the open-air site. “All the leading providers of plant and machinery for the primary wood industry have already registered for LIGNA 2019,” says Christian Pfeiffer, Deutsche Messe’s global director LIGNA & Woodworking Events. “That’s all the big names in sawmill technology, machinery for wood-based panel production, technology for custom and mass production involving the processing of solid wood, wood energy technology and, of course, forestry technology.

And I’m especially pleased to announce the premiere of a new sawmill technology group pavilion from Latvia, in Hall 25.”

At LIGNA 2019, providers of plant, machinery and equipment for the primary wood industry will feature at numerous showcases and events that go well beyond standard exhibitions:

**Guided tour**

In 2019, for the very first time, LIGNA will offer a Guided Tour (in German and English) for visitors with an interest in sawmill technology, including the following: machinery for all log applications, large or small-diameter, plus systems ranging...
from high-performance to small and versatile, to custom-optimised; machine tools for primary wood processing; machines for tool making and tool maintenance; the full range of timber logistics and log yard products and solutions; machinery for handling, sorting and packaging; measurement technology for all applications; drying technologies for all applications; and energy plant and waste wood utilisation technologies for sawmills.

Innovations platform
‘Access to Resources and Technology’ is the focus theme for the 3rd Wood Industry Summit, organised by Deutsche Messe in partnership with the German Forestry Council (KWF). It is an international dialogue and technology showcase comprising a forum, lounge and exhibition area, to help visitors access new growth markets. For the first time, the summit will also feature the ‘Future Workshop for Forestry & Wood’ showcase – a group pavilion for start-ups, inspired by the German government’s ‘Charter for Wood 2.0’ policy.

14th German logging championship
For the first time, Deutsche Messe and the German Woodsmen’s Championships Association (VWMD) will be co-staging the German Logging Championships. At the event, Germany’s best 100 or so forestry professionals will demonstrate their chainsaw skills. Handling skills and precision will be put to the test in five disciplines: tree felling, chain fitting, combined cut bucking, precision bucking and delimming.

Outdoor demonstration for forestry technology
The outdoor demonstration site is a dedicated area where the latest forestry machines and technology developments are shown in action – all under careful expert moderation. The outdoor site is organised in partnership with the German Forestry Council (KWF) and will be located in the middle of the German Logging Championship area. It will feature moderated technology demonstrations on each day of the show.

KWF Business Pavilion
2019 will mark the ninth time that the German Forestry Council (KWF) is spearheading this special forestry technology presentation at LIGNA. The unique technology-centric forestry industry meeting hub is aimed at forestry companies and takes a manufacturer-neutral look at key forestry issues and challenges.

Among the featured topics are:
Forestry 4.0: In today’s forestry industry, digitization starts among the trees, with all processes, from crop to log yard, now fully integrated. Large scale machines, such as harvesters and forwarders, now have onboard computers and are networked with each other.

This is Forestry 4.0, a topic that will also be covered by the displays on the open-air site in front of the pavilion. Highlights here include displays of log-yard data flows and data processing. There will also be displays of technologies dedicated to hazard detection and prevention, safety and rescue for forestry workers. Topics here include ‘Natural Disasters in the Forest’, ‘Precision Forestry’ and ‘Forest First-aid and Survival’.
Battery-powered machinery: Thanks to research in the automotive and energy industries, rechargeable batteries are steadily becoming smaller, more affordable, more powerful, longer-lasting and less maintenance-intensive.

These developments are now flowing through into forestry work methods and technologies. The displays and exhibits will be supported by quality discussion forums.

Showcase by North Rhine-Westphalia Forestry Service
The group display that the North Rhine-Westphalia Forestry Service will explore innovations for sustainable forest management and focus on the further development and digital integration of work processes across the entire primary wood industry value chain.

The main topic highlights include resource efficiency in the use of forestry machines and the development of new digital training systems for operators of forestry machinery.

