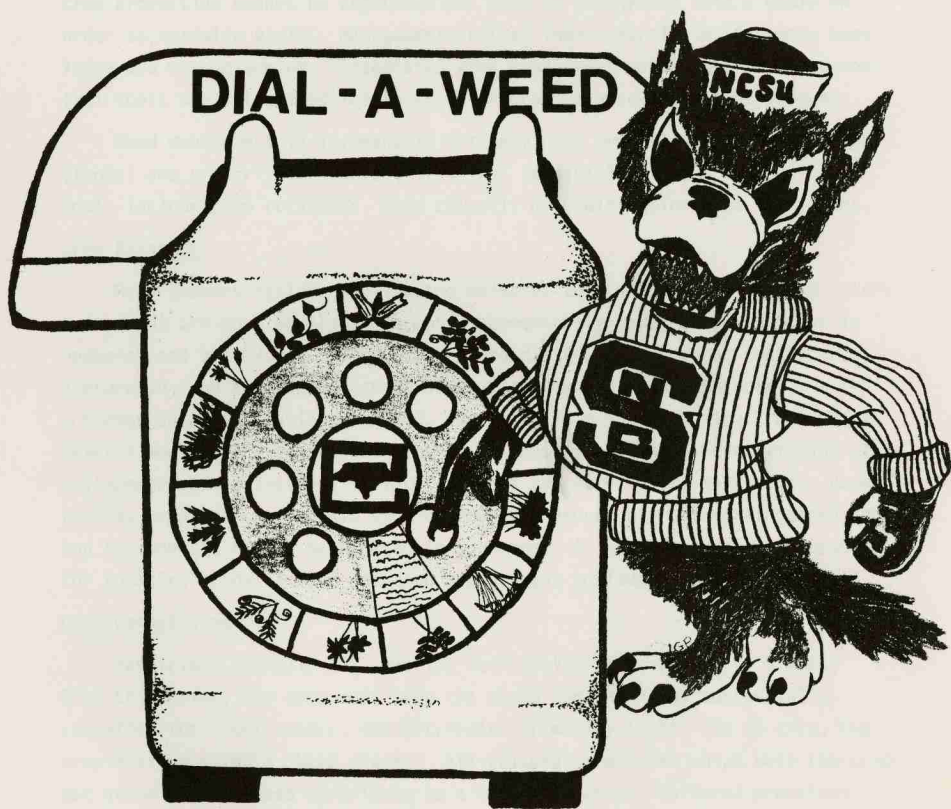


WEED MANAGEMENT IN SOYBEANS



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Recently, terminology dealing with pests has changed. We speak of pest management instead of pest control. Often we speak of integrated pest management. These new terms mean simply that all the pest activities involved in crop production cannot be separated but must be integrated into a whole in order to optimize yield. Management, rather than control, implies more knowledge and more planning. Integrated weed management means that all weed control tools are integrated into a total program--a weed management program.

Weed management in soybeans is not easy, but when all available methods (tools) are properly integrated, it is not impossible. These methods or tools include crop rotations, crop competition, cultivation, and herbicides.

Crop Rotation

Many growers fail to realize the value of this weed control method. Certain weeds are more easily and/or more economically managed in corn than in soybeans and vice versa. Large-seeded broadleaf weeds, such as cocklebur, jimsonweed, and smartweed, can be controlled without injury to corn by a postemergence application of 2,4-D, Banvel, Evik or Lorox during a period of several weeks. For economical control of these weeds in soybeans, timing of postemergence applications is very critical and some injury may occur. Deep-rooted, broadleaf perennials such as trumpetcreeper, bigroot morningglory and and horsenettle cannot be managed in soybeans. An equally important reason for rotating crops is that rotation may prevent buildup of problem weeds.

Crop Competition

Herbicides normally will provide weed control for about 6 to 8 weeks. From this point, the crop must keep the weeds "in check" by successfully competing for light, water, and nutrients--primarily light. To do this, the crop must be given a "head start." All cultural practices which help the crop get ahead of the weeds contribute to a weed-free crop. Cultural practices, such as good seed, proper fertilization and liming, effective insect and disease control, narrow rows, etc., are very important in giving the crop the competitive edge it needs to "shade out" the weeds late in the season.

