



They grow up so fast.

Control Mature Weeds with Manuscript®

Mature weeds have met their match. Using a unique class of chemistry for turf, **Manuscript®** herbicide can be effectively sprayed at any weed growth stage. It controls **tropical signalgrass** and other grassy weeds any time they are actively growing and outstanding turf safety.

 **Manuscript®**
Herbicide

syngenta®

A unique solution for tough weeds

Manuscript may be applied to bermudagrass and zoysiagrass on golf courses, sod farms, sport fields, residential properties (including home lawns) and other non-residential turf areas (such as **airports, cemeteries, commercial buildings** and **similar sites**). With **Manuscript®**, you can get the application flexibility you need to treat mature weeds. It can be used in the heat of summer when desired turfgrass is actively growing, and is formulated with a built-in, proprietary safener to enhance performance and turf safety. **Manuscript®** is packaged with Adigor™ surfactant from Syngenta, which is custom-built to be used with **Manuscript®** to maximize the quantity and rate of absorption of pinoxaden, as well as the degree of translocation once pinoxaden is in the plant.



Photo taken October 27, 2017, 14 days after the first application of Manuscript and Adigor at the spot treatment rate. Source: Neil Young, 2017. Performance assessments are based upon results or analysis of public information, field observations and/or internal Syngenta evaluations. Trials reflect treatment rates commonly recommended in the marketplace.

WEEDS CONTROLLED

Tropical signalgrass	Large and smooth crabgrass*
Bull/thin paspalum	Dallisgrass
Bahiagrass	Seashore paspalum (suppression only)
Tropical carpetgrass	Torpedograss (suppression only)

TOLERANT TURFGRASS SPECIES

Bermudagrass
Zoysiagrass
St. Augustinegrass (sod only)

*Resistant biotypes may exist. Check local biotypes on small area to determine sensitivity.



IMPROVED POST-EMERGENCE CONTROL OF TOUGH WEEDS

Selective herbicide with an advanced form of ACCase mode of action that works fast on tough mixed grasses regardless of growth stage, including large, mature weeds



OUTSTANDING TURF SAFETY

Includes a built-in safener (cloquintocet-mexyl) that speeds metabolism of pinoxaden in desirable turf and improves weed control performance:

- Enables spot treatments
- Further improves selectivity against tough, actively growing weeds without temperature restrictions
- Additionally, the MOA allows applications near ornamental beds and shrubs



LABOUR SAVINGS

Reduced hand-weeding means greater labour savings



Manuscript® is the most active tropical signalgrass herbicide I've ever applied. It's more active during summer months and [with Monument® 75WG herbicide] is about as close to a perfect herbicide solution as you're going to get.

**NEIL YOUNG, OWNER
TURFGRASS ENVIRONMENTAL RESEARCH INC., USA**



QUICKER RECOVERY

Desirable turf quickly fills in voids left behind after weeds are controlled, especially in the spring-early summer when warm-season turf is actively growing



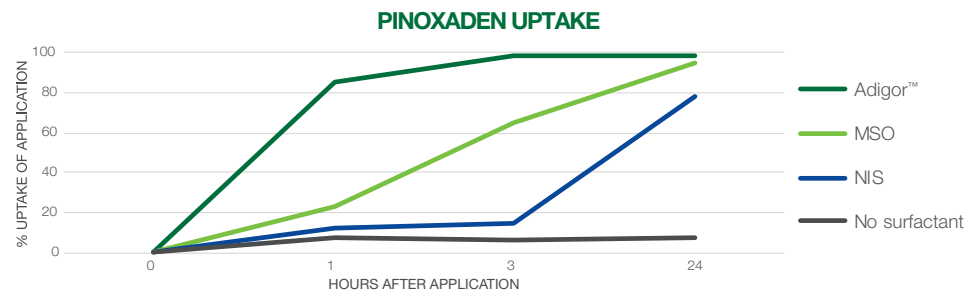
UNIQUE CHEMISTRY CLASS

With a novel class of chemistry for turf (phenylpyrazolin - DEN, Group 1), pinoxaden is rapidly absorbed and translocated to the growing points of weed foliage, where its powerful phenylpyrazolin inhibitor halts ACCase enzyme activity on tough grassy weeds for improved safety and resistance management.

Customised Surfactant Maximizes Efficacy

Using **Manuscript®** with Adigor provides greater application reliability. Adigor is an advanced surfactant system custom-built to be used with **Manuscript®** to:

- Speed and maximize foliar absorption
- Increase spray droplet deposition
- Enhance droplet spreading
- Soften plant cuticle to speed and maximize absorption
- Improve rainfastness in as quickly as one hour



Time to rainfastness depends on atmospheric conditions, application volume, spray droplet size, thickness of plant cuticle and other factors.

Rainfastness, minimum of four hours in the leaf on signal grass, not irrigate 24 hours after treatment.

Source: Muehlebach et al., 2011.