Energy from Wood
The Energy from Wood showcase at LIGNA 2019 will show how to achieve major cost reductions and efficiency gains by generating power from waste wood, chips and sawdust, and by utilising waste heat and harnessing cogeneration.

The showcase will present technologies that wood-industry manufacturers can use to recover process energy and re-use it for heating and electric generation.

‘Firewood Production Line’ showcase
The ‘Firewood Production Line’ showcase will be back in 2019 with another comprehensive line-up of exhibits, demonstrations and guided tours dedicated to renewable energy from wood, from firewood processing to furnaces and everything else in between.

LIGNA Forestry Get-together
As LIGNA’s primary meeting hub for forestry-industry networking and dialogue, and organised by the German Association of Forestry Contractors (AFL), the Forestry Get-together will be back again in 2019.

13th Lower Saxony Crane Driving Championships and 4th Women’s Crane Driving Cup
Among the more spectacular events on the open-air site are the Lower Saxony Crane Driving Championships and the Women’s Crane Driving Cup. The events offer a thrilling mix of big-machine mastery, sport and entertainment. These two must-see events are organised by the Lower Saxony School of Forestry, Münchenhof, and the German Association of Forestry Contractors (AFL), with support from Deutsche Messe.
First variable speed mitre saw
Festool takes the compound mitre saw to a new level with their latest Kapex KS 60 Sliding Compound unit

The Festool Kapex Sliding Compound Mitre Saw has a unique ‘rail forward’ design that includes a pair of large 30mm diameter stationary rails on the front side of the saw. The wide spacing of the rails adds stability and rigidity, and because the Kapex’s head assembly slides, there are no protruding rails behind the saw, allowing you to position the tool much closer to a wall than other mitre saws of comparable cutting capacity. This feature, combined with the small footprint of 61 x 71cm and light-weight of the magnesium alloy base, makes it a space saving, easy to transport tool.

The saw is the first variable speed mitre saw, with a 1400-3400rpm variable speed. A 1600 watt, 13-amp motor powers the 260mm 60-tooth carbide-tipped blade. It provides a cutting capacity at 90° of 30 x 9cm, and at 45° the capacity is 20-18/40 x 8-18/40cm. Mitre cuts can be adjusted to the left up to 50° and to the right up to 60°. In addition, a special cutting position allows for cutting 45mm material up to 10-27/41cm high. The compound tilt mechanism moves smoothly and is perfectly balanced anywhere along the 47° left and right swing. A large twist knob allows you to dial in the compound angle setting with micro-adjustability.

The Kapex’s LED Light displays the cutting edges of the blade, making it easy to see a drawn line beneath the projected shadow.

Festool’s MiterFast Angle Transfer Tool, included as standard equipment, makes it simple to measure, calculate and cut bisected angles. Used like a bevel square to pick up the work angle, by laying the tool on the saw and lining up the laser lines to the centre handle of the tool, the correct bisect angle is achieved.

Mitre saw stand
The Festool offers the MFT/3-Mini work table, which is a smaller version of the standard MFT/3 Multi-Function table designed specifically for the Kapex. It measures 81 x 53cm, stands 79cm high and has folding legs with a floor leveller. The saw mounts to either table using the optional clamping kit.

Festool also offers the Kapex UG Mobile Miter Station for use on the jobsite. It folds easily, includes wheels, and can be used by itself or with left and right extension wings.

Experience the Kapex KS 60 innovative features that allow you to measure and cut inside and outside corners without complex calculations which is sure to take productivity to new levels. No other sliding compound mitre saw offers so much value and so many great features. Align cuts from the right or left side of the blade quickly. Plus, blade changes are a breeze with the Festool FastFix blade change system.

Festool’s new Kapex KS 60 Sliding Compound Mitre Saw.

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www.torkcraft.com
New opportunities for US hardwood

by Neil Summers

The recent emergence of commercial thermal modification (TMT) applied to hardwoods has opened up new growth opportunities for other American hardwood timber species for exterior applications, which were previously the domain of chemically-treated softwoods and tropical hardwoods - Republished with permission from the American Hardwood Export Council (AHEC).