Cultivation

This tool should be used to supplement control achieved with herbicides. One or two timely cultivations may prevent weeds that escape from reducing yield and/or interfering with harvest. The combination of a band application of a herbicide over the row and cultivation of the middles is usually less expensive than a broadcast application of the herbicide. As important as cultivation is for weed control, it may damage the crop if not done properly. Cultivate when weeds are small. Cultivate only 1 to 2 inches deep. Deeper cultivation disturbs crop roots and may do more harm than good.

Herbicides

Often I am asked, "What herbicide should I use on my soybeans?" Without more information, it's impossible to answer this question. The following information is essential for proper selection and use of herbicides:

1. Weeds present. The first step in any weed management program is to identify the problem. Survey or scout fields each fall for the next year's crop. Weeds present in the fall will be back next year. Record weeds present and severity of each on a "weed map." Weeds that emerge with the soybeans are the most competitive, causing the most loss of yield. Scout fields 1 to 2 weeks after emergence to determine the need for cultivation and/or post-emergence herbicides.

2. Soil texture and organic matter. It is impossible to select the appropriate herbicide and rate for a soil without knowing the texture and organic matter content. Some herbicides cannot be used safely on coarse textured soils with less than 1 or 2% organic matter. Certain herbicides that are very effective in soils with less than 4% organic matter content are useless above this level. Others are effective at higher organic matter levels, but only when the rates are adjusted upward. Test soil for organic matter content and select herbicides and adjust herbicide rate accordingly.

3. Herbicide capabilities. In order to properly utilize the information gathered in 1 and 2, you must know the capabilities and limitations of the various herbicides labeled for use on your crop. Information on herbicides is available from many sources: labels, product literature, your neighbors, etc. The best source is the local county extension office.

When the specific weed and soil information for a field has been gathered, the following information can be used in planning an integrated weed management program for each weed.

Johnsongrass

Presently there are two good programs for johnsongrass control in soybeans.

- A. Control with Roundup. Where Roundup will be used for control of johnsongrass from rhizomes in soybeans, planting will have to be delayed. During the fall, winter, and early spring prior to planting of soybeans, the soil should not be tilled. When the johnsongrass (growing in the undisturbed soil) begins to seed out or head (when a few seed heads can be seen across the field), 2 quarts of Roundup should be applied from a boom at sufficient height to give thorough coverage of the top of the johnsongrass. Seven to 10 days later the soil should be tilled, a dinitroaniline herbicide, such as Treflan, should be used to control johnsongrass developing from the seed, and soybeans should be planted in a row width that maximizes competition during the season. Cultivation should be used to control any johnsongrass developing from seed and not controlled by the soil-applied herbicide. Johnsongrass in surrounding areas, such as fence rows and ditchbanks, should be controlled to prevent reinfestation. Roundup is expensive but if seedling johnsongrass is not allowed to reinfest the area, Roundup should not have to be used again for several years.
- B. Control with Incorporated Herbicides. When this program is used, the soil should be repeatedly tilled during the fall, winter, and early spring to cut johnsongrass rhizomes into small pieces. A double rate of Treflan or Tolban or a single rate of Treflan + Vernam should be incorporated thoroughly into the soil at planting. To reduce the potential for injury to soybeans in early-season, cold, wet soils, johnsongrass-infested fields should be planted last. Seedling or rhizomatous johnsongrass developing during the season should be controlled by cultivation. Roundup applied via a recirculating sprayer or a rope (wick) applicator may be used to provide additional control of johnsongrass that grows above the soybean rows. Johnsongrass in surrounding areas should be controlled to prevent reinfestation. Where Treflan is used at the 2X rate, the program should be repeated for 2 years

and a tolerant crop such as cotton or soybeans should be planted the third year. If Tolban or Treflan + Vernam is used, rotation to corn is possible. Use Sutan + or Eradicane to control johnsongrass in corn.

Bermudagrass

Management of bermudagrass in soybeans, if it is severe in spots or over an entire field, must begin with the previous corn crop. Plant an early-maturing corn variety. Following corn harvest, the bermudagrass will begin to grow rapidly. After the bermudagrass grows for 1 to 2 weeks, areas severely infested should be sprayed with Roundup.

In the spring, incorporate Vernam + Treflan. Plant a vigorous soybean variety in narrow rows to maximize competition. Cultivate as necessary to keep middles free of bermudagrass until the soybean canopy closes. Use Sutan +, cultivation and competition of the corn to continue the suppression of bermudagrass the next season. The infestation of bermudagrass should be gradually reduced by this rotation and management program.

