MANAGING
SOIL
BANK
ACRES

Circular 766

UNIVERSITY OF ILLINOIS · COLLEGE OF AGRICULTURE
EXTENSION SERVICE IN AGRICULTURE AND HOME ECONOMICS
The Soil Bank Act was passed by Congress and signed by the President in May, 1956. Its chief purpose is to reduce surpluses and raise prices of farm products by restricting production of corn, wheat, cotton, tobacco, peanuts, and rice. It also encourages the use of soil-conservation practices on the acres diverted from crop production. It is part of the national farm program and directly or indirectly affects all farmers.

The Soil Bank plan is divided into two parts — an Acreage Reserve Program and a Conservation Reserve Program. The Acreage Reserve Program is a yearly program, authorized for four years. Those who take part in this program reduce the acreage of certain crops on a year-to-year basis and either leave the reduced acreage idle or put it in a conservation practice. The Conservation Reserve deals with the soil-conserving provision of the Soil Bank Act. Farmers contract with the U. S. Department of Agriculture for at least three years to withdraw specific eligible land, primarily cropland, from production and to put it into an approved conservation practice.

Under either program, you have to comply with the acreage allotments for all other crops to remain eligible for payments.

Whether you are already in the program or only considering the merits of it, you will want to study the many aspects of the legislation, analyze your own farming program, and then decide how you can best use the plan. Ask yourself these questions:

How will my farming operations be altered if I take part in the Soil Bank?

Will the payments be large enough to overcome the income I will lose from the diverted acres?

How can I use ACP cost-sharing and SCS assistance to help establish soil- and water-conserving practices on the diverted land?

Will signing a long-term contract help or hinder my future operations and transactions?

What effect will this program have on my long-range farming operation?

This circular gives recommendations on the handling of the land from the agronomic standpoint. Information on the management of tree cover and wildlife protection can be obtained from extension and state foresters and wildlife specialists.
MANAGING ACREAGE RESERVE ACRES

If you participate in this program, you are compensated for reducing the acreage of certain crops below their allotment or base, whichever is in effect, and then leaving the difference in acreage completely out of production.

You may either leave the land idle or carry out a soil- or water-conservation practice on it. You cannot crop the land, cut hay from it, or graze it, except as an emergency measure with the approval of the U. S. Department of Agriculture. You are required to control noxious weeds on the land, using methods approved by the County ASC Committee, including clipping, tillage operations, and chemical sprays if required.

The best system of management for your farm will depend on the physical conditions of the diverted (Acres Reserve) areas, the soil types, the slope, the degree of erosion, and how much money you want to spend for soil building. You can, however, get assistance from the Agricultural Conservation cost-sharing Program (ACP) and the Soil Conservation Service (SCS) to establish soil- and water-conservation practices on the areas.

Maintaining fertility and tilth

From the standpoint of fertility and conservation, it is highly desirable to seed a grass and legume cover crop on Acreage Reserve acres left idle for a single productive year. The crop protects the soil against erosion and provides a cheap source of nitrogen for the following crop. Small grains, soybeans, and cowpeas may be used for cover crops if you dispose of them by a date set by the U. S. Department of Agriculture. Grasses and legumes need not be destroyed. The State ASC Committee will indicate from year to year which crops are eligible for use as cover crops.

The increased fertility and protection that a legume cover crop gives will usually justify the small cost. At the Urbana experiment field on Flanagan silt loam from 1952 to 1955, a legume crop in the rotation increased corn yields an average of 10 bushels, wheat 4 bushels, and oats 2 bushels an acre. The average annual value of the increase amounted to $7.95 an acre.

At the Dixon field on Muscatine silt loam, the increase for the crop following the legume amounted to 34 bushels of corn, 8 bushels of wheat, and 14 bushels of oats an acre, with an average
increase in value of $24.78 an acre. At Ewing on Cisne silt loam, the increase were 18 bushels for corn, 11 for wheat, and 8 for oats, for an average increase of $18.26 a year an acre.