This technology means that some American hardwood timber species that are of low natural durability and also lower value, such as tulipwood and soft maple, can now be utilised for these exterior applications. Thermally modified ash is probably the most popular species used for decking and cladding currently because of its attractive open grain, but with increasing demand and concerns about the impact of emerald ash borer in the USA and ash die back in Europe, attention is turning to alternative species. Other American hardwoods that thermally modify particularly well include tulipwood, soft maple, red oak and yellow birch.

The thermal modification of timber is not a new concept. The ancient Vikings knew that when building defensive fencing for fortifications, poles made from timber with a burnt surface lasted longer than those that didn’t. More modern studies on possible benefits of TMT began in the 1930s and 40s in Europe and the USA, but it never reached commercialisation.

It wasn’t until the late 1990s that Scandinavia first introduced the commercial method of thermal modification that we recognise today, as a way of improving the durability and stability of native softwoods.

Commercial kilns were first introduced into North America in the mid-2000s to enhance the durability and value of some hardwood species and there is no doubt that this technology is changing the market landscape for some American hardwood timber species.

The two key benefits of the TMT process are to vastly improve the durability and the dimensional stability of the timber. The process reduces the timber moisture content to around 4 – 6%. The equilibrium moisture content is permanently reduced and so does not react to changes in humidity as quickly as untreated timber.

This reduces the ability of the timber to absorb moisture which greatly improves the stability properties. The durability is improved by the removal of the hemicelluloses and carbohydrates from the wood during the treatment process, the two main food sources for wood destroying organisms.

Durability class 1 (very durable) which is equivalent to tropical timbers such as ipe (also called Brazilian walnut) can be achieved with thermally modified American hardwoods.

Other benefits include enhanced machining characteristics and a reduction in thermal conductivity. Importantly, the whole of the cross-section of the timber is modified during the process, so profiles can be machined after treatment.

About the author:
Neil Summers works with AHEC on technology development research through his own consultancy, Timber Dimension. Neil graduated from Buckinghamshire College with a degree in Timber Technology after which he went on to become a research assistant in the department of Pure and Applied Biology at Imperial College, London. From there he proceeded to work for Protim at Marlow, before branching out into more commercial roles with the UK Osmose organisation. With years of research and experience behind him, Neil then set up his own consultancy in 2011.
Alternatives to metal and petroleum-based wood treatments are gaining traction – particularly the use of heat alone to transform wood’s chemical and physical make-up for exterior architectural use – owing to increased environmental considerations.

There are well over 100 facilities worldwide producing commercial quantities of thermally modified timber, with the main core of operating sites being in Europe.

Despite the small amount of additional energy used during the TMT process, life cycle analysis has shown that the end product has a better environmental impact than chemically treated timber.

Further benefits of TMT treated timber include no requirement for special handling precautions, and a more positive environmental impact at end of life.

Also, there are fewer potential sustainability issues associated with tropical timber from regions that have a high risk of illegal logging. In contrast, independent studies confirm that American hardwoods are low risk.

The TMT industry is now past the embryonic stage of development. There are well over 100 facilities worldwide producing commercial quantities of thermally modified timber, with the main core of operating sites being in Europe.

There is still continuing research to be done: on modifying different hardwood timber species and making sure that all modified timber is fit for purpose for its designed end use.

Not all properties are enhanced by the TMT process, for example, bending strength is slightly reduced, so there is a question mark on the use of thermally modified timber for certain structural applications.

AHEC believe that of all the hardwoods currently being thermally modified commercially that American tulipwood has a particularly bright future for cladding.

It treats and machines easily and is light-weight, competitively priced and readily available. Two recent projects that have showed case its potential include Maggie’s Oldham by dRMM Architects and Room on a Hill by Asif Kahn.

