

Restoration & Management Notes

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A forum for the exchange of news, views and information among ecologists, land reclamationists, managers of parks, preserves and rights-of-way, naturalists, engineers, landscape architects, and others committed to the wise stewardship of plant and animal communities.

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14 Shredded Newspaper Helps Burn Green Grassland (Oregon)

Dr. Donald B. Lawrence, Professor Emeritus, Department of Botany, University of Minnesota, 220 Biological Sciences Center, St. Paul, MN 55108 (612) 373-2211 or 729-8206

It is sometimes desirable to apply prescription burns when the vegetation is too green or too sparse, or the air is too calm and moist, to carry fire well enough to produce a clean burn. Under these circumstances fire may creep along the soil surface scorching the bases of flower stalks so that they fall over but do not burn, and seed in the mulch is not consumed, but may be stimulated to germinate.

Highly successful experimental burns were accomplished during the summer rainy season in eastern Oregon at Lawrence Memorial Grassland Preserve of The Nature Conservancy in mid-June 1979 and early July 1980, in bunchgrass areas supporting bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*) infested with cheatgrass (*Bromus tectorum*) and other exotic annuals, when they were too green to burn naturally. Burning was accomplished by applying dry, shredded newspaper over the parts to be burned immediately before ignition; extra amounts of paper were applied over heavy concentrations of seed from previous years. This made it possible to conduct a hot head fire in complete safety without the risk of uncontrolled spreading. Under these conditions, control was managed solely by two persons with standard beaters. In 1980 the shredded newspaper was purchased in a 110-pound bale from a local paper company at 10 cents per pound; but in 1979 the same company provided three bales free for the initial trial.

For larger areas, the supplementary fuel could be applied with a mechanical manure spreader. If clean straw of wheat, rye, or oats without weed seeds could be obtained, or native prairie hay, that might be cheaper than paper.

34 Control of Common Mullein (Minnesota)

Contact: Dr. Donald B. Lawrence, Professor Emeritus, Department of Botany, University of Minnesota, 220 Biological Sciences Center, St. Paul, MN 55108. (612) 373-2211 or 729-8206

The stiff, dark stalks of dead *Verbascum thapsus* L., left over from flowering, continue to disperse seeds for several years. The stalks of this European exotic are up to 2 m tall, are esthetically obtrusive and unnatural reminders of agricultural disturbance of a prairie or savanna, and conflict with the current stated objective of The Nature Conservancy's natural area acquisition and stewardship program, which is the preservation of natural diversity.

The first operation, when control is begun, is to cut off the old stalks with pruning shears just below the lowest seed pods, taking care to avoid spilling the dust-like seeds. This can be done at any season. Lower the old stalks, without tilting them, into a large heavy-duty plastic trash bag.

The living plant is generally a biennial, forming a pale green basal rosette of fuzzy leaves the first year. These are completely resistant to fire, but may be grubbed out with a weeding hoe, cutting through the root crown *below* the lowest leaves. It is more practical to work on plants in their second year of development. By late July or early August, most of the flower stalks have elongated from the rosette, but the flowers have not yet opened. The plants can then be pulled up easily from sandy soil, especially following a heavy rain. There is no tap root. Grasp the lower part of the flower stalk with both hands, leather-gloved if desired, placing elbows on knees and leaning back to spare the back from excessive strain. Make sure that *every* root has been cut off or pulled up, otherwise the plant may revive and produce seed. Mowing is useless; it stimulates production of new flower stalks from lower buds. A second or third weeding may be needed later in the season to remove plants not previously eliminated. Pulling must be repeated annually before seed-set because the minute seeds can remain dormant and viable in soil at least 35 years.

Hand weeding by persons trained to recognize the target plant is the most highly selective and effective mullein "herbicide" that has been or ever will be developed. A 20-acre tract can be weeded by two persons in a few hours. Sweet clover, hoary alyssum, and goatsbeard are controlled in the same way at The Nature Conservancy's Helen Allison Savanna in northern Anoka County, central Minnesota.