Lexicon® Intrinsic®
Brand Fungicide
Technical Manual
Perfect turf, powered from within
Innovation that solves your toughest challenges

BASF is dedicated to investing in research that produces quality solutions. For over 150 years, we have developed innovations that help to solve your most pressing challenges, supported by research and an experienced sales and technical team. BASF together with Globe Growing Solutions are focused on investigating and delivering best in class innovations and solutions to the Australian Turf Industry.

Lexicon® Intrinsic® Brand Fungicide is the first in a range of groundbreaking fungicides to be introduced in Australia. We are excited to introduce this revolutionary technology and look forward to bringing new technologies to you in the near future.

Dr. David Elmouttlie
Business Manager
BASF Professional and Specialty Solutions
Lexicon Intrinsic brand fungicide, the future of disease control today

Lexicon Intrinsic brand fungicide delivers peak disease performance under pressure. This groundbreaking fungicide optimises disease control and provides advanced plant health benefits for longer, stronger roots, increased growth efficiency, and greater stress tolerance. The result is championship conditions on your greens, all year long.

Lexicon Intrinsic brand fungicide controls a wide variety of key turf diseases, including fairy ring, dollar spot, brown patch, Pythium and ERI’s.

Key Features and Benefits:
- Broad-spectrum control of 9* diseases
- Long residual of up to 28 days
- Advanced plant health benefits
- Foundational product for greens

For Use on All Major Turfgrass Sites:
- Golf courses
- Sports and athletic fields
- Parks and recreational areas
- Residential lawns
- Commercial and municipal lawns
- Institutional lawns
- Cemeteries
- Turf farms
- Other maintained turfgrass areas

* Further label extensions in development.
Two powerful chemistries for the ultimate in broad-spectrum disease control

Lexicon Intrinsic brand fungicide is a combination of two unique chemistries. These two chemistries provide optimal protection from key turf diseases. They also deliver plant health benefits that help your turf rebound faster from stressors.

Lexicon Intrinsic brand fungicide, for quick knockdown and long residual

Most fungicides on the market provide either quick knockdown or long residual. Lexicon Intrinsic brand fungicide provides both benefits.

In addition to being tightly bound to the waxy leaf surface, making it rainfast within 2 hrs, this innovative fungicide is redistributed to areas of the leaf that are not directly sprayed. Its unique molecular design lets it enter the transpiration stream and travel systemically within the leaf. This redistribution, along with its high level of activity, ensures long-lasting preventive and curative effects from Lexicon Intrinsic brand fungicide, resulting in reliable, more consistent disease control.
Greater disease control for greater peace of mind

Healthy turf is strong, disease-resistant and resilient, which is the kind of quality turf you can expect from Lexicon Intrinsic brand fungicide. Research has shown that this fungicide provides excellent control of 9* key diseases on turfgrass. Whatever the season, your turf has protection from the toughest challenges, and you have peace of mind.

**Powerful residual** — Lexicon Intrinsic brand fungicide controls 9* diseases for up to 28 days, providing the confidence that comes with long-lasting control.

**Broad-spectrum foundation** — With its broad-spectrum control, this fungicide is the perfect foundation for enhancing the overall performance of your spray program.

**More resilient greens** — Lexicon Intrinsic brand fungicide provides championship conditions and faster recovery from stressors like heat, humidity, drought, heavy play and aeration.

* Further label extensions in development.
Lexicon Intrinsic brand fungicide

Lexicon Intrinsic Brand Fungicide
Delivers Superior Dollar Spot Control versus other fungicides

Source: Dr. Rick Latin, Purdue University, 2014.

High Turf Quality Demonstrates Residual Control of Lexicon Intrinsic Brand Fungicide

Source: Dr. Bruce Martin, Clemson University, 2014.

above:
Dollar spot
(Sclerotinia homoeocarpa)
Lexicon Intrinsic Brand Fungicide

Provides Outstanding Brown Patch Control on Bentgrass

Initial application on July 13, 2012.
Ratings = brown patch severity index 0-10. 10 = >90% brown patch.
Source: Penn State University, 2012.

above:
Brown patch
Photo: Dr. Henry Wetzel, Consultant

Lexicon Intrinsic Brand Fungicide

Outperforms on Control of Dollar Spot (*Sclerotinia homoeocarpa*).

Initial Application: Day 0
Second Application: Day 28 - Lexicon
Day 21 - Azoxystrobin + Propiconazole

Source: STRI Australia 2017-2018
Lexicon Intrinsic Brand Fungicide
Outperforms on control of ERI - Spring Dead Spot (*Ophiostoma narmari*)
& Take-all Patch (*Gaeumannomyces graminis var avenae*).

![Graph showing disease control comparison between Lexicon, Azoxystrobin, and Propiconazole.]

**Legend:**
- Control
- Lexicon (1.5L/ha)
- Azoxystrobin + Propiconazole

**Initial Application:** Day 0
**Second Application:** Day 28 - Lexicon
Day 21 - Azoxystrobin + Propiconazole

Source: STRI Australia 2017-2018

Lexicon Intrinsic Brand Fungicide Outperforms on control of Fairy Ring (*various Basidiomycete fungi*).

![Graph showing disease control comparison between Lexicon and Flutolanil.]

**Legend:**
- Control
- Lexicon (1.5L/ha)
- Flutolanil

**Initial Application:** Day 0
**Second Application:** Day 28 - Lexicon
Day 21 - Flutolanil

Trial cut short due to renovations.
Lexicon applied at 1600L/ha water rate
Flutolanil applied at 4000L/ha water +soil wetter

Source: STRI Australia 2017-2018
Lexicon Intrinsic Brand Fungicide Outperforms On Control Of Pythium (Pythium sp.)