AHEC believe that of all the hardwoods currently being thermally modified commercially that American tulipwood has a particularly bright future for cladding.

There are well over 100 facilities worldwide producing commercial quantities of thermally modified timber, with the main core of operating sites being in Europe.

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Austro/Felder: The real thing

As the official agent for the Felder equipment range, Austro is the real thing, when it comes to providing the quality woodworking machines from the Austrian manufacturing giant

The Austro/Felder relationship is cemented in a friendship born many decades ago and has continued unbroken since.

CEO Hansjörg Felder, present owner of Felder, is the third-generation family member to head the company.

It was his father, Johan Felder, who was friends with Daniel Roethlisberger, founder of Austro back in the 80s and it was here that the first association between the two companies germinated.

Today, in South Africa, Felder produces the machines and Austro South Africa imports, maintains and services them.

Felder foundations

The family-owned Felder Group was established in 1956, manufacturing and building entire machines from scratch in their factory in Tirol, Austria, supplying to a worldwide client base. Presently, the company is known simply as Felder.

Austro has been the official agent for Felder machines, since 1981.

Over the years, as technology improved and advanced, the premium Felder machines became incrementally expensive to purchase and there was a risk of outpricing itself in the hobbyist and light industrial markets.

So, taking cognisance of a gap in this sector, the Group developed the Hammer range of woodworking machines, established in the late 90s. But don’t be misled that it’s a cheaper and therefore inferior line. Felder’s woodworking machines are top-quality products, founded on 60 years of development.

The Hammer range of machines offers all the Felder R&D innovations, taking everything learned from the mother company’s machines through the years, and applying them to the Hammer range.

More accessible to the middle market, the Hammer range is a lighter, less sophisticated, DIY-centric brand, specifically for solid timber and small board products.

Chris Dirker, machine sales, adds, “Austro is a premium brand and we represent premium machines from the Felder line up.”

The Austro/Felder advantage

All the technicians that work on the Felder machines in South Africa attend regular training on site in Austria.

In addition, the Austro sales team is coached and trained in the finest detail how to explain the machines to their clients, their capabilities and usage.

This ensures that they customise each solution to the client’s required configuration, listening closely to what is needed and for what application the machine is intended.

“We are trained in a very specific manner how to sell the Felder products, to understand what it is we are pitching to the client and to ensure that the very precise Austrian ethic is maintained,” says Chris.

Hammer Combination Machine C3-31: features a sliding tablesaw, jointer, planer, shaper and drill/mortiser.
The 5 function combination machine combines the user comfort and precision of the individual machines in a unique machine concept with the shortest of changeover times – a complete workshop in a multifunction combination machine.
This attention to detail has been the foundation of Felder’s loyal client base. Chris says that he can cite many examples where a client has started with an entry-level machine and, once the impeccable quality becomes evident, it is a natural evolution that they purchase a Felder when they need to upgrade.

“Many of the DIY customers start off with a Hammer machine and, as they become increasingly productive and reap the benefits of the accuracy of the Hammer machine – which is unmatched globally – they move onto a bigger Felder machine. We get a number of Hammer trade-ins on a Felder machine,” he adds. Austro therefore has a well-stocked used-machine section that supplies into the substantial DIY market.

Dating back to 2000 Austro has sold just shy of 2 000 Hammer/Felder machines in the South African/Sub Saharan African market, and a startling revelation is that Felder keeps spare parts for every machine it has ever produced – regardless of circa, the parts are available.

Not only is the Felder range of machines durable, the sound relationship it enjoys with its official agent, Austro, is also one of lifetime endurance; a fact that many satisfied and loyal clients will attest to.

“Many of the DIY customers start off with a Hammer machine and, as they become increasingly productive and reap the benefits of the accuracy of the Hammer machine – which is unmatched globally – they move onto a bigger Felder machine.”
Incubating success

The Furniture Technology Centre Trust (Furntech) is in the strategic business of wealth creation (SMME development) and Human Resource Development (training) in the furniture and wood products sector.

