

DRAFT RECLAMATION MANUAL RELEASE

**Comments on this draft release must be submitted to Talmadge Oxford
(toxford@usbr.gov) by October 2, 2012.**

The FIST 4-8, “Herbicides Available for Treating Soil for Total Vegetation Control” is being retired because it is out of date and no longer viable for use in the Reclamation Operations and Maintenance Program. In accordance with Reclamation Manual procedures this FIST will be posted for a minimum of 30 days.

See the following pages for the FIST 4-8, “Herbicides Available for Treating Soil for Total Vegetation Control”.

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BUREAU OF RECLAMATION
FACILITIES INSTRUCTIONS, STANDARDS, & TECHNIQUES

Volume 4 - 8

**HERBICIDES AVAILABLE FOR
TREATING SOIL FOR
VEGETATION CONTROL**

Material in this volume was provided by:
John E. Boutwell, Environmental Sciences Section, ACER
Alan L. Ardoin, Water and Power Operations Branch

Howard E. Watson, O&M Engineering Branch, Editor

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Herbicides Available for Treating Soil for Vegetation Control

This volume contains an approach to control vegetation in Reclamation switchyards, substations, and maintenance areas.

The Department of the Interior and the Bureau of Reclamation are recommending an integrated pest management approach to all vegetation control procedures. Although the herbicides listed may be a solution for controlling vegetation in Reclamation switchyards substations, and maintenance areas, it is recommended that more environmentally compatible measures be taken whenever and wherever possible. A least toxic approach should be considered when selecting a vegetation control method. This means selecting a biological control method over a mechanical or chemical control method if similar results can be obtained.

Some alternative vegetation control methods to be considered around maintained facilities include grazing (of open areas), planting of low growing grass varieties, moving, cultivation, and the use of vegetation inhibiting materials such as geotextiles, gravel (road mix/road base - this mixture of gravel and fines does a better job of holding herbicides than uniform sized gravel), riprap, asphalt, and concrete. In the event that a herbicide is needed, an integrated approach should be considered, combining one or more of the above recommendations with a herbicide. Herbicide selection should follow the least toxic approach, i.e. selective, nonselective, nonselective persistent.

Some herbicides have been omitted from the listing because they are considered to be problem herbicides, i.e. ground water contaminants, toxic to wildlife, etc. Conversely some herbicides which are not considered to be true soil applied herbicides have been omitted, but may provide very good vegetation control and at the same time be less toxic than the herbicides listed. The sample trade names listed are not necessarily the only manufacturer of the listed chemical and any listing of the trade name does not constitute any endorsement of that product. It is recommended, that if a herbicide is selected over other means of vegetative control, the selected herbicide be verified appropriate for the intended use and/or area by local county agricultural agents, herbicide manufacturers, herbicide labeling information, or similar authority.

NOTE: Some lateral movement of the herbicides listed may be experienced, and precaution should be taken to prevent erosion of treated soil. Strict adherence to application procedures and material safety obtained from the product label should be maintained.

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Chemical	Sample Trade Names	General Uses and Precautions
bromacil	Bromax 4G Hyvar X	<p>Non-selective herbicide for total weed and brush control in noncrop areas. Use under asphalt, concrete, and pond liners to extend useful life of the surfacing material.</p> <p>Avoid contact with skin, eyes, and clothing. Avoid inhalation of dust or spray. Do not allow spray drift to come in contact with desirable vegetation. Liquid formulation is combustible - keep away from heat and open flame.</p>
chlorsulfuron	Telar DG	<p>Use as a non-selective weed control on broadleaf plants, annual and some perennial grasses, or reduced moving herbicide.</p> <p>Temporary irritant to eyes, nose, throat, and skin. Therefore avoid skin and eye contact. Avoid breathing dust or spray mist.</p>
clopyralid	Transline	<p>Non-cropland areas, industrial sites, and rights of way. For selective control of broadleaf weeds. Mix with Telar for thistle control.</p> <p>Avoid contact with skin and eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.</p>
diuron	Direx 80W Kermex DF	<p>Apply around utility, pipeline, storage, and industrial areas. Total weed control of noncrop areas. Some registered for application to dry ditches during noncrop season.</p> <p>Avoid skin and eye contact. Avoid inhalation of dust or spray. Do not allow spray drift to come in contact with desirable vegetation. Do not contaminate domestic water supplies.</p>

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Chemical	Sample Trade Names	General Uses and Precautions
fosamine (+ sodium gluconate)	Krenite S	<p>Add 4 ounces sodium gluconate per gallon Krenite S. Apply to noncrop areas, drainage ditches, dry marches, dry deltas, dry flood plains, and transitional areas between upland and lowland sites. Effective on numerous bottomland hardwoods and leafy spurge.</p> <p>Avoid contact with skin and eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.</p>
glyphosate	Roundup	<p>Not a residual herbicide - annual treatment is needed. For use around railroad, pipeline, and telephone rights of way, schools, parks, and golf courses.</p> <p>Avoid contact with skin and eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.</p>
hexazinine	Velpar	<p>Controls many annual and biennial weeds, woody vines and most perennial weeds and grasses (except Johnson grass) on noncrop areas. Apply during a period of maximum growth. Do not overspray onto desirable plants or the area where their roots may extend.</p> <p>As with all herbicides, avoid breathing spray or dust. Wear protective clothing. Irritation to the mucous membranes may occur.</p>
imazapyr	Arsenal	<p>Apply as either preemergent or post emergent to control most annual and perennial grasses and broadleaf weeds on noncrop lands. Can be applied prior to paving or the placement of pond liners. Although translocation is rapid, plant kill can be slow.</p> <p>Avoid contact with skin and eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling.</p>

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Chemical	Sample Trade Names	General Uses and Precautions
prometon	Pramitol 25E	<p>Use in area where complete control of vegetation is desired (around buildings and industrial areas). Do not use on cropland or near desirable trees, shrubs, or other desirable plants.</p> <p>Nonflammable, noncorrosive, stable shelf life. Avoid skin, eye, and clothing contact. Wear eye and inhalation protection.</p>
sulfometuron methyl	Oust	<p>Apply before or during early growth stages of weed growth as a preemergent or post emergent to control broadleaf weeds and grass. Apply to noncrop areas, such as railroad, highway, utility, and other rights of way. Selective weed control in certain types of unimproved turf grasses on noncropland.</p> <p>May irritate eyes, nose, throat, and skin. Avoid breathing dust or spray mist. Avoid contact with skin, eyes, and clothing.</p>
tebuthiuron	Spike 20P	<p>Noncrop control of right of way areas. Degree and duration of control will vary with amount of chemical applied, soil type, and other conditions. Apply either preemergent or post emergent. Avoid application and spray drift on to desirable trees or other plants as well as their root zone. Do not apply to irrigation or potable water.</p> <p>Avoid breathing dust and contact with skin, eyes, or clothing. Use eye protection and protective clothing such as coveralls and gloves.</p>