



Savithi Mulching

Fuel Load Reduction

Nelson Mandela University Forestry - **DIGITALISATION IN MODERN SILVICULTURE**

Mulchers as an Effective Tool for Residue and Fuel Load Management



Why Mulch?

- Mechanical mulching helps mitigate the impact of climate change. Mulching regulates soil temperature, facilitates water penetration and soil moisture retention.
- Mulching positively modifies the physical and chemical structure of the soil providing the perfect habitat for soil organisms.
- It's an environmentally sound practice that protects against erosion and compaction.
- Mulch inhibits weed growth and by removing stumps mulching has allowed silviculture to evolve.
- Improved access for all operations and better access for fire prevention and control.



The Buzzword in Forestry is FUEL REDUCTION

- Reducing fuel load greatly reduces the risk of wildfires.
- How do you reduce fuel? You either burn it or mulch it!
- Burning is cost effective but reduces soil organic material, causes nutrient loss and increases the risk of soil erosion. It also leaves stumps behind.
- Stumps make a great home for beehives. By eliminating stumps, we effectively reduce the number of fires started by honey hunters.

Wheels or tracks



Mulching and rocks



Mulching between timber stacks



Old stumps in
timber stacks



Cleaner compartments allow better access to fight fires. Mulching effectively reduces fuel load, eliminating stumps, leaving cleaner compartments that inhibit the spread of fire



Mulching extraction lines in timber stacks

We started mulching extraction lines to mitigate high risk manual stump cutting accidents and create safer extraction routes. Short haul contractors are now enjoying clean, wider extraction routes with less tyre damage and reduced running costs of extraction. It's also improving efficiencies, increasing productivity and is greatly reducing TU.





Mulching pine
brush lines





Mulching wattle brush lines





Mulching pine reduction creating extraction and firebreaks





Arial view of mechanical and manual harvested compartments



Mechanically harvested compartment – with timber



Manually harvested compartment – timber extracted



Six months after mulching



Manually harvested mulched compartment



Mechanically harvested mulched compartment



Mulching on slopes





Mulching in dry and drought conditions







Giant stumps











Mulching firebreaks in highly flammable material







Wolf in sheep's clothing



Teeth degradation



Under Canopy Mulching



Rehabilitation after a fire



Under Canopy mulching in Pine





Under Canopy Mulching in Eucalyptus







Under Canopy Weed control after mulching









Mulching with horsepower



Mulching large stumps





Diverse mulching into bushveld and land use conversion



Thank You