Furntech's mission is to be a productivity driven, globally competitive, outcomes-based training provider that offers comprehensive and innovative business incubation services in order to assist in job and wealth creation in South Africa's furniture and wood products sector. The Furntech business model is based on a combination of Business Technology Incubation and Skills Development that has helped put us in a position where we CAN take advantage of any and all market opportunities that may present itself in the furniture industry.

Furntech, as an incubator is more than just a location for small and emerging entrepreneurs to operate or start their businesses from.

It is also a professional centre for woodworking artisans supported by national and local government stakeholders to empower start up and emerging entrepreneurs who have a project idea or who want to grow their own business for wealth and employment creation.

The organisation offers hands-on support to fledgling woodwork manufacturing businesses to move them from a point where they are dependent on its services to an exit point where they graduate into their own commercial premises.

Through our incubation programme we are contributing to the revitalisation of the small business sector and contribute to the growth and wealth of the South African economy.

Duration

Our incubation process consists of various phases and from the first phase to the completion of incubation can be up to 30 months (2 ½ years). Excluded from this is the post incubation phase. The phases are:

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start-up Lab Phase</td>
<td>The applicant has a business idea that needs to be developed and also requires further research and the development of a draft business plan. During this phase the applicant is mentored on a one-to-one basis to develop his/her business idea/concept into a viable opportunity. They also receive training. The period is up to a maximum two months.</td>
</tr>
<tr>
<td>Pre-incubation Phase</td>
<td>This phase covers the process from completing first order or an existing order to meeting business regulations for participation in the programme. The viable opportunity explored in the previous phase is further developed into a market. The period is up to a maximum of three months.</td>
</tr>
<tr>
<td>Incubation Phase</td>
<td>This is a limited period of skills development, coaching and mentoring that is designed to assist the business in attaining sustainability. The period is up to two years.</td>
</tr>
<tr>
<td>Post Incubation</td>
<td>This phase is provided on a needs basis and where the facilities exist but more specifically in the rural areas.</td>
</tr>
</tbody>
</table>

The Outcomes

The participants leave with a registered, viable business that can operate in the open market, with an established market. Furthermore, they would have received a graduation certificate.

Says Velaphi Mpolweni, Lowe Furniture & Décor, “I found out about Furntech when I was reading Wood SA & Timber Times, where they profiled one of the companies that was incubated at the centre. I am currently part of the two-year incubation programme (with an option of increasing it for an extra year) in Furntech Johannesburg, where we learn to run effective and efficient companies by the time we leave the centre. The primary opportunity we have at the centre, is the use of their high-tech machines.”

Mpolweni is the 2018 Achiever of the year winner on the Tsogo Sun programme and will be the brand ambassador for the programme in 2019. He adds: “Tsogo sun is a great brand to be associated with and was a great lifetime opportunity for me and my company Lowe. I could not have had this chance if I never had working space that Furntech provided me with.”
FOMA Southern Africa is a joint venture between China FOMA of Beijing, Shanghai FUMA and The FX Group. Riegut Marketing is a furniture manufacturer and distributor fabricating for a number of southern African furniture retail chains.

FOMA Southern Africa MD Roddy Payne notes, “After our formal introduction at the Wood Ex for Africa trade show, we have been very busy talking to possible customers and making product presentations.

Riegut Marketing came to us through the success that The FX Group has had with Riegut as an important and growing board customer.

The FX Group’s dependability, reliability and support as a board supplier opened the door to for a discussion on machinery.”

Riegut Marketing’s CEO Rasheed Gutta states: “We were looking for a reliable,
From left to right: Rasheed Gutta, CEO Riegut Marketing, Errol Smith, Production Manager Riegut Marketing, Luthando Mzimba Sales Team Leader The FX Group.

The HP330 G beam saw works perfectly with 2750 x 1830mm size boards and can comfortably cut a ‘book’ of boards of up to 100mm thick.