A study at Dixon Springs demonstrated strikingly that a grass and legume cover prevents soil losses. From 1939 to 1946 a well-established meadow or pasture lost only 0.1 ton of soil an acre a year while open cornland lost 13.5 tons, and winter-wheat land 10.3 tons. The percent of runoff of the rainfall was 8.5 for the pastureland and 27.6 for the cornland. Even second-year lespedeza lost 0.4 ton of soil an acre and had a runoff percentage of 13.0.

Your Acreage Reserve land should be handled so that its fertility and tilth are maintained while it is in reserve, or even built up some. A good grass-legume cover crop will accomplish this for you. When it is turned under, it adds a big supply of organic matter to the soil.

You may need to build up the fertility before you grow the cover crop. For a legume cover crop, you will want to be sure, by soil test if necessary, that there is enough lime in the soil for the legume. Most grasses do well with less lime than legumes.

Legumes also need phosphorus and potash, and these should be applied if the soil test indicates a need. Legumes can gather nitrogen, however, from the air if they are properly nodulated. Grasses require nitrogen, phosphorus, and potash to do well.

**Managing diverted wheatland**

If the wheat acres to be diverted to the Acreage Reserve Program are already in winter wheat, seed a grass and legume on the land in the spring and then clip the wheat by the date established by the U. S. Department of Agriculture or early in the summer before the wheat heads. The diverted area will then be in grass-legume cover for the rest of that crop year and will be established in forage for the next year’s hay crop. The alternative is not to seed anything on the area that is to be clipped to comply with the provisions of the program.

If you are going to leave some of the wheat acreage unseeded to meet the provisions, seed legumes or a grass-legume mixture on the idle acres in late August or early September. Spring oats can be seeded as a fall companion crop, if you wish, at the rate of 2 to 3 pecks an acre.

If you prefer, you can seed winter rye on the wheatland that you were going to leave unseeded. Rye gives good cover during the fall and winter; it can be seeded later than wheat and requires less fertility to become established. It also makes a good companion crop
for a forage crop or a grass-legume mixture seeded in the rye in the spring. Clip the rye before it heads to prevent contamination of the grain in the general area and to prevent volunteer rye the following year.

**Managing diverted cornland**

For your diverted idle corn acres, the recommendation is to seed a legume crop early in the spring. The legume will provide cover for the ground and at the same time build up fertility and tilth. If it will be followed by winter wheat, plow it down in late summer. If corn or soybeans will follow the next year, plow it down the following spring. For land that was in corn last year, be sure the stubble ground is clean-plowed before the legume is seeded. This will remove the hazard of corn-borer infestation the following season. Or you can cut down the hazard and at the same time prevent erosion by shredding the stalks and disk ing them into the surface of the soil before seeding. Of course you want to be sure that soil tests show there is enough fertility to grow the legume.

If the diverted corn areas are already in sod that would normally be plowed early, let them remain in sod during the summer. If winter wheat normally follows in the rotation, turn the sod under in late July or early August just before seeding. Or you can let the sod remain and allow the same area to carry over as diverted wheat acres the next year.

Another advantage of the legume crop on diverted corn acres is that it may make enough nitrogen available to meet the nitrogen requirements of a corn crop the next year. Spring oats and other small grains may lodge, however, on some soils if they follow a legume crop. Be sure to choose a variety of small grain that stands well if it is to follow a legume.

**Selecting a seeding mixture**

You may want to seed a legume alone or in a mixture with grasses. The best seeding to use will vary from area to area over the state. If you are going to seed a legume crop for a single year, sweet clover or nonhardy alfalfa, either alone or in a mixture, may serve the purpose if seeded in the spring of the year.

Sweet clover is perhaps the best soil-building legume. The sweet clover weevil has reduced its popularity some, but the weevil can be controlled with insecticides.
Common biennial white-blossom sweet clover produces more dry matter and nitrogen in the fall of the first year than other legumes. At the Joliet experiment field the total dry matter in the tops and roots of an acre of sweet clover was 4,300 pounds, as compared with 3,400 pounds for hubam, 2,700 pounds for alfalfa, and 1,900 pounds for red clover. For the same crops the total nitrogen per acre was 125, 78, 74, and 54 pounds, respectively.

