

INFORMATION FOR LEADERS IN LAND MANAGEMENT

Research and Extension in land management technology for farm profits and conservation of soil and water.

STRATEGIES WITH HERBICIDES IN SUMMER FALLOW

Whether you farm with conventional tillage (e.g., using moldboard plow), employ some form of conservation tillage, or use no-till, weed control must be given high priority if you plan to keep farming. Conventional tillage, with multiple cultivations, probably provides the best non-chemical weed control, but it also creates an environment conducive to serious erosion. At the other end of the scale, no-till does not offer the option of mechanical weed control. However, it does offer the most viable system for preventing soil loss from wind and water erosion.

In no-till production of wheat, herbicide use is essential to economic success. Production involving trashy fallow offers opportunities for moisture and energy conservation during the fallow season using herbicides, and may also require them in the crop season to remove weed competition for water and nutrients.

Herbicides, when used in accordance with the label, will usually provide a return that exceeds their cost. Misuse can destroy their cost effectiveness, cancel their ability to control targeted weeds, cause pollution of the environment, or endanger the health of applicators and others. The following listings offer strategies for getting results with some of the herbicides commonly used in conservation tillage systems.

NON-SELECTIVE HERBICIDES FOR FALLOW PERIOD OR PRE-EMERGE

Glyphosate (Roundup)

- Do not spray weeds under stress.
- Adjust boom height above the weeds, not the ground.
- Spray pressure of 25-30 PSI is recommended.
- Avoid disc-markers which throw soil on plants and de-activate Roundup.
- Use flat fan jets (T-Jets).
- Apply in 10 GPA or less, by air 5 GPA or less.
- Twenty-inch spacing between spray nozzles.
- Obtain 30-50% spray pattern overlap.
- Add nonionic surfactant of at least 50% active ingredient at 0.5% solution (1/2 gal./100 gal. water). If surfactant contains less than 50% active ingredient, double the amount.
- For enhanced control of grass weeds that are under stress, add 17 pounds of ammonium sulfate per 100 gallons of spray solution.
- Plan for 6 hours between application and rainfall on plants.
- If Roundup has been frozen, be sure it is agitated until all crystals are dissolved.
- For no-till, use 1 pt/A rather than 12 oz/A.



- Recommend use of chaff spreader on combine to eliminate protective canopy which prevents spray from hitting target weeds.
- Allow plants to regrow at least 2" after grazing, before applying Roundup.
- Use clean spray water, not water from ponds or streams.
- Ground sprayers should be operated at less than 10 miles per hour -- a good speed is 5 mph.
- If possible, modify your sprayer to allow for Roundup application to weeds in wheel tracks before weeds are flattened by the wheels.

Paraquat (Paraquat CL)

- Remember! This is a toxic chemical! DANGER! Be sure to use proper safety equipment.
- Do not apply under conditions involving possible drift to food or forage crops which would be rendered unfit for sale, use or consumption.
- Spray in seedling stage before weeds reach 6 inches in height.
- Apply 1 to 2 quarts per acre with 8 to 16 ounces of nonionic surfactant (X-77) per 100 gallons of water.
- Performs well in combination with metribuzin (Sencor or Lexone) or propham (Chem Hoe 135).
- Apply at least 10 GPA by ground and 5 GPA by air.

SOIL-ACTIVE HERBICIDES FOR USE DURING FALLOW SEASON

Propham (Chem Hoe 135)

- Propham is soil-active and inhibits the root growth of weeds.
- It controls mostly grass weeds, including volunteer grains, but also chickweed.
- Application can be made anytime between late October and February after the soil at 1" is 55 degrees Fahrenheit or less.
- Do not plant crop or graze before 8 months after application.
- Should not be applied when temperature is at or below freezing unless ethylene glycol is added at rate of 12.5%

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- Ground spray should be 10 GPA or more and air application 5 or more GPA.
- During application avoid skips -- they will be so! in the spring. Overlapping of Chem Hoe 135 should also be avoided.
- Application rates range from 4 to 5-1/3 quarts per acre, depending on soil texture and weed growth.

Pronamide (Kerb 50-W)

- Kerb 50-W is registered for use on fallow land to control certain winter annual grasses and volunteer grains.
- Do NOT plant back to crop within 9 months of application.
- Apply as a broadcast spray at 10 to 20 gallons of spray mixture per acre. (In Idaho, apply 20 to 40 GPA).
- Uniform coverage is essential for best results.

Atrazine (AAtrex)

- Use 0.4 lb active ingredient per acre. Usually applied in combination with a post-emergence herbicide such as paraquat, glyphosate or dalapon.
- Should be applied after fall rains and emergence of volunteer, but NOT later than February 1.
- CAUTION: Do not make second application. Do not plant spring grain. Follow only with winter wheat.

Cyanazine (Bladex), Dalapon (Dowpon)

- These are soil-active herbicides that can be used in chemical fallow, usually in combination with other herbicides. Check with your county Extension agent for specifics.
- Bladex can be applied in fall or spring, but not less than 9 months before seeding after the fall treatment nor 120 days after the spring treatment.
- Dalapon can be applied in fall or spring, but not less than 8 months before seeding.

FOLIAR AND SOIL-ACTIVE HERBICIDES

Dicamba (Banvel)

- Banvel, in combination with a translocated herbicide such as glyphosate or 2,4-D, is effective in controlling broadleaf weeds in fallow.
- If weeds are drought stressed or more than 4 inches tall, higher rates of the herbicides will be required. See county Extension agent for specifics on rates.

Metribuzin (Lexone or Sencor)

- Metribuzin may be used alone or in combination with paraquat, glyphosate, or propham.
- Make application prior to weed emergence or before weeds are 2 inches tall or across.
- Moisture is needed to activate herbicide -- 0.5 to 1.0 inch after application, but before weeds are 2 inches tall.

Chlorsulfuron (Glean)

- Use 1/3 to 1/2 ounce or less per acre per year, depending of soil pH.
- Time of application:
 - (1) Fall (post harvest), apply early post-emergence to first flush of germinating weeds.
 - (2) Spring (during fallow), apply early post-emergence to actively growing weeds.
- Rainfall is needed to wet soil usually 0.5 to 1.0 inch is necessary.
- CAUTION: Carefully check label for recropping restriction.
- CAUTION: Note -- rate is in ounces, not pounds.

GENERAL PRECAUTIONS

- Use clean water in sprayer, especially with paraquat and glyphosate.
- With paraquat, avoid contact of undiluted herbicide with aluminum, and do not leave spray mixture in sprayer over night.
- Try to avoid stirring dust onto target plants sprayed or about to be sprayed with either glyphosate or paraquat.

ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS

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