Nutsedge

Where nutsedge is a problem, Vernam or Dual should be incorporated into the soil before planting. Dual is not effective on purple nutsedge. Dual or Vernam preplant incorporated will give good early season control of yellow nutsedge in soybeans. Where only a light infestation of yellow nutsedge is present, Dual may be used preemergence. When followed with a timely cultivation while any escaped nutsedge is still small, Dual or Vernam usually reduces the nutsedge population sufficiently to allow optimum soybean yields. In emergency situations where either herbicides were not used or were not sufficiently effective, a band of Basagran can be used postemergence over the row when yellow nutsedge (not effective on purple nutsedge) is 6 to 8 inches tall. Basagran is effective but very expensive. Its use can't be justified economically unless there are at least 3-5 nutsedge plants per step in the row.

Annual Grasses

(Crabgrass, Fall Panicum, Goosegrass, and Foxtails)

Where only annual grasses are present, one herbicide plus a cultivation is usually sufficient. Herbicides recommended for annual grass control in soybeans include Treflan, Tolban, Basalin, Prowl, and Vernam applied preplant incorporated and Lasso, Dual, and Surflan applied preemergence. The first four

preplant incorporated herbicides are very similar (they are called dinitroaniline herbicides). They provide excellent grass control and adequate control of the small-seeded broadleaf weeds, pigweed and lambsquarters for 6 to 8 weeks. Soybeans are equally tolerant to these materials. The key to crop tolerance and good weed control with these herbicides is uniform, shallow incorporation; 2 to 3 inches deep is adequate. All of these herbicides, as well as Vernam, may stunt or delay soybeans when the soil is cold and wet, particularly when they are incorporated too deep. Vernam is a preplant incorporated herbicide but is different from the dinitroanilines. It is more volatile, requiring immediate incorporation. It controls annual grasses as well as nutsedge for 3 to 4 weeks.

Since very little rain is required for its activation, Lasso is probably the most consistently effective preemergence grass control herbicide on the market in any crop today, but it usually provides control for only 4 to 6 weeks. Surflan, on the other hand, requires more water for activation but offers the advantage of longer grass control. Dual appears to require a little more water for activation than Lasso does, but under heavy rainfall it provides control longer than Lasso does (but not as long as Surflan).

Remember, if rainfall doesn't occur within 7 to 10 days after application of any preemergence herbicide, cultivate to kill the emerging weeds and to activate the herbicide.

Pigweed and Lambsquarters (threshold 1 per 2 steps)

Usually, these two small-seeded broadleaf weeds are adequately controlled by one of the "grass herbicides" discussed above, particularly when preplant incorporated herbicides are properly incorporated and preemergence herbicides are followed with a timely cultivation in dry weather (see "Annual Grasses"). However, Lasso and Dual may not consistently give adequate control of severe or heavy infestations of lambsquarters. In this situation and others where there is reason to doubt good results with one of these herbicides alone, a tank mixture with Lorox (preemergence only) or Sencor/Lexone may be more desirable.

In addition to the single herbicide or the tank mixture, a cultivation may be necessary--shortly after planting when no rainfall occurs and/or later following heavy rains that cause rapid dissipation of herbicides. After they emerge, pigweed and lambsquarters are difficult to control. Early detection of failure to achieve good control with preplant incorporated or preemergence herbicides

is imperative. If the number of pigweed and/or lambsquarters in the row that can't be removed by cultivation is at or above the threshold, apply Blazer according to the chart on page 13. See precautions in using Blazer under "Morningglory" on page 8. Cultivate middles within 10 to 14 days.

Common Ragweed and Prickly Sida (thresholds 1/2 steps and 1/foot)