When seeding sweet clover alone, use 10 to 15 pounds an acre. If for some reason sweet clover is not practical, substitute alfalfa, either the hardy or nonhardy varieties. On demonstration plots spring-seeded nonhardy alfalfa has often produced more top growth during the seeding year than the hardy strains. Nonhardy alfalfa, however, should not be seeded in the fall. The nonhardy varieties include Arizona common, California common, Chilean, African, Indian, and Peruvian. When used alone, seed 12 to 15 pounds of alfalfa an acre.

Ladino increases the value of a mixture if the weather is favorable. Use ½ to 1 pound of seed an acre in a mixture.

If you use red clover alone, seed 6 to 8 pounds an acre.

Don't overlook the value of soybeans as a green-manure crop, particularly on acres that will be planted to second-year corn the next year. They can also contribute a large amount of nitrogen and organic matter to soils of low fertility when plowed under in preparation for fall-seeded grains. As an eligible cover crop, they too must be disposed of by a specified date.

The grass in the mixture can be any well-adapted grass. The adaptation of different grasses varies widely over the state. Orchardgrass will establish faster than smooth bromegrass, even in the northern part of Illinois. In the southern half, tall fescue, orchardgrass, timothy, and redtop will establish well in one year.

A good mixture to consider is 5 pounds of alfalfa, 5 pounds of sweet clover, ¼ pound of Ladino, and timothy (2 pounds in fall seedings or 4 pounds in spring seedings). The timothy may slow down the release of nitrogen from the legumes after the cover crop is plowed down. The timothy also may act as an insurance crop to control erosion and weeds in case the legumes fail to catch. Use hardy alfalfa in fall seedings and nonhardy in spring seedings.

A companion crop such as spring oats, seeded at the rate of 2 to
3 pecks an acre, should be seeded with mixtures on areas subject to erosion and must be disposed of by a specified date.

In choosing among the adapted species, price may be the deciding factor. However, in considering price don't overlook seed quality and weed-seed content. The small additional cost for seed of higher quality is justified if it means eliminating a weed problem in later years.

Your county farm adviser can give you more information on the grass and legume species that are good for use on a year-to-year basis.

**Clipping legume crops**

Legume crops on the diverted acres should be clipped only if weeds are a problem. If sweet clover needs to be clipped, clip it as high as possible so that the fertility value of the crop will not be reduced.

Early clipping of sweet clover reduced its soil-fertility value and caused severe winterkilling in studies at the Ohio Experiment Station. Spring yields of dry matter were only 500 pounds an acre from a plot clipped on September 9, but over 3,000 pounds for the plots cut on November 2 or not cut at all. Sweet clover yields were also related directly to the height of clipping. The plot clipped only 2 to 3 inches high yielded only 1,720 pounds an acre; the 7- to 8-inch cut resulted in a yield of about 3,000 pounds; a 14- to 16-inch cut gave almost 4,700 pounds; and the plot not cut had a yield of almost 6,600 pounds.

**Controlling noxious weeds**

If you take part in the Acreage Reserve Program you are required to control the noxious weeds designated by the State ASC Committee on the acres you have in the program. Annual weeds are the most important.

Usually all that is necessary is to follow a timely clipping program. Clipping at a height of 4 to 6 inches while the cover crop is small will control many of the early weeds without damaging the legume. A clipping later in the summer before the weeds go to seed may be necessary on some fields if they are crowding out the cover crop. Some of the most troublesome annual broadleaved weeds can be controlled by spot-treating with 2,4-D, but be careful not to direct the spray onto the legume foliage.

