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New Chemicals for Weeds

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Among the new chemicals for killing weeds which appeared on the market in 1940 and 1941 when war needs began to make it increasingly difficult to get sodium chlorate and Atlacide, was Ammate (the name is a contraction of its real chemical name—ammonium sulfate). Ammate has received a lot of publicity, and we have been getting many inquiries about it at Iowa State College. Though much more experimental work needs to be done with it before we can properly evaluate it, our present opinion of it is as follows:

1. It holds much promise as a weed killer for use around lawns and yards where it can be used safely (if not in too large amounts) close to trees, shrubs, fences and buildings.

2. It harms the soil only very temporarily—does not make it sterile as does heavy use of sodium chlorate.

3. It cannot be safely used around newly planted trees or shrubs or around such plants as peonies, iris, chrysanthemum, bleeding heart and similar herbaceous perennials.

4. It is not inflammable and does not stain foundations or sidewalks and is not poisonous to livestock and humans.

5. One spraying in a narrow band in the spring at the time of the first cutting of grass is sufficient to keep down all major plant growth for the season so that the lawn mower can be run close enough to cut the grass around trees, posts, along sidewalks, the foundation of the house, etc.

6. Ammate does not seem to be as effective as sodium chlorate or Atlacide for killing European bindweed (creeping jennie), but it has been found to be effective on leafy spurge and poison ivy.

Some of the advantages which we have so far seen in this new weed-killing chemical are fairly obvious. Those who have done a lot of hand work trimming the grass and weeds away from trees, foundations and the like which they could not reach with their lawn mowers will appreciate finding an easy means of handling this problem—one spraying in the spring.

The other weed-killing chemicals which we have been using—sodium chlorate and Atlacide—could not be used in this manner because of the danger of killing valuable trees and shrubs. With Ammate there is not this danger.

Spraying a 6-inch strip with Ammate around buildings, sidewalks and older trees keeps down weed and grass growth, enables the lawn mower to cut all of the grass and eliminates much tedious hand work.
For killing noxious weed patches which are out in the open, we think that probably the best results will still be obtained by using sodium chlorate or Atlacide.

**How to Use It**

Ammate is used in the same way as sodium chlorate or Atlacide, usually as a spray. It should be mixed with water in the same proportion as sodium chlorate and Atlacide—at the rate of 1 pound to 1 gallon of water.

It should be sprayed on the plants to be killed with a pressure sprayer so that the foliage is thoroughly wetted. It is most effective when the soil moisture and humidity are high, in the evening or on a cool, cloudy, moist day when the plant is just coming into bloom. As with the chlorates, it is best to avoid spraying during long, hot, dry periods, or immediately before a rain.

Ammate is a finely granulated light gray powder which dissolves readily in water. The material is highly corrosive to metal both in the dry form and when mixed in spray solution. Consequently, all containers must be thoroughly cleaned after they are used, especially before the equipment is stored or before using it to spray valuable plants.

Its corrosive action makes it undesirable to use along valuable net wire fencing, but even so its corrosive action on fencing is less than that of sodium chlorate or Atlacide.

**Cautions to Observe**

Even though Ammate can be more safely used close to trees and shrubs than is possible with chlorates (sodium chlorate and Atlacide), this does not mean that it has no danger if used recklessly and in large quantities around all valuable trees and shrubs. Keeping it off the foliage is not sufficient protection.

We know of instances where newly planted weeping willow, golden willow, red and yellow dogwood, spirea, quince, honeysuckle and elm trees have been killed when weeds and grass were sprayed around them.

These instances of losses of valuable plants should be sufficient warning to one not to use the chemical recklessly. In none of the cases where these plants were killed by Ammate was it allowed to get on foliage, or above-ground parts. This shows clearly that the plants were killed by the roots absorbing the chemical.

Around or under well established trees, such as mulberry, apple, plum, pear, peach, elm, oak and hickory and under grape vines, it is possible to use Ammate without injury to the trees or grape vines providing it is kept off the foliage and bark. This is essential.

As an extra precaution during spraying operations under such trees or under grape vines, a collar made of cardboard should be tied around the trunks of the trees or vines. In these operations be sure that you do not spill or spray any large amount of the solution on the ground. Wet only the weeds that are to be killed.

**Weed Chemicals Coming**

Weeds are in for a lot of trouble in the near future. Chlorates will soon become more plentiful. Ammate is at least one of the products which will supplement the work of sodium chlorate and Atlacide. Further work needs to be done on this material before it can be properly evaluated.

Chemicals of any kind are too expensive to use for killing large areas of deep-rooted noxious weeds. Large areas of these weeds must be eradicated by special methods, especially smother crops, which permit income from the land while the weeds are being killed.

Ammate may be a little less effective and more expensive than sodium chlorate or Atlacide, but there is less risk of injuring trees or shrubs when it is used around them. And around those buildings, fences, foundations and sidewalks where trimming grass and weeds has kept the “missus” busy in the past, spraying with Ammate is the answer.