The main blade runs on an 18kw motor, providing some muscle and the scoring blade runs on a 2.2kw motor.

The optimising software is functional and designed for bulk cutting. Other, more sophisticated and integrated software can be loaded by the customer, if required.

A full set of critical spares as well as technical support is available from FOMA Southern Africa.

A 12-month guarantee on mechanical and electrical parts is provided standard – providing that ‘clean power’ is supplied to the machine.

Extended warranties can be discussed on request.

Notes Errol Smith, production manager at Riegut, “The new beam saw from FOMA has made an immediate difference to my production schedule – it works hard and has taken a lot of pressure off my cutting shop.”

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<table>
<thead>
<tr>
<th>Model</th>
<th>MJ320M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sliding Table Dimensions</td>
<td>3200x76mm</td>
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<tr>
<td>Max Working Length</td>
<td>3180mm</td>
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<tr>
<td>Max Working Thickness</td>
<td>90mm</td>
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<tr>
<td>Main Motor Power</td>
<td>5.5kw</td>
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<tr>
<td>Scoring Motor Power</td>
<td>0.5kw</td>
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<tr>
<td>Main Saw RPM</td>
<td>4200/5600</td>
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<tr>
<td>Scoring Saw RPM</td>
<td>3000</td>
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<tr>
<td>Main Blade</td>
<td>25x310x10mm bore</td>
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<tr>
<td>Scoring Blade</td>
<td>120x20mm bore</td>
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<tr>
<td>Tilt</td>
<td>0-45</td>
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<tr>
<td>Overall Dimension</td>
<td>3350x1715x890</td>
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<tr>
<td>Net Weight</td>
<td>800kg</td>
</tr>
<tr>
<td>Gross Weight</td>
<td>930kg</td>
</tr>
</tbody>
</table>

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Approved
Playing with wood

In celebration of the Festive Season, Wood SA peeks at making wooden toys

From time immemorial, wood has been used in applications far beyond a source of fuel, including for weaponry, leisure and industry.

Despite being organic, wood is surprisingly resilient, flexible and attractive. While it is imbedded with many aesthetic characteristics, it is one of the few natural resources that are renewable. In addition, the production and processing of wood uses much less energy – called embodied energy – than most other building materials, giving wood products a significantly lower carbon footprint.

In a world of plastic and concrete, there is something authentic, timeless and refined about wood. It’s also very tactile. But possibly one of the quaintest uses has been the manufacture of wooden toys.

Wooden toys
Wooden toys imbue a degree of nostalgia, no matter how modern the item.

The modern-day, health conscious parent prefers wooden toys to plastic for their offspring, as plastic is the combination of hazardous chemicals which can be detrimental to children’s health.

Research shows that the more contact we have with plastic the higher the chances of health issues like asthma, as plastics leaches toxic chemicals called phthalates. Most young children have a propensity for mouthing everything, including their toys and will therefore be at greater risk if they are chewing on harmful materials.

Wood is also a durable material for toys – it doesn’t break down over time, it doesn’t shatter, it simply wears slowly. Also, most wooden toys are handmade, and the quality craftsmanship ensures the finished product is of the highest standard.

Different woods
A variety of different woods are used to make toys. Woodworkers classify woods either as hardwood (coming from deciduous trees) or softwood (coming from evergreen trees).

These two classifications however, are not always specific – some evergreen trees have wood that is very hard, and some hardwood trees produce extremely soft wood.

Several varieties each of hardwoods and softwoods are used in the manufacture of toys.
**Hickory**
Hickory is a slow-growing wood that is highly prized for its strength and ability to absorb heavy blows. This makes it ideal for making axe handles and other sturdy components. Using hickory for dowels and axles in toy making is best for where strength is required.

![Vintage wooden xylophone pull-toy.](image)

**Black cherry**
Aside from its pleasant scent, black cherry can be worked easily. While the wood has a light red colour initially, that shade begins to take on darker hues as the wood ages.