For more comments on weed control, see page 14.
MANAGING CONSERVATION RESERVE ACRES

If you take part in the Conservation Reserve Program, you will retire specific acreages of cropland from production for three to ten years for grass-legume cover (at least ten years for tree cover) under a contract rental plan. You receive a rental payment, set by the Secretary of Agriculture, for which you agree to devote a certain area of cropland to conservation purposes. You must also agree not to harvest or pasture any crop from the acres, except under certain emergency conditions.

"Cropland" means land that was tilled or was in regular crop rotation the year before the first year of the contract period. It also includes land that was established in permanent vegetative cover (other than trees) since 1953 and that was classified as cropland at the time of seeding. It does not include bearing orchards and vineyards (except for any crop acreage in them), plowable noncrop open pasture, or land which is an erosion hazard to the community or could be if tillage were continued. Under certain conditions, the County ASC Committee may determine that other land may be eligible for diversion into the Conservation Reserve.

In this program you are paid a fair share of the cost of establishing a conservation-use program and also receive an annual payment that represents a fair and reasonable annual return from the diverted land. You can establish grasses and legumes on the area to build up the soil and conserve water, or plant trees or other cover crops, or build a pond if the land is suitable, or provide wildlife protection.

As in the Acreage Reserve Program, you will want to make provisions to use the financial assistance of the Agricultural Conservation cost-sharing Program (ACP) and the technical assistance of the Soil Conservation Service (SCS) to adopt conservation practices that are approved by the county groups. Using ACP and SCS assistance, consider the establishment of grass waterways, construction of diversion terraces and concrete structures, and many other soil- and water-saving practices so that cover crops and the conservation practices can be fully established on the area.

Maintaining and improving soil fertility

Start with a soil test. Tests for limestone, phosphorus, and potash are particularly valuable for land that is to be seeded to a grass and legume cover for a long-time stand. The tests will tell you what is needed and how much. They may save you money by indicating that
no treatment is needed. Your farm adviser can give you information about how to collect soil samples. Take your samples to the county extension soil-testing laboratory or any other soil-testing laboratory approved by the State ASC office.

The more information you give the laboratory about the land, the better it will be able to interpret your test. Recommendations may then be modified according to the type of soil, its erodability, or its recent liming or phosphating history.

You can receive payment for part of the cost of taking care of the basic fertility needs.

Fertilize according to the requirements of the cover you plan to grow on the area. Grass, for example, requires nitrogen as well as phosphorus and potassium. Legumes alone or mixtures containing legumes require phosphorus and potassium and a considerable amount of limestone (the pH should be kept above 6.0), but are not likely to need nitrogen. If the legume fails to "catch," then nitrogen should certainly be applied to maintain the stand of grass.

**Installing soil- and water-conservation devices**

If you are in the Conservation Reserve Program, you can get assistance from the ACP cost-sharing program and the SCS to help build soil- and water-conservation devices such as grass waterways, diversion terraces, dams, and others approved by the county committees. After these devices have been built, fertilize the area and prepare it for the seeding of the grass and legume mixture.

If the ACP and SCS facilities are not available at the time of seeding, you may find it necessary to postpone the construction until later so that you will lose no time in getting cover on the soil.

**Fertilizing and preparing the seedbed**

Apply limestone as soon as possible if you are going to seed a legume. On highly acid soils it takes at least six months for limestone to correct enough of the acidity for the legumes to establish themselves. Work the limestone into the top of the seedbed; do not plow it under.

Phosphate can be applied with the limestone or any time ahead of seeding. It should also be worked into the surface of the seedbed. Superphosphate may be applied in a band under the seed.

Potash can be applied at seeding time or earlier, but should not be drilled with the seed. If applied at seeding time, band-place it a little beneath and to the side of the seed, so there will be little danger of it reducing germination.
Work the seedbed thoroughly before seeding. At seeding time, the soil should be firm, compact, and moderately fine.

On land not subject to erosion, plow in late July or early August and work the soil down so the moisture conditions will be good for the fall seeding. Apply limestone immediately after plowing, if the soil is dry enough, and work it into the seedbed with a disk. Rock phosphate or other phosphates can be applied either at the same time as the limestone or later and should also be worked into the soil.

