



City-owned brush chippers—like this one of the City of Saginaw, Mich., 1969 All-America City—increase the efficiency and decrease the cost of free removal and pruning. Chips are frequently used as mulch for golf courses, parks and zoos.

Wood Waste Makes Money

By LEON BALDWIN, Sales Manager
Mitts & Merrill, Inc.

HOW MUCH WOOD would a wood chipper chip if a . . .

Today, there's really no question about it. The modern brush and wood chipper is proving to be the answer — and a profitable one — to the problems of the disposal of brush, logging slash, slabwood, fallen branches, trimmings, thinnings, prunings, and other unwanted material.

This was not always so. The common and seemingly the easiest and cheapest method of disposing branches, diseased trees and other cuttings was to haul them away and burn them. But this simple operation often created more problems than it solved.

Unsightly brush piles, fire danger, smoke, air pollution, insect breeding grounds, handling time, tied-up trucks—all added up to a wasteful and generally unsatisfactory solution to what was, on the

surface at least, a simple enough problem. And there was a suspicion that this solution might not be as cheap as it seemed to be.

Enter the Brush Chipper

About 1947, the first models of portable brush chippers were developed and improvement has evolved since to keep pace with the demands of the industry.

There are two basic forms of such chippers—the staggered knife, multiple blade models and the straight-across-the-rotor knife type. The staggered knife models have up to 12 cutting edges—the straight across knife type usually has four cutting edges.

Blowers and directional discharge chutes are utilized on both types of chippers to discharge the chipped material into piles or directly into trucks. Chippers may be towed by a tractor or truck to reach most work areas by access roads or trails.

From a Problem to "Plus"

Wherever the chipper is put to work, it contributes important advantages in the care and maintenance of wooded areas.

To begin with, there are extensive benefits to be gained in public relations and acceptance. In this day of intense concern over air pollution, the use of wood chippers to eliminate burning and smoke is a factor meriting strongest consideration.

Aesthetic values, too, are of prime interest. Elimination of ugly, browning piles of brush awaiting hauling or burning, and an absence of

scorched and charred trees and brush add to the public enjoyment of parks and forests.

Chip Brush and Costs, Too

For the arborist, tree expert, logger, farmer, forester, utility or forest project concerned with the everyday problems of wood and brush removal, the economics of chipper operation are of first-line concern.

Precise cost figures are difficult to develop because of the wide variances in operation, conditions, equipment, and so on. But there seems to be no question that the



Staggered knives cut smoothly, shave material uniformly on this cylinder-type chipper, a Mitts & Merrill. Knives are double-edged and are easily accessible for reversing and sharpening.

chipping vs. burning balance tips in favor of the former.

For one thing, considerable time is saved. The actual work of clearing can be done much faster; the chain saw work load is drastically reduced, burning crews are eliminated; thus man power can be used more profitably. Work crews per chipper normally vary from three to seven men and the number, of course, helps determine the time required to remove wood wastes from any given area.

But it is not unreasonable for a wood-chipping operation to achieve an overall reduction in man-hour requirements as high as 50%.

Lost time because of weather conditions or burning restrictions is minimized or totally eliminated. Chipping operations can be carried on, even on no-burning days in the highest of smog areas. The speed at which the chippers can be run is a factor, as well, and a chipper properly chosen for the job function to be performed will chip brush up to eight inches in diameter faster than two men can feed it.

Further opportunities for savings are found in trucking requirements. Wood chips take up far less room than do branches. The ratio may be as high as seven to one—thus, fewer trucks are needed to make fewer trips. In some circumstances, chip trucking time has been reduced by as much as 86% of that required to remove a comparable quantity

of branches to the burning or disposal area.

Many chipper owners have found uses for chips replacing material normally purchased. When spread around shrubs, flower beds, trees, etc., as a mulch, chips reduce the need for constant weeding. They hold moisture and permit soil aeration.

Indications are that when chips are spread around plants, they actually seem to assist in speeding healthy growth. When used in this manner, chip trucking may become essentially a productive function.

These day-by-day savings are only a part of the story. Operating and maintenance costs also contribute to the overall effectiveness of wood-chipper processing. The normal service life of chippers ranges from five to 20 years, depending upon severity of running conditions.

Maintenance is relatively simple and minimal, consisting mainly of sharpening the blades at intervals as required. The usual procedure is to carry a spare set of blades with the chipper. When blades are dulled, the spare set replaces them on the spot in a matter of minutes; however, on those chippers equipped with double-edge blades it is only necessary to turn the blade around and this can also be accomplished on the job.

Gas consumption is low, with one tank of fuel being enough for one day of operation under normal operating loads.

Chips Now a "Cash Crop"

Frequently the brush and wood chips, formerly regarded as outright waste, have a dollar value for operators. They can be sold as fuel, mulch, animal bedding, or even for cooking purposes.

Many a backyard barbecue has been made a roaring success when the steaks were flavored with the smoke from hickory, maple, cherry, apple or oak chips.

Among the several areas where wood disposal by chipping is most worthwhile, the lumber industry stands out. Because of the excessively high fire hazards inherent in logging and forestation, one of the most important responsibilities is obviously the prevention of such fires.

Piled chips present less danger of flammability than piled-up slash and brush. Because of this extremely low flammability, chipping can be carried on even during the fire season without increasing danger.

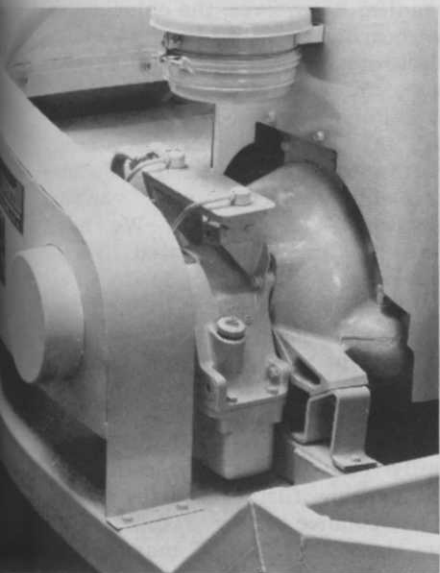
In fact, chipping even eliminates virtually all of the peril.

Less solid advantages—but only a bit less important—are found in the use of chips as a light mulch around young trees and shrubs. By spreading the chips on skid trails, most of the plaguing problem of erosion can be prevented. And when green slash piles are eliminated, so are the breeding places of which many twig insects are so fond.

Chippers Pay for Themselves

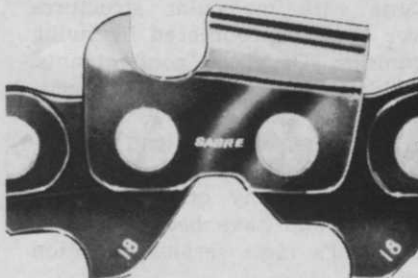
As stated previously, determining the savings made possible by chipping rather than burning waste wood and brush is difficult because of the wide variance in operating conditions. It may be safely said, however, that direct costs may be reduced by as much as 50%.

Even if chipping vs. burning costs were the same, the prevention of just one forest fire would pay for many fleets of these efficient, rugged, mobile machines, and with a sale potential for the by-product, one can truly say, "they pay for themselves."



Engine runs smoothly, efficiently when a torque converter is incorporated in the chipper. The engine is shielded from shock and vibration for reduced maintenance, increased service life. Photos courtesy Mitts & Merrill.

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