

PREEMERGENCE HERBICIDES FOR THE HOME LAWN

A quick guide for homeowners

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FREQUENTLY-ASKED QUESTIONS

WHAT ARE PREEMERGENCE HERBICIDES?

A **preemergence herbicide** is an herbicide that is designed to control weeds by interfering with seedling **germination and emergence**. They are commonly referred to in the lawn care industry as "**weed preventers**", and essentially form a **protective barrier** on your lawn during critical seasons when weeds are most actively germinating. Conversely, **postemergence herbicides** will control established weeds that have already germinated and emerged. Some herbicides have both pre- and postemergence activity.

HOW DO THEY WORK?

Herbicides are classified by their **site of action** which refers to the location within the plant where the herbicide interferes with development. Different preemergence herbicides may have different sites of action or manners in which they work. However, many of the preemergence herbicides found in lawn care products for homeowners are classified as **mitosis inhibitors**. In simpler terms, these products **inhibit cell division**, resulting in seedlings that are **stunted, deformed, and unable to emerge as healthy plants**.

Common lawn weeds that can be prevented with the use of preemergence herbicides.



Large Crabgrass
Digitaria sanguinalis (L.) Scop.



Annual Bluegrass
Poa annua L.



Spotted Spurge
Chamaesyce maculata L.

WHAT ARE THE POTENTIAL BENEFITS OF USING A PREEMERGENCE HERBICIDE?

- These herbicides provide protection during critical seasons when turfgrass may be less able to compete with weeds (spring and fall).
- Preemergence herbicides are generally the most effective chemical option for controlling **challenging annual weeds** like crabgrass (*Digitaria spp.*) and annual bluegrass (*Poa annua* L.).
- In some cases, preemergence herbicides can reduce the number of postemergence herbicide applications required to maintain a healthy lawn.
- When used as directed by the label, many preemergence products can be safer to use around established plants in the landscape compared with select postemergence products.

WHAT OTHER FACTORS SHOULD I CONSIDER BEFORE PURCHASING AND USING AND PREEMERGENCE HERBICIDE?

- Preemergence herbicides can injure newly-established or overseeded turfgrass lawns. Follow label recommendations and consult your **AgriLife County Extension Agent** when in doubt.
- Weed and feed products used for other purposes in the landscape may already contain preemergence herbicides. Application of separate preemergence herbicides in addition to these products may lead to over-application that can be harmful to your lawn.
- The performance of preemergence herbicides can be significantly affected by timing, precipitation, environmental conditions, and the specific weeds you are targeting. For the most effective program, work with your AgriLife County Extension office regarding their recommendations for your area.
- Avoid using weed and feed products during months when turfgrass is not actively growing, as this can lead to the application of nitrogen fertilizers at inappropriate times.

WHEN DO I APPLY MY PREEMERGENCE HERBICIDE?



For best results, we recommend that you make **two** preemergence herbicide applications each year: one in the **spring** to target summer annual weeds and one in the **fall** to target winter annual weeds. Preemergence herbicides will often be the most effective when applied based on **soil temperature**, because soil temperatures play a critical role in weed seed germination. Per the recommendations above, apply your spring preemergence herbicide when soil temperatures reach approximately **55°F** for several days. Fall applications can be made several months later when soil temperatures decrease to approximately **70°F** for several days. Application timing in Texas can vary by several weeks based on **geographic region** and **annual weather conditions**. When in doubt, contact your local AgriLife County Extension office.

MONITORING SOIL TEMPERATURE

You can monitor soil temperature yourself using a **soil thermometer** or even a household **meat thermometer**. Measure the soil temperature for the **uppermost 1" of soil**, where most weed seeds will be concentrated. Be mindful that some seeds may be on the soil surface, which will warm more quickly leading to earlier germination. Soil temperatures are also generally monitored at different depths for many areas throughout the state of Texas. Contact your local AgriLife County Extension office for recommendations on the **most reliable sources** for soil temperature data in your county.

COMMON PREEMERGENCE HERBICIDES FOUND IN LAWN CARE PRODUCTS

ACTIVE INGREDIENT	TARGET WEEDS	FOUND IN PRODUCTS LIKE	NOTES
BENEFIN	grasses, some small-seeded broadleaf weeds	Balan Herbicide; Amaze Grass & Weed Preventer; Fertilome A-Vert Plus Lawn Food	This product can be volatile and prone to loss if not watered in properly. Pay attention to label recommendations.
CORN GLUTEN MEAL	grasses	Green It Liquid Corn Gluten Weed Preventer; Preen Natural Weed Preventer; Others	An option for organic lawn care programs. Performance of this product is variable and may not offer the same level of control as some other products listed.
DITHIOPYR	grasses, some broadleaf weeds	Sta-Green CRAB-EX Crabgrass Control; Bonide Crabgrass Preventer; Others	Offers early postemergence control of crabgrass which creates some flexibility in application timing.
INDAZIFLAM	grasses and broadleaf weeds	BioAdvanced 3-in-1 Weed and Feed for Southern Lawns	This active ingredient is currently only available in a limited number of homeowner products that may be designed to do multiple things. Follow label recommendations carefully before use to ensure all parts of the product are appropriate for your circumstances.
ISOXABEN	broadleaf weeds	Fertilome Broadleaf Weed Control with Gallery; Snapshot Granular Preemergent; Others	Can be combined with grassy weed preemergence herbicides to broaden the spectrum of weed control.
ORYZALIN	grasses, some broadleaf weeds	Monterey Weed Impede, Green Light Amaze Grass & Weed Preventer, Surflan Herbicide	This herbicide thins overseeded grasses.
PENDIMETHALIN	grasses, some broadleaf weeds	Scotts Halts Crabgrass Preventer; Others	Can stain concrete areas. Use caution when applying to these areas.
PRODIAMINE	grasses, some broadleaf weeds	NutriScape Crabgrass Preemergent; Nitro-Phos Barricade Preemergence; Others	Can stain concrete areas. Use caution when applying to these areas.

Looking for information on a different **active ingredient**? Some preemergence herbicides are not labeled for use for home lawns or may pose a potential risk to your turfgrass species and/or other plants in the landscape. When in doubt, contact your AgriLife County Extension agent first.

OTHER TIPS:

- Check out aggieturf.tamu.edu/turfgrass-weeds/ for assistance with **weed identification**.
- **ALWAYS FOLLOW THE LABEL.** Consider all parts of the label including recommended personal protective equipment (PPE), as well as appropriate application rates and timing.
- Download **A Homeowner's Guide to Herbicide Selection for Warm-Season Turfgrass Lawns** from aggieturf.tamu.edu or the AgriLife Bookstore for a more thorough overview of turfgrass weed management.
- When searching for additional lawn care products, don't forget your local producer's co-op and/or feed store.