On land subject to erosion, use a disk or field cultivator to prepare the seedbed. Operate as much as possible on the contour, especially when the seedbed is being completed. Apply limestone and phosphate before starting the cultivation; apply potash at planting time. If the area has a very tough grass sod, wait until the seedbed is partly prepared before applying the limestone and phosphate. Several cultivations may be necessary. Set the machine to cut shallow the first time over and deeper each succeeding time. To reduce erosion follow the contour on the last trip. For fall seeding on some areas where there is a very tough sod, it may be necessary to start in the summer very shortly after a crop is harvested. Then the area can be cultivated continuously until seeding, by which time it is possible to have a fairly good seedbed prepared.

Deciding when and how to seed

Seed legumes and grasses in very early spring in northern and central Illinois. In southern Illinois seed mixtures containing alfalfa before September 1 if possible. Other legumes or mixtures should be seeded in the spring as soon as weather permits so that the grasses and legumes can become well established before competition from weeds becomes important. Annual weeds are sometimes a problem in the spring and may prevent the good establishment of mixtures.

You can broadcast the seed and follow with a cultipacker, or use a cultipacker seeder, or use a band-seeding method. Usually the area should be cultipacked or pressed with some type of a roller.

If a companion crop is wanted with the spring seeding, use spring oats at a very light rate of about 3 pecks an acre. Spring oats have shown considerable promise in tests at the Agronomy South Farm when used with a fall seeding at the same rate of 3 pecks an acre. During the early fall they grow well to provide a protective cover and then are killed by frost. The dead material then furnishes a cover for the small legumes during the winter and somewhat reduces the hazard of winter killing.
Where seedings fail to catch, the areas should be reworked and reseeded. Usually no additional fertilizer is needed if enough was applied at the time of the first seeding.

**Choosing a seeding mixture**

Under the Conservation Reserve Program, the selection of the right mixture needs to be done carefully because the stand is to be maintained for at least three years. General recommendations are difficult to make because of the different weather conditions and different soil types in Illinois.

If you want alfalfa to persist at least three years, it is highly important to use wilt-resistant varieties, such as Ranger, Buffalo, and Vernal. It is also important to consider the disease tolerance of the other species, as many fungus diseases will undoubtedly prevail in the debris, which will not be removed from the fields.

The approved vegetative cover under the program (other than trees or shrub cover) is limited to the perennial grasses and perennial legumes that would normally be seeded in the area for hay and pasture. Other grasses and legumes may be specified, however, by the State Committee, with the approval of the administrator of the program.

Use good seed, even though it may be a little more expensive, to get better germination and a more vigorous stand with fewer weeds. Inoculate legume seed and follow any other recommended seed-treatment practices.

Following are some suggested mixtures and seeding rates. Amounts are pounds for an acre.

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<thead>
<tr>
<th>Well-drained soil</th>
<th>Poorly drained soil</th>
<th>Drouthy soil</th>
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<tbody>
<tr>
<td>Alfalfa .................. 6</td>
<td>Alskie clover .............. 3</td>
<td>Alfalfa ............. 6</td>
</tr>
<tr>
<td>Brome grass .............. 5</td>
<td>Ladino ..................... 1/4</td>
<td>Brome grass ........... 5</td>
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<tr>
<td>Timothy .................. 2</td>
<td>Timothy .................... 4</td>
<td>or</td>
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<td>or</td>
<td>or</td>
<td>Birdsfoot trefoil ... 5</td>
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<tr>
<td>Alfalfa .................. 6</td>
<td>Birdsfoot trefoil .......... 5</td>
<td>Brome grass ........... 4</td>
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<tr>
<td>Brome grass .............. 4</td>
<td>Timothy .................... 2</td>
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<tr>
<td>Orchard grass ........... 3</td>
<td>or</td>
<td>Birdsfoot trefoil ... 5</td>
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<td>or</td>
<td>Reed canarygrass ........... 8</td>
<td>Orchard grass ....... 4</td>
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<tr>
<td>Birdsfoot trefoil .......... 5</td>
<td>Alsike clover .............. 3</td>
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<td>Brome grass .............. 4</td>
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<td>or</td>
<td>Orchard grass .............. 4</td>
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### For central Illinois