Performance assessments are based upon results or analysis of public information, field observations and/or internal Syngenta evaluations. Trials reflect treatment rates commonly recommended in the marketplace.

Use Recommendations

With the turf safety of **Manuscript®**, applications are recommended between spring and summer (best timing depends on the target weed). This will encourage desirable grass to fill in quickly while it is actively growing.

While it can be applied as a broadcast treatment for control of bull/thin paspalum, spot treatments are recommended for difficult-to-control weeds like tropical signalgrass. Spot treatments can also be used to help control crabgrass breakouts in lawns. **Manuscript®** must be tank-mixed with Adigor at 0.5% v/v to optimize spray droplet deposition, spreading and foliar absorption.



Spot treatment applications are recommended for optimal results

RECOMMENDATION FOR HAND-HELD SPRAY WAND APPLICATIONS

- Mix 0.96 fl. oz. of **Manuscript®** and 0.64 fl. oz. of Adigor in 1 gal. of water to treat 1,000 ft.²
- Make applications in 40 gal./A
- Make a second application 14-21 days later when weed re-growth is observed

RECOMMENDATION FOR BOOM APPLICATIONS

- Mix 9.6 fl. oz. of **Manuscript®** and 6.4 fl. oz. of Adigor in 10 gal. of water to treat 10,000 ft.²

- Make applications in 40 gal./A using flat fan nozzles (standard or air induction) that produce medium to very coarse droplets
- Make a second application 14-21 days later when weed re-growth is observed

DO NOT treat more than 10,000 ft.²/A

DO NOT apply more than 19.2 fl. oz./A of **Manuscript®** per calendar year

Program Approach to Control Secondary Weeds

After removing patches of undesirable weeds with **Manuscript**[®], secondary weeds like sedges and broadleaves tend to fill in. A follow-up application of Monument 75WG controls a broad spectrum of secondary weeds and will reduce weed re-establishment, so desirable turf can grow without weed competition.

HERBICIDE	RATE PER ACRE	APPLICATIONS	INTERVAL
Manuscript [®]	9.6 fl. oz./10,000 ft. ²	2	14-21 days
Monument 75WG	0.53 oz./A	1	14 days

Manuscript[®] causes little-to-no injury or growth regulation to bermudagrass or zoysiagrass when applied at broadcast or spot treatment rates.

Manuscript Broadcast Applications (Bull/Thin Paspalum Only)

Two applications at 9.6 fl. oz./A on a 14- to 21-day interval (28-day interval for St. Augustinegrass)

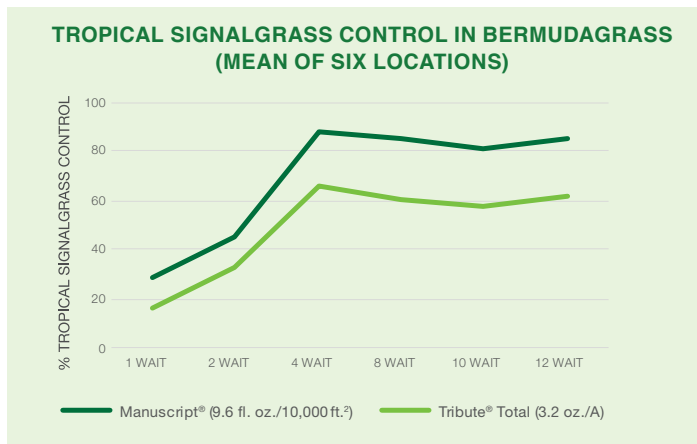
OR

One application at 19.2 fl. oz./A

Make applications in 40 gal./A for optimal control, and mix with 0.64 fl. oz. of surfactant per gallon of water (0.5% v/v). Supplement available Adigor with an MSO surfactant as needed to reach a total of 0.5% v/v.

Proven Weed Control

Manuscript[®] has been evaluated for weed control across a series of field trials. The following results show the consistent efficacy of the product.



WAIT = weeks after initial treatment

Treatments applied twice on a 21-day interval. **Manuscript**[®] mixed with Adigor at 0.5% v/v. Tribute[®] Total mixed with MSO at 0.5% v/v. Source: Neil Young, Miami, Florida, 2017. Performance assessments are based upon results or analysis of public information, field observations and/or internal Syngenta evaluations. Trials reflect treatment rates commonly recommended in the marketplace.



Square plots of crabgrass were treated with two spot treatments of **Manuscript**[®] at 0.96 fl. oz./gal. and Adigor at 0.64 fl. oz./gal., 13 days apart. Huntsville, Alabama, 2018. Performance assessments are based upon results or analysis of public information, field observations and/or internal Syngenta evaluations. Trials reflect treatment rates commonly recommended in the marketplace.

Syngenta UK Ltd. Registered in England No. 849037. CPC4, Capital Park, Fulbourn, Cambridge CB21 5XE.

E-mail: golf@syngenta.com Web: www.greencast.ae

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