

The Kut Kwick Corporation's BrushMaster

Environmentally Friendly Brush Removal

The Kut Kwick BrushMaster is the ideal machine for producing an environmentally friendly *Wildland Urban Interface*. This forest clearing mower cuts down all vegetation up to 4" in diameter. The BrushMaster's rotary cutters reduce the vines and small trees to small cuttings that are laid flat on the ground. Trees that are smaller than 4" in diameter are cut down. The limbs are cut off and chopped into pieces and the broken pieces of the stalk of the trees are left laid flat on the ground.

Deterioration of the clippings occurs over the following weeks and during subsequent months they fertilize the ground improving the new growth that supports deer and other grazing animals. The removal of the brush allows birds to get to the ground to feed. The most interesting phenomenon is that deer and other wild life remain in the immediate vicinity of the machine while it is clearing. As soon as the operator gets out of the machine the wild life scrambles away. The machine is truly environmentally friendly. The root structure of plants is not disturbed. The healthy root structure prevents erosion and assures that animals and fowl can successfully feed in the future. Returning new growth does not support fire for at least one year. It is recommended that the returning growth be removed annually both for beautification and to maintain an effective fuel break that will stop forest fires.

Brush fires are stopped by Kut Kwick's BrushMaster by producing "fuel breaks." When set on fire, the massed brush in forest lands draw air into the fire supporting very hot blazes that extend up as high as twenty feet into the tree canopy. The extreme heat from the brush fires ignite the canopy producing wind born fire embers called "fire brands" that ignite new fuel as much as one mile away with a 40 mph wind. The small cuttings that are produced by the BrushMaster can not blaze up because the oxygen necessary for combustion can not get to the clippings that are flat on the ground. The oxygen deprived clippings can not blaze up or produce a hot fire.

When a raging brush fire reaches the BrushMaster produced fuel break, the fire drops to the ground where it transverses slowly with a low flame, smolders, or goes out. In any case, a firefighter can easily extinguish any remaining hot spots with a tamp, water, or with other means. The canopy does not catch fire over a BrushMaster produced fuel break. The greatest protection from wind blown "fire brands" is to utilize the BrushMaster machines all year long producing "fuel breaks" ¼ mile of increased depth. With enough wind blown fire brands (embers) from burning tree canopies, firebrands can jump the firebreaks as well as any fuel break/fire break combination. The greater the depth of the fuel break the greater the distance the fire must jump. A BrushMaster machine will produce a fuel break of 1¼ acre or 1¼ miles long and 7' wide in one hour. 12 BrushMaster machines that are operated 80% of the working year would produce approximately 20,000 acres of *Wildland Urban Interface* in one year. This would give a tremendous amount of protection to homes and businesses that are bounded by forest.

The only process of stopping and controlling forest fires that compares to the BrushMaster produced “fuel break” in cost as well as effectiveness is the backburn produced “fire break.” The backburn process costs are normally considered to be slightly less to produce than the mowed “fuel break,” however, the cost of the backburn produced fire break is substantially higher than the mowed fuel break after all the costs that are always incurred during and after backburning are considered. Some of these costs are:

- **Hot Spots** – Personnel must remain on hand for extended periods after a backburn to eliminate “hot spots.” Tree stumps, roots, buried limbs, and peat deposits flame up and rekindle forest fires long after a backburn is completed.
- **Out of Control Backburns** – A substantial amount of personnel and equipment must be kept readily available and often on hand to deal with wind direction and wind velocity changes that frequently turn backburns into out of control forest fires.
- **Smoke** – Wind directional changes can take smoke from any backburn and send it over populated areas and highways causing visibility, fogs, and public health problems. Personnel and equipment must be on hand to stop the backburn when this occurs.

The ash produced by fire is not as beneficial to the fertilization of the forest land as is the deteriorated biomass produced from the BrushMaster's unique mowing style. The smoke is undesirable and unhealthy for the public. When smoke is embedded in a fog bank it makes the fog visually impenetrable. Frequently massive automobile wrecks occur because of the smoke intensified fog banks. The courts have ruled that the party producing the fire are at fault and that these fires are no longer considered “Acts of God.”

There are many applications where backburns may be used but the Wildland Urban Interface is not one of them. Dealing with the *Wildland Urban Interface* problem, brush removal for “fuel breaks” is the way of the future in protecting homes, buildings and facilities from the threat of forest fires. The forest is a wonderful place for people. When the brush is removed and subsequently maintained the appreciation expressed by the public to those who have protected them and improved the beautification of their forest lands is overwhelming.

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