**Well-drained soil**
- Alfalfa: 6
- Bromegrass: 5
- Timothy: 2

**Poorly drained soil**
- Alsike clover: 3
- Ladino clover: ½
- Timothy: 2

**Drouthy soil**
- Alfalfa: 6
- Bromegrass: 5
- Timothy: 2

**For southern Illinois**

**Well-drained soil**
- Alfalfa: 6
- Orchardgrass: 6
- Tall fescue: 6
- Ladino clover: ½

**Poorly drained soil**
- Alsike clover: 2
- Tall fescue: 8
- Ladino clover: ½

**Drouthy soil**
- Alfalfa: 6
- Orchardgrass: 6
- Tall fescue: 8

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In any of the above mixtures, the following substitutions can be made: 1 pound of red clover for 1 pound of alfalfa (maximum of 2 pounds of red clover); ½ pound of Ladino clover for 1 pound of alfalfa (maximum ½ pound of Ladino); and 2 pounds of red clover for 1 pound of alsike. For the southern Illinois mixtures, 5 pounds of lespedeza can be added to any except those that contain birdsfoot trefoil.
Sericia lespedeza should be considered for use in southern Illinois. It can be sown alone at the rate of 15 to 20 pounds an acre, on the basis of 80-percent germination of seed. Because it can grow on soils somewhat low in fertility and somewhat acid, it is one of the better soil-building legumes in southern Illinois. Like birdsfoot trefoil, it is somewhat slow to become established, but if it survives the first year after establishment, it maintains itself fairly well.

**Clipping grass-legume mixtures**

Soil Bank regulations specifically state that the areas cannot be pastured or cropped; no forage or residues may be removed. This allows crop residues to build up over a period of three to five years and can present numerous problems — diseases, smothering of young seedlings or regrowth, and infestations of small animals and insects.

Your clipping program should probably be based on weed control. Any time weeds seem to become a problem, clip the areas to keep weed seeds from forming. Because these areas will become havens for birds and other wildlife, if possible do not clip until after the birds have hatched. Where there are not many weeds, there is little to be gained by clipping except to reduce the danger of field fires late in the fall.

Since clipped forage will not be removed, there will be a cover of dry material that can kill many of the plants, particularly some of the less-vigorous plants. Where practical, a forage chopper to chop and redistribute the clippings as a fine mulch can reduce the problem of the build-up of the debris. This method can also reduce dragging in the cutter bars and the hazard of smothering and will encourage a more uniform and vigorous regrowth.

**Applying annual fertility**

Apply phosphorous and potassium, if needed, in the fall of the year to encourage the growth of the legume as much as possible. The legumes will provide nitrogen for the grasses. However, during the first year, if there is a poor stand of legume on the area, apply 30 to 40 pounds of nitrogen an acre in the spring to encourage growth of the grasses.

If phosphorus and potassium have been applied on the area in accordance with the soil test at the time of seeding, no additional applications of plant food should be necessary to maintain vegetative cover. No plant residues are removed from the area, so there would
be little loss of fertility; in fact, there may be some build-up during the contract period provided erosion is prevented.

**Guarding against field fires**

Since the Conservation Reserve areas will also become havens for wildlife, particular care will be needed to guard against fires at all times, particularly during the hunting season. A field fire would not only be disastrous to wild game, but hazardous to other crops and nearby farm buildings.