For control of these small-seeded broadleaf weeds in soybeans, preemergence herbicides Lexone/Sencor (these are the same herbicides marketed by two different companies under these two trade names) and Lorox can be used. Lexone/Sencor is effective for control of small-seeded broadleaf weeds in soil with greater than 2% organic matter. In sandy soils with less than 2% organic matter, Lexone/Sencor may injury soybeans, particularly under heavy rainfall which causes this herbicide to be leached into the soil where it is taken up by the soybean roots and moved into the top of the plant. When Lexone/Sencor are tank mixed and incorporated with dinitroaniline (Treflan or a similar herbicide), the tank mixture can be applied to soils with as little as 1% organic matter. Dinitroaniline herbicides cause some root pruning, decreasing the uptake of Sencor/Lexone, providing a safening effect for soybeans in the presence of these herbicides. Lorox can be used on soils containing as little as 1% organic matter. Below 1% it can be injurious to soybeans. Lorox also should not be used on soils with greater than 4% organic matter, because at these high levels of organic matter Lorox is tied up and will not provide adequate weed control. Lexone and Sencor can be applied as a tank mix with preplant incorporated or preemergence grass herbicides. Lorox can be tank mixed with only preemergence grass herbicides. By using a tank mixture either preplant incorporated or preemergence and following this application with a timely cultivation, small-seeded broadleaf and annual grass mixtures can usually be controlled. For a total listing of those tank mixtures which are labeled, consult the 1981 North Carolina Agricultural Chemicals Manual.

Dyanap can be used for control of small-seeded broadleaf weeds; however, its performance depends on rainfall occurring within 3 to 5 days after application. If rainfall occurs during this period, it provides excellent control. If not, it provides no control. Dyanap is a much more effective herbicide when applied postemergence.

If common ragweed or prickly sida become established in soybeans, it can be effectively controlled with cultivation or with Basagran, Blazer, Dyanap or Premerge plus cultivation. Basagran is more effective than Blazer on prickly sida but Blazer is more effective on ragweed. Usually, it won't be economical to

use one of the herbicides unless the weed population in the row (can't be controlled by cultivation) is at or exceeds the thresholds shown previously. The key to successful control of these weeds with postemergence chemicals is early detection (scout fields 1 to 2 weeks after emergence) and application while weeds are small. See chart on page 13 for rates and size restrictions. See "Cocklebur" (below) and "Morningglory" (page 8) for procedures and precautions in using Basagran, Blazer, Dyanap or Premerge.

Cocklebur (1/5 steps), Smartweed (1/2 steps),
and Jimsonweed (1/4 steps)

Large-seeded broadleaf weeds--cocklebur, smartweed, jimsonweed, morning-glory, velvetleaf, croton and sicklepod--have the ability to emerge from deep in the soil below the zone treated with preplant incorporated and preemergence herbicides. Herbicides are effective in controlling those seeds germinating within the treated zone, but other seeds of these weeds deeper in the soil germinate, grow through the treated zone, and emerge to cause problems in soybeans. These large-seeded broadleaf weeds must be controlled by the use of postemergence herbicides. Grasses present in these fields should be controlled by selecting from among the preplant incorporated and preemergence grass herbicides listed and discussed under "Annual Grasses". These soil-applied grass herbicides are the first step in a program involving the use of post-emergence herbicides and cultivation as discussed below. If fall scouting indicates these weeds will be present in a field, a vigorous variety of soybeans should be planted in narrow rows. If these problem weeds are severe, corn should be planted for several years to reduce the problem. Two weeks after planting, scout (survey) the soybean field. If these weeds are present in the row (can't be removed by cultivation) at or above the threshold, prepare to apply a postemergence herbicide before the weeds are 4 inches tall and cultivate the middles within 10 to 14 days. Basagran, Blazer, Dyanap and Premerge are effective for the control of cocklebur, smartweed and jimsonweed. Basagran is much less injurious than Dyanap or Premerge when the latter two are applied carefully under ideal conditions. The risk of injury with Dyanap or Premerge when either is applied haphazardly under varied conditions is even greater. On the other hand, Basagran is expensive, compared to Dyanap or Premerge. However, the expense can be reduced to something comparable to Dyanap or Premerge by an early band application over the row. Early, when these weeds are small, the

lowest labeled rate of Basagran, i.e., 1.5 pt/A, is very effective. If, for example, a 10-inch band is sprayed with Basagran at a per-sprayed-acre rate of 1.5 pt/A over rows spaced 30 inches apart, only 0.5 pt is required per acre of soybeans. Stated another way, 1 gallon of Basagran will treat 16 acres of soybeans. Basagran should be applied in 30 gallons of water per sprayed acre (10 gal/A of soybeans if 10-inch band is sprayed in 30-inch rows) and at 40 psi. Cultivate the middles 10 to 14 days later. If very carefully done, as described under "Morningglory", Dyanap and Premerge can be used successfully.

Blazer is less injurious than Premerge or Dyanap but precautions discussed under "Morningglory" should be carefully observed. Blazer is not as effective as Basagran on these weeds, particularly cocklebur and smartweed.