Also, this wood is extremely smooth, making it a good choice for toys, as there is minimal splintering.

**White pine**
According to a US wooden toy-making company, Maine Toys, softwood is preferred for its toy production.

The company’s website cites: ‘the primary material is white pine, and every board of wood is carefully selected to show off its natural beauty and grain.

The completed wooden toy is finely sanded to a satin smooth natural finish’. The website goes on to say that white pine is known for its durability and toys made from it may last long enough to be passed down through several generations.

Many toys and sports equipment have long made use of wood for handles and main parts eg willow (Salix sp) wood for cricket and tennis bats, while mulberry (Morus sp) wood is preferred for hockey sticks.

Products made from sustainably-sourced wood and more natural, eco-friendly materials are not only going to last longer, but will also produce less waste product.

Toy making companies often use non-toxic paint and recycled packaging, bringing sustainability full circle.

While wooden toys’ initial purchase prices may be higher, they are actually cheaper, as the quality and lifespan of wooden toys far outweighs the benefits of cheaper plastic toys in the long run.

Wooden toys will not only be enjoyed for longer thanks to their robustness, but they can be passed on to younger family members, friends or kept for future generations or even given away to someone in need.

**WWA**
Talking of those in need, the Witwatersrand Woodworkers Association (WWA) holds an annual ‘Toys for Charity’ outreach, in which the members make a selection of wooden toys to give to impoverished communities.

Says Trevor Pope: “We hold a braai that caters for more than 80 people, collect and distribute more than 1 000 toys to three different charities, and run a club raffle with maybe more than 500 items.”

Established in 1990, the non-profit organisation’s aim is to promote and maintain interest, skill and excellence in the working of wood. The Association supports all aspects of woodworking, and has amateurs from every walk of life and many professional woodworkers among its membership base.

Monthly meetings serve as a forum for the interests of its members, while specific interest-groups and workshops convene at various times during the month.

A single, annual fee allows access to all facilities and groups, with no additional fees levied.

They welcome all that have an interest in woodworking and thrive on new membership and fresh ideas.

**Sources:**
www.faithful-to-nature.co.za
makeitwood.org
kaboutjie.com

![The timeless wooden blocks that we all remember either seeing or giving to a child.](image)
Basic wooden toy production process

Air Drying
The raw material – wooden boards – are stacked in the open air to dry naturally before used. Once the moisture content of the wood falls below 15 percent, which is essential for preventing the wooden toys from getting mildewed, work will begin.

Shaping Blank
Cutting raw timber into smaller pieces in appropriate sizes and then making them to the shapes of the toys, is the process of producing ‘blanks’.
Techniques involved include: wire saw cutting, CNC cutting, laser cutting, die cutting, drilling etc.

Sanding
All blank wooden toy pieces should go through a sanding process to get rid of all the burs and be perfectly smooth for the coating process.
Techniques involved include: manual sanding, drum sanding.

Coating
Most toys have more than one layer of coating to ensure a nice finish. First, it’s base coating, or primer. After the primer layer is finished, the toy pieces are sanded again to make sure the coating surface is perfectly smooth, then the next layer of coating is applied. After each layer of coating, pieces are sanded, until the final layer of finish is done.
Techniques involved include: spray or hand painting, drum painting.

Printing
Various techniques are used to print the colourful images onto the wooden toys.
Techniques involved include: silk screen, heat transfer, pad printing, water transfer.

Engraving
A variety of elegant engraved logos or images can be made on the wooden toys.
Techniques involved include: hot stamp, laser engraving.

Hand Painting
To have an original, unique style, hand painting is the perfect method.
Techniques involved include: hand painting.

This process is described by Shenzhen Eagle Creation Toys Co., Ltd in China. Some methods or processes may not apply in all scenarios.
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Playing around...

