JASA Partnership Newsletter November Edition February 2011- April 2011

JASA

Newsletter

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PREFACE

Dear JASA members

Wow! It's almost the end of February already, second month in 2011, it's amazing how time goes by very quickly, this can only mean it's time for our second edition of the world renowned JASA newsletter. Summer is still upon us this side, with regular showers of rain and the bright sun glowing ever so brightly. Its been an exciting past few months with the Christmas and New year celebrations gone, we are all back and digging in-to our school work. With all those new year resolutions starting to fade away, the reality of life is starting to kick in, looking on the on the bright side I am glad to say we have a fully loaded, mouth watering newsletter ready for you to enjoy.

You will remember that in our first newsletter we took a look at an introduction to our LC, a glance at the South African Forestry industry and the first part which gave you an introduction to silviculture practices in South Africa. In this edition of the JASA newsletter we look at part two of the art of silviculture, we will then take a look at the interesting Forest Engineering side of things and finally we will look at the application of forest protection in South Africa.

Oh! And please remember we a basically just scratching the surface with the articles; there is quite a lot of information on the topics we will describe below. So as usual please contact us if you require more information on a particular section. Even if you just need clarity on a particular issue please feel free to contact us so that we can learn from each other.

I hope this edition will be both informative and enjoyable for you. We are also excited and looking forward to getting your second newsletter; we learnt a lot about the Kitayama forests.

Alright then, lets dive into the newsletter!

Kind regards,

Muedanyi Ramantswana

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THE SFA WELCOMES ALL THE FRESHMEN

By Muedanyi Ramantswana

Unlike all the previous year's this year was different for all the first year students that arrived at our campus to study Forestry and Wood Technology. Filled with excitement and anxiety they all lined up next to the swimming pool area ready to take an adventure through the Groeneweide trail through the indigenous forests of the Southern Cape. Having experienced a tough orientation week prior to the walk, the freshman were nothing less than prepared to take fresh breathes of clean air as they explored and took short glimpse of what lied ahead in the forestry future.

Some of the freshman sitting and listening

The walk took just over an two hours to complete. A little exhausted and tired the students were given a small talk on the history of indigenous forests in South Africa and the selective harvesting techniques applied to enhance the growth and regeneration of the forest species. The students were also informed about some of the research projects that are currently underway. Finally the students got a short talk about the Saasveld Forestry Association (SFA) and IFSA and what the responsibilities of these associations are in enhancing student life, vibrancy and interaction. After all the talking the students were furbished with refreshments. The students were rewarded with a full meal comprising of meat, a salad some gravy and a cool drink. All in all the students were happy and glad about the experience.

As part of the normal campus life celebrations the SFA had to setup a stall in order to inform students about the different societies available in the campus. As usual the SFA was fully represented; the picture below shows some of the students who were manning the stall.

SFA members enjoying themselves at the stall

NEW SFA COMMITTEE ELECTED

The new SFA committee members for 2011 were elected. The meeting took place on the Thursday the 24th of February. First years, third year students and BTech students gathered to vote for the new SFA committee for 2011. The event was a successful one and three new members were elected to take the different positions. Each one of them had to give short presentation on themselves and what they plan on doing for the Forestry and Wood Technology students. As you can see below these guys will make a great team and it safe to say the SFA's future is in good hands this year.

The new SFA committee members for 2011 (Left to right: Kutelani- Chairperson, Akhile- Secretary and Struan- Vice chairperson)

PART TWO: THE ART OF SILVICULTURE

By Kutelani Tshivhase

In this second newsletter we carry on were we left off in the previous newsletter. In the first newsletter we covered the first part of silviculture which included the basic establishment of trees, site preparation and the different planting techniques. In this newsletter we continue going higher on the South African Silvicultural practices ladder.

Coppicing

The coppice method involves clear felling all trees in the original stand. Clear felling allows total space to the new age class that will sprout from the old tree stumps that were cut previously. Coppicing is a fast way of reestablishing a compartment because the new shoots live off well-established on the large root systems

Pruning

Trees are pruned to improve timber quality and also to accelerate tree lateral growth. Pruning is mostly done on pine plantation; this operation is also carried out for easy access into the compartment. . Pruning is of critical importance to the sawmill timber, as the most valuable timber is that wood which is produced having knots free; this is usually referred to as clear timber. In such rotations the lower branches need to be removed to ensure that the knotty core is restricted to the inner 10cm. its common that first pruning is done at the age of 3-4 years and the last pruning can be done on 10-11 years for *Pinus* species.

Thinning

The Stand density affects tree growth and wood quality, therefore trees are thinned for the allowance of space for remaining trees to grow and increase diameter. Spacing and thinning practices are aimed at maximising volume growth per tree usually this has no adverse effect on wood quality of remaining trees. For saw timber when the stands are established at a high density, the first thinning is applied at a fairly early stage (8 years) to avoid early competition and instability. The next thinning in this case would be at 13 years.

Agroforestry

In the tree-rich savannah veld of South Africa, such as parts of the Eastern Cape, Northern Natal, the Lowveld, Bushveld in the Northern Province and the Kalahari where livestock farming is practiced, trees are protected for the production of additional fodder for drought season, as a source of fencing material and firewood, for stabilizing soil, for providing shade and for general environment conservation purposes.

The major constraints to successful livestock raising in the summer rainfall areas of South Africa, are the shortage of fodder available to livestock during winter. Since in winter, there are limited rainfalls and lower temperatures, grass growth is restricted. Agro forestry can involve silvopastoral and alley cropping activities.