If the infestation of these weeds is light, at planting applications of Lexone/Sencor or Lorox plus a timely cultivation may reduce the population below the threshold.

See the table on page 13 for additional information on control of these weeds.

Morningglory (1 per 2 steps)

This large-seeded broadleaf weed is not nearly as susceptible to Basagran as are cocklebur, smartweed and jimsonweed. Therefore, the management program for morningglory differs from the management programs for these weeds in that an overtop application of Blazer, Dyanap or Premerge or a postemergence directed application of 2,4-DB must be used.

The grower with a moderate to severe infestation of morningglory should plant a vigorous Group VII variety in narrow rows, scout his fields 2 weeks after planting, and plan to apply Blazer, Premerge or Dyanap early, if morningglory in the rows (can't be removed by cultivation) is at or above threshold.

Blazer is usually very effective on small morningglories and considerably less injurious than Premerge or Dyanap. Blazer should be applied in a minimum of 25 GPA and at a minimum of 40 PSI because complete coverage of the weeds by the spray mixtures is necessary for good results. For best results, Blazer should be applied when the high temperature for the day is (or is expected to be) 75 to 95°. Lack of weed control may occur below 75° and significant crop injury may occur above 95°. Do not apply Blazer when soybeans or soil is wet.

Premerge and Dyanap should be applied broadcast before morningglories begin to run. Premerge and Dyanap will injure soybeans if the herbicides are not handled very carefully. The following instructions are critical. Apply these herbicides broadcast in 10 gallons of water per acre at 50 to 60 psi from a boom 30 inches above the soybeans. The high pressure, low volume application creates a fog or mist which is partially trapped in the hairs on the soybean leaves. Thus, the hairs prevent some of the herbicide from reaching the leaf surface, reducing injury to the soybeans. Apply these herbicides when the high temperature for the day is (or is expected to be) between 75 and 95°. Expect lack of weed control below 75° and excessive soybean injury above 95°. Do not apply these herbicides when the soybeans or the soil is wet. See chart on page 13 for more information.

Another alternative is the application of 2,4-DB (Butoxone or Butyrac) in a spray directed to the lower one-third of soybeans 8-12 inches tall. Application may be repeated once. Precise application is essential to prevent damage to the crop. In order to maintain the correct spraying height, nozzles must be mounted on shoes, skids, slides or cultivators with gauge wheels. Do not use booms with drop nozzles. Use a maximum of 20 PSI, to avoid drift. For a broader spectrum of control Lorox and surfactant may be added to the 2,4-DB.

Cultivate soybeans within 10 to 14 days. Remember, good control in corn next year will reduce the problem in soybeans the year after that. Morningglory can be more easily managed in corn than in soybeans; so, if a severe infestation is present, you may want to plant corn for several years to reduce the population.

Velvetleaf (1 per 4 steps), Croton and Florida Pusley

Velvetleaf, when present in soybeans, is very competitive. In order to reduce its interference at harvest, Group VII variety should be planted and following scouting, if present at or greater than 1 per 4 steps in the row, Blazer, Premerge or Dyanap should be applied overtop, following the precautions specified for morningglory. See chart on page 13 for more information. Cultivate within 10 to 14 days. Reduce velvetleaf infestation in the soil with good control in the corn crop the next year.

Croton and Florida pusley are not nearly as competitive as some of the other weeds we have just discussed. We do not know what the thresholds are

for these weeds, but it will take relatively high infestations to reduce yield. Where high infestations are present, plant a Group VII variety in narrow rows and use Blazer, Premerge or Dyanap (before they are 2 inches tall or 3 inches in diameter, respectively) as specified for morningglories, observing the precautions indicated. See chart on page 12 for more information. Cultivate within 10 to 14 days after the application and continue good control program in corn the next year.

Sicklepod (1 per 2 steps)

Sicklepod can be more easily managed in corn than in soybeans. So, if a severe infestation is present, you may want to plant corn for several years to reduce the population. In fact, this can be said for all of the large-seeded broadleaf weeds that we have discussed--cocklebur, smartweed, jimsonweed, morningglory, velvetleaf, croton, and last, but not least, sicklepod. But it is vital that where corn and soybeans are rotated, that good control be achieved in the alternate year in which corn is grown.