A selection of the handmade wooden toys made for the WWA Toys for Charity outreach.
CIFM/interzum guangzhou 2019

CIFM/interzum guangzhou 2019 international zone meets with overwhelming industry demand, as the event is fully sold out

Once again, Asia’s largest and most comprehensive trade fair for the woodworking and upholstery machinery, furniture materials and interior decoration industry is heavily oversubscribed.

Slated to take place from 28 to 31 March, 2019 at the China Import and Export Fair Complex (Pazhou Complex) in its namesake city, CIFM/interzum guangzhou will continue to be held in conjunction with the China International Furniture Fair (CIFF) – Asia’s most prestigious trade event of its kind. The shift in furniture preferences of the main consumer groups of post-80s and 90s from premium materials to comfort, aesthetics and functionality, has affirmed the importance for furniture manufacturers to master the latest furniture production technology and trends of raw and auxiliary materials to occupy a lasting position in the market.

Strong demand of China and Asia’s consumer market has propelled CIFM/interzum guangzhou to be recognised as the leading platform for trade, showcasing and debuting new products for the region’s furniture manufacturing industry. This edition will span 17 halls across Area B and C of the venue, occupying 150,000 square metres and is expected to feature the latest products and technologies from over 1,500 exhibiting companies from more than 38 countries and regions.

Some 85,000 visitors are poised to gather at the much-anticipated event. Aiming to make a strong comeback after a short hiatus from CIFM/interzum guangzhou is the South Korea pavilion, boasting eight national pavilions. Four pavilions will hail from German, Turkey, US/Canada, Italy, while the other three will be led by the American Hardwood Export Council (AHEC), Canada Wood and French Timber. Among the exhibitors are several brands that will be making their debut in Asia. Some key brands to be featured include:

Woodworking Machinery & Cutting Tools:
IMA, Leitz, Vollmer, GreCon, LEUCO, Hans Weber (Germany),...
Homag, Nanxing (China), SCM, Blesse, Ferwood, Freud, Paolino Bacci (Italy), Woodtron (Australia) and Felder (Austria).

**Upholstery Machinery & Pneumatic Components:**
Duerkopp, PFAFF, Adler, Mammut, OKIN, Limoss (Germany), Legget & Platt (US), Lianrou, Yuantian (China), Elektroteks (Turkey), LINAK (Denmark), TIMOTION (Taiwan), Lion Rock (UK) and ALFA (Switzerland).

**Accessories for Upholstery Furniture:**
Aydin, Boyteks Tekstil, Comfytex (Turkey), Xinyada (China), Bekaert Deslee, Artilat/Global Textile Alliance (Belgium) and Jacquard Textile (Thailand).

**Hardware & Components:**
Italiana Ferramenta, FGV, Sige, SERVETTO, CINETTO (Italy), Nan Juen/Repon, King Slide, (Taiwan), Titus (UK), Cyber Lock (Thailand), DTC (China), Sugatsune (Japan), FREITAS IRMÃOS (Portugal), Samet (Turkey), LEHMANN, LS Lighting and Suspa (Germany).

**Wood Products & Adhesives:**
Urufor (Uruguay), Pollmeier, Henkel, Kleiberit (Germany), American Softwoods, H. B. Fuller (US), French Timber (France), KRAUSS (Latvia) and Saveplac (Italy).

**Interior Decoration & Accessories:**
Impress, Schattdecor, RENOLIT, Germantops, Klöckner Pentaplast (Germany), Alvic, Lamigraf (Spain), ICA (Italy), Fritz Egger, TZ AUSTRIA (Austria), Kastamonu and Lignadecor (Turkey).

Attendees can expect a series of forums, seminars, product launches and buyer salon activities, and the opportunity to engage in discussions and exchanges with industry experts, designers as well as brand representatives, from around the world during the event.

To learn more about CIFM/Interzum Guangzhou 2019, visit www.interzum-guangzhou.com.

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Dear valued customer

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for your continued support throughout 2018.

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