An example of agroforestry practices

FOREST ENGINEERING

By Mnqobi Zuma

The South African field of Forest Engineering focuses on three facets, namely: harvesting, roads and transport. Our harvesting operational cost constitutes 40% of the annual budget, while transport costs make up 31% of the annual budget. These escalating figures (costs) require forest engineers to thoroughly design flexible plans which will help minimise the costing of all operations involved from stump to mill gate, while maximising the profit (return).

The Forest Engineering trend affecting all grower companies is gradually shifting from in-house (own) operations to outsourcing (contractors to do the work).

Different harvesting systems and equipment are used to fell, optimise and transport the trees to a predetermined destination. The usage of our ground base harvesting equipment is highly dependent on terrain and the sensitivity of our soils (to avoid compaction/erosion). Therefore, this would require that a non-ground based system be in place for both harvesting and extraction to meet with the steep terrain, while having minimal damage to the environment.

The harvesting systems commonly used in South Africa are cut-to-length and tree length systems. These systems are developed for different purposes and are highly dependent on the equipment used, terrain classification and management objectives. Nevertheless, a poor road system, poor road maintenance, poor infrastructure and lack of landing space can cause hindrance to all harvesting operations regardless of the time spent on planning. Therefore, since roads are the "arteries" of both harvesting and transport they must be incorporated on the plan, as without them, the whole operation is subdued.

Tracked based harvester operating in a Pine compartment

Forwarder machine used when extracting logs infield to the depot or landing

Grower companies have put focus on the main drivers of Forest Engineering which will be the centre for the future. Research conducted by the Institute for Commercial Forestry Research (ICFR), has indicated major changes to the field of Forest Engineering, these include:

- Productivity improvements
- Harvesting operations mechanization
- Cost effective implementation of mechanised harvesting
- Forest road infrastructure improvements
- Forest road network improvement

Typical Forestry plantation road

Loaded timber truck leaving the plantation depot to the pulp mill.

FIRE PROTECTION (PART 1)

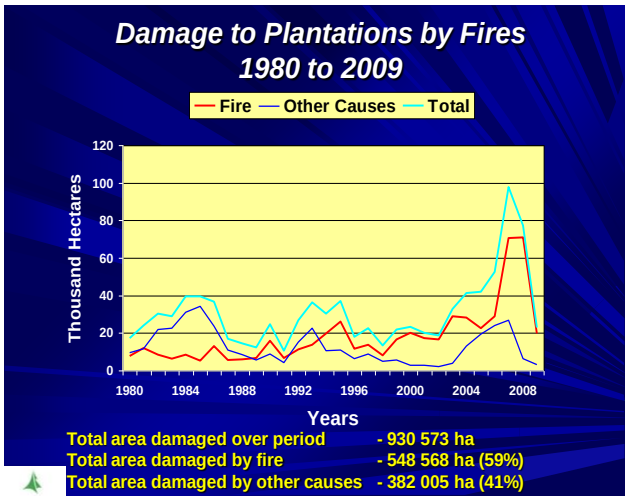
By Nonkululeko Ntinga

Brief intro

Fire has become one of the biggest threats within the forestry industry, causing unprecedented damage to plantation forests. Over the past five years, a large amount of valuable timber has been lost as a result of wild fires. Any further losses of timber due to forest fires can result in a catastrophic consequence

for the South African forestry industry. A numbers of strategies are used to reduce the damage caused by fires when they do occur. Despite fire there other factors that pose a big threat to the forestry industry in South Africa these include insects and pests that attack the forest plants.Some of the main factors to consider when it comes to fire protection are fuel, weather and topography as a play a significant role is fire in management. But the main pillars of fire are fire prevention, protection and suppression.

The South African Forestry industry has experienced many significant losses due to fires, pests and diseases. The figure below indicates the trend and the amount of hectares that have been damage by fire and other causes.



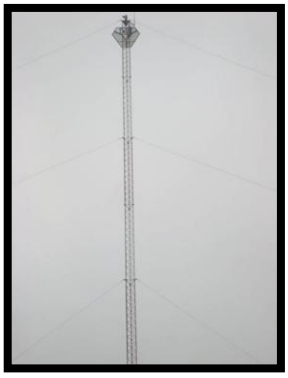
Damage to plantations by fire (Forestry South Africa, 2010)

Fire detection systems

Equipment and/or devices used for fire detection have evolved tremendously over the years, from lookout towers to aerial and the latest development up to date digital fire detection using cameras.

Lookout towers - are specially built and well-equipped lookout or systems of lookouts with well trained lookout staff is a cheaper but effective means of fire detection. Lookout towers must be guarded by someone.

Digital fire detection systems - first evolved in South Africa during October 1994.Digital fire detection refers to making the use of cameras to which rotate 360°, covering large forestry areas. The camera image, are electronically sent to a computer network which is situated in the operation room where the fire hawk software differentiates between fire, smoke glow and automatically raising an alarm.



Fire Camera on the tower

REFERENCES:

www.forestrysouthafrica.co.za

SFA CALENDAR UPDATE

- Southern Africa Regional Meeting in July

ANNOUCEMENTS

- I would like to inform everyone that two of our JASA members Mnqobi Zuma and Nonkululeko Ntinga have left our University and are now doing their Bsc Forestry Degrees at the Stellenbosch University. They will solemnly be missed by the Saasveld Forestry Association, they contributed a lot to the JASA partnership. They have promised to continue with the communication with their partners in Japan both Souichirou Fujii and Yuuko Azuma.
- I would also like to also announce that Philani Mnikathi one of the active JASA members graduated and is now working as a forester full time with a forestry company. He will be missed greatly by the whole JASA team, he has also promised to continue communicating with his partner Minato Kodama even though he is working.

From the Saasveld Forestry Association and JASA members we glad to have the Kyoto University as our partners.

Cheers and enjoy!