Sicklepod requires a lot of prior planning to be effectively managed in soybeans. Vernam should be incorporated into the soil prior to planting soybeans in a sicklepod-infested area. It provides some control of sicklepod and makes the surviving plants more susceptible to Attac (toxaphene) plus oil concentrate which should be applied to sicklepod in the cotyledon stage.

Plant early in narrow rows (but do not drill). Select an early maturing, vigorous variety. Scout fields 7-10 days later. If at threshold of 1 sicklepod per 2 steps in the row, apply Attac plus an oil concentrate (a blend of 15-20% surfactant and 80-85% non-phytotoxic oil) to sicklepod in the cotyledon stage. As sicklepod gets larger, particularly past the first-true-leaf stage, control with Attac drops dramatically. Application may be repeated 7-10 days later to control sicklepod emerging after the first application. Sicklepod escaping Attac or emerging later between the rows can be controlled by cultivation. Use postemergence directed applications to control sicklepod in the row. Direct the spray to the lower one-third of soybeans 8-12 inches tall. Precise application is essential to prevent damage to the crop. In order to maintain the correct spraying height, nozzles must be mounted on shoes, skids, slides or on cultivators with gauge wheels. Do not use booms with drop nozzles. Use maximum of 25 PSI, to avoid drift. The most effective postemergence directed

herbicides for sicklepod are Lorox, Lorox plus 2,4-DB, Sencor or Lexone with or without 2,4-DB with surfactant included with each. The 2,4-DB (Butoxone or Butyrac) is not essential for control of small sicklepod. But it improves control of larger sicklepod and is effective on other weed, particularly cocklebur and morningglory, if they are also a problem. Potential for injury is greater with Sencor than Lorox.

Field Situations

In field situations these weeds do not occur singularly; there are usually mixtures of weeds. Therefore, weed management programs have to include these mixtures. So let's look at some of these as an indication of how we can put these programs together.

A. Annual Grasses and Pigweed or Lambsquarters. For annual grasses and pigweed or lambsquarters, it is not difficult to put together a weed management program because it is exactly as we have discussed for the individual weeds, with a possibility of going to a tank mixture if there's a history of lack of control of pigweed or lambsquarters or maybe where a grower is definitely not going to cultivate.

B. Annual Grasses and Ragweed. Where ragweed is present, as we discussed earlier, a tank mixture of a grass-control herbicide plus a broadleaf weed-control herbicide such as Lexone/Sencor or Lorox must be used. If control is not achieved because of dry weather early or heavy rains leaching the herbicides, cultivation may be necessary.

C. Annual Grasses and Ragweed and Cocklebur. Where there is a combination of annual grasses such as fall panicum and crabgrass, plus ragweed, plus cocklebur, the following program is suggested. At planting, apply a preplant-incorporated or preemergence grass herbicide. Plant a vigorous variety early in narrow rows in order to give the soybean the competitive edge it needs for late season control of these weeds. Scout the field a couple of weeks after planting and, if these weeds are present at or above thresholds indicated, apply Basagran in a band over the row before the cocklebur or the ragweed is 4 inches tall. You will get essentially 100% control of cocklebur and probably no more than 80% control of the ragweed in the row. But, since ragweed is not very competitive (it has a threshold of 1 per 2 steps in the row), this will be adequate. Cultivate the middles 10 to 14 days later and make sure you get good control of cocklebur in the corn crop next year. This, we feel, is a satisfactory program for this complex of weeds.

D. Annual Grasses and Cocklebur and Morningglory. Where annual grasses plus a combination of cocklebur and morningglory are present, we must go with the program that gives us good control of morningglory. Whereas Basagran is a safer herbicide and would be recommended for cocklebur alone, it is not effective on morningglory. Therefore, we must go with Blazer, Dyanap or Premerge for control of the morningglory. They will also give relatively effective control of cocklebur. It is important that this application be made while both the cocklebur and morningglory are still small--cocklebur no more than 2 inches tall and morningglory not running.

Where these recommendations are followed, soybeans will remain relatively weed-free throughout the season. If good early season control of morningglory and cocklebur is not achieved, 2,4-DB (Butyrac 200, Butoxone SB) applied as a postemergence directed spray or over-the-top 10 days before bloom up to mid-bloom will provide additional control. The latter treatment reduces weed interference at harvest but yield reduction caused by these weeds has occurred already. Therefore, 2,4-DB should be used as a salvage treatment only.