**Controlling noxious weeds**

You are required to control the noxious weeds on your Conservation Reserve acres without reimbursement under the contract. You may use chemicals, clipping, or any other practical method. The State Committee has designated the following weeds as noxious for purposes of the Soil Bank:

- Canada thistle
- Perennial sowthistle
- European (field) bindweed
- Leafy spurge
- Russian knapweed
- Hoary cress
- Curled dock
- Wild garlic
- Dodder
- Bull nettle
- Buckhorn
- Quackgrass
- Wild mustard
- Johnsongrass
- Ox-eye daisy
- Wild carrot
- Ragweed (common and giant)
- Giant foxtail
- Cocklebur
- Velvet weed
- Smartweed
- Broom sedge

As a minimum, participants in the program should mow all weeds before they go to seed. The proper use of chemicals or approved tillage operations are also acceptable where clipping does not control the weeds satisfactorily. Wildlife refuges should not be clipped unless it is absolutely necessary to prevent the spread of noxious weeds; spot-treat with chemicals if possible.

2,4-D, applied at the rates indicated on the container, can be used to control or kill many of the broadleaved weeds, such as European (field) bindweed, curled dock, dodder, buckhorn, wild mustard, wild carrot, common and giant ragweed, cocklebur, velvet weed, and
Managing Soil Bank Acres

smartweed. Be careful not to direct the 2,4-D sprays on legume foliage. If the weeds are confined to small areas, spot treatments with 2,4-D will reduce the danger to surrounding vegetation.

If the infested area is large, treat the area chemically to get rid of the troublesome weeds and then reseed it to the original grass-legume mixture. Reseeding will probably be necessary since most of the weedkillers also kill grasses and legumes.

Some weeds can be wiped out only by soil sterilants. These compounds kill all vegetation and make the soil unproductive for a year or more. The amounts of the compounds to use for a square rod are: Atlacide, 5 to 7 pounds; sodium chlorate, 3 to 5 pounds; boron compounds, 15 to 25 pounds; and boron chlorate compounds, 5 to 9 pounds. These can be applied dry or as a spray.

For Canada thistle, spray infested areas at the prebud stage with Amino Triazole at the rate of 4 pounds of acid in 30 to 40 gallons of water an acre; or spot-treat with soil sterilants. Two or three applications of 2,4-D may control some strains of the thistle. Amino Triazole is toxic to other forage plants, so be careful while spraying to prevent damage.

Leafy spurge, perennial sowthistle, Russian knapweed, and hoary cress can all be spot-treated with soil sterilants.

Seed formation of wild garlic can be prevented by spot-treating with 1 pound of 2,4-D an acre before the seed bulblets develop.

Spot-treat bull nettle with soil sterilants or spray with Amino Triazole at the rate of 4 to 6 pounds of acid in 30 to 40 gallons of water an acre.

For quackgrass spray the foliage with 6 to 8 pounds of Dowpon acid an acre in enough water to give good coverage. Confine the spray to infested areas to prevent damage to other grasses.

Spray Johnsongrass foliage with 20 to 30 pounds an acre of Dowpon acid in enough water to give good coverage or spot-treat with soil sterilants.

Ox-eye daisy can be controlled by clipping before the seed heads form.

For giant foxtail and broom sedge spray with 6 to 8 pounds of Dowpon or TCA in 30 to 40 gallons of water an acre on infested areas only. Both Dowpon and TCA may kill other grasses also. Clipping giant foxtail in late summer before the seed heads form may control it.

Always handle weed chemicals with care as they are dangerous.
Key Points

IN MANAGING SOIL BANK ACRES

- Cover all diverted areas with vegetative cover. Use good-quality weed-free seed of long-lived, adapted grasses and legumes.

- Use sound soil management. Apply commercial fertilizer in accordance with needs as indicated by the soil test. Prepare good seedbeds, inoculate the seed, and follow all other recommended seeding practices.

- Construct approved soil- and water-conservation devices, if financial or technical assistance is available, to further a long-range conservation program on the farm.

- Control weeds by clipping if necessary. Delay clipping until after the bird-hatching season if practicable. Use chemicals to spot-treat areas infested with weeds, if possible, in order to avoid or delay clipping.

This circular has been prepared by E. C. Spurrier, Assistant Professor of Agronomy Extension, with the assistance of other members of the Agronomy Department and of representatives of the State Agricultural Stabilization and Conservation Committee and of the Soil Conservation Service.