Postemergence Herbicide Rate Chart

Weed	Size (inches)	Basagran (pt)	Premerge (pt)	Dyanap (qt)	Blazer (pt)
Cocklebur	Up to 2	1.5	1.0	2.0	2.0
	2-4	1.5	2.0	3.0	XXX
	4-6	1.5	XXX	4.0	XXX
	6-10	2.0	XXX	XXX	XXX
Smartweed	Up to 2	1.5	1.0	2.0	2.0
	2-4	1.5	2.0	4.0	2.0
	4-6	1.5	XXX	XXX	XXX
	6-10	2.0	XXX	XXX	XXX
Jimsonweed	Up to 2	1.5	1.0	2.0	2.0
	2-4	1.5	1.0	2.0	2.0
	4-6	1.5	2.0	3.0	2.0
	6-10	2.0	XXX	XXX	XXX
Morningglory	Up to 2	3.0	1.0	2.0	2.0
	2-4	XXX	2.0	3.0	2.0
	4-6	XXX	XXX	XXX	XXX
	6-10	XXX	XXX	XXX	XXX
Pigweed	Up to 2	XXX	1.0	3.0	2.0
	2-3	XXX	2.0	4.0	2.0
Lambsquarters	Up to 2	XXX	2.0	3.0	2.0
	2-3	XXX	XXX	4.0	2.0
C. ragweed	Up to 2	1.5	1.0	2.0	2.0
	2-4	2.0	2.0	3.0	2.0
	4-6	XXX	XXX	4.0	XXX
Prickly sida	Up to 2	1.5	1.0	3.0	XXX
	2-4	2.0	2.0	4.0	XXX
Croton	Up to 2	2.5	1.5	3.0	2.0
	2-4	3.0	XXX	4.0	2.0
Velvetleaf	Up to 2	1.5	1.0	2.0	2.0
	2-4	2.0	2.0	3.0	XXX
Black Nightshade	Up to 2	XXX	1.0	2.0	2.0
	2-4	XXX	2.0	3.0	2.0
Florida pusley	Up to 3 in diam.	XXX	2.0	3.0	2.0
Sicklepod	Cotyledon (Seedleaf) Stage	Attac 6E or 8E at 2 2/3 or 2 pt plus oil concentrate			

XXX - Do not use.

DIAL-A-WEED USERS

DIAL-A-WEED is designed to attract attention. Please place it where it will be visible. You may wish to hang it on a wall or put it on a stand on a counter.

When the slot in the "dial" is turned to a major weed(s), the outline of the management program for the weed(s) is visible through the slot. Detailed discussions of the weed management programs and alternatives are in "Weed Management in Soybeans", in "Weed Management in Peanuts" and in "Weed Management in Corn." Herbicide rates and other information are in the North Carolina Agricultural Chemicals Manual. DIAL-A-WEED can't be utilized fully without these references.

The term "threshold," as used in DIAL-A-WEED, may be new to you. "Threshold," which is expressed as number of weeds in the row (can't be removed by cultivation) per foot or step, indicates the point of action. If weeds are present in the row at or above that level (the threshold), they will cause more economic loss than the herbicide and application will cost. Therefore, the action prescribed by the DIAL-A-WEED will be profitable for the grower. "Scouting" means a careful examination of the field to determine the weeds present and if they are present at or above "threshold."

If you have questions, call your county agent. His telephone number is in the center of the DIAL-A-WEED.

UP-DATING DIAL-A-WEED FOR SOYBEANS AND/OR PEANUTS

Your DIAL-A-WEED is out-dated. Weed management recommendations change annually. Since reprinting the entire DIAL-A-WEED is very expensive, stick-on segments to up-date your DIAL-A-Weed are enclosed. If segments for both peanuts and soybeans are included, they are grouped and labeled, so you won't get "peanut segments" on the Soybean Dial-A-Weed or vice versa.

Carefully bend the "pie-shaped" segments, peel off the paper on the back and place the 1981 recommendations on the DIAL-A-WEED. Our 1981 recommendations are on the stick-on segments. Carefully place these in the appropriate positions. When properly positioned on the DIAL-A-WEED, the printed lines are horizontal.

Recommendations for 1981 are discussed in "Weed Management in Soybeans" and in "Weed Management in Peanuts." Herbicide rates and other information are in the "North Carolina Agricultural Chemicals Manual. DIAL-A-WEED can't be utilized fully without these references.