% disease cover

<table>
<thead>
<tr>
<th>DAY</th>
<th>Control</th>
<th>Lexicon (1.5L/ha)</th>
<th>Azoxystrobin + Propiconazole</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30</td>
<td>90</td>
<td>50</td>
</tr>
<tr>
<td>14</td>
<td>20</td>
<td>70</td>
<td>30</td>
</tr>
<tr>
<td>28</td>
<td>10</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>42</td>
<td>0</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>56</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
</tbody>
</table>

Initial Application: Day 0
Second Application: Day 28 - Lexicon
Day 21 - Azoxystrobin + Propiconazole

Source: STRI Australia 2017-2018

Lexicon Intrinsic Brand Fungicide Outperforms On Control Of Brown Patch

Infection % at Green-Up

Source: NC State University, Dr. J. Kerns and Lee Butler, 2015 - 2016

above: Pythium
Photo: Globe Turf Solutions

above: Brown patch
Photo: Dr. Henry Wetzel, Consultant
**Intrinsic** brand fungicides, for turf that’s healthy and fit

**Intrinsic** brand fungicides deliver optimal disease control and plant health benefits that improve turf fitness. These innovative fungicides maximise the photosynthesis process in turfgrass, leading to stronger, longer roots, greater growth efficiency and turf that recovers more quickly from stress. Your turf will have the resilience to bounce back from tough environmental conditions like heat, humidity and heavy play, as well as mechanical stresses like aeration.

**Lexicon Intrinsic** brand fungicide provides broad-spectrum control of 9* diseases, with up to 28 days of residual control. Wherever your region and whatever your challenges, **Lexicon Intrinsic** brand fungicide delivers quality that keeps disease in check and turf healthy.

**Lexicon Intrinsic Brand Fungicide**
**Provides Enhanced Coverage at Grow-In**

 Pixels are a measure of vegetative growth. A higher percentage indicates growth in sprigs versus bareground area. Source: BASF study. Dr. R. Keese, Dr. S. Anas, BASF Biology, RTP, NC. Consult label for full list of diseases controlled.
**Lexicon Intrinsic Brand Fungicide**

*Promotes Substantially Superior Root Length*

Root cores were analyzed with WinRhizo software in July 2013, two months following green-up and five months after the last application. Source: Clemson University, Dr. B. Martin, 2013.

**Lexicon Intrinsic Brand Fungicide Turf Quality**

Applications made on a 14-day interval. Source: University of Missouri, 2014.

*top to bottom:*

Root systems of turf treated with **Lexicon Intrinsic** brand fungicide (center), compared to those of untreated turf (at left) and turf treated with competitive fungicides at right.

Demonstrations conducted in a greenhouse under greenhouse conditions. All treatments were made at the manufacturer’s recommended labeled rates.
The Science Behind Intrinsic Brand Fungicides and Plant Health

**Night Respiration**
Treated with Intrinsic brand fungicides, lower levels of CO₂ are produced, energy and growth are redirected to the root system – resulting in an efficient and healthier plant.

**Improved root growth**

![Image of root growth comparison](image_url)

| Untreated | Treated with Lexicon after laying | Treated with Lexicon before and after laying |

Sycamore Hills GC Ft Wayne, IN

Longer, stronger roots.
Technical facts about **Lexicon Intrinsic** brand fungicide

- **Lexicon Intrinsic brand fungicide active ingredients**: fluxapyroxad 167g/L + pyraclostrobin 333g/L
- **Fungicide class**: Group 7 (SDHI) and Group 11 (Strobilurin)
- **Formulation**: Suspension concentrate (SC)
- **Packaging**: 500ml
- **Rate**: 1 - 1.5L/ha on 14-to 28-day intervals
- **Re-entry Period**
  
  *DO NOT allow entry into treated areas until the spray has dried.*
- **PPE**: wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length chemical resistant gloves

*above: Common use sites for **Lexicon Intrinsic** brand fungicide*
Lexicon Intrinsic brand fungicides.
Directions for use

RESTRAINTS
DO NOT apply by aircraft.
DO NOT apply by a vertical sprayer.
DO NOT apply if heavy rains or storms are forecast within 3 days.
DO NOT irrigate to the point of runoff for at least 3 days after application.
DO NOT apply where the slope exceeds 12%.
DO NOT apply to water-logged soil.
DO NOT apply more than a total of 6 L of Lexicon/ha/year.
DO NOT use this product through any type of irrigation system.

SPRAY DRIFT RESTRAINTS
Specific definitions for terms used in this section of the label can be found at apvma.gov.au/spraydrift.
DO NOT allow bystanders to come into contact with the spray cloud.
DO NOT apply in a manner that may cause an unacceptable impact to native vegetation, agricultural crops, landscaped gardens and aquaculture production, or cause contamination of plant or livestock commodities, outside the application site from spray drift. The buffer zones in the buffer zone table below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.
DO NOT apply unless the wind speed is between 3 and 20 kilometres per hour at the application site during the time of application.
DO NOT apply if there are surface temperature inversion conditions present at the application site during the time of application. These conditions exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.
DO NOT apply by a boom sprayer unless the following requirements are met:
• Spray droplets are not smaller than a COARSE spray droplet size category.
• Minimum distances between the application site and downwind sensitive areas are observed (see following table titled “Buffer Zones for Boom Sprayer”).

Buffer Zones for Boom Sprayers

<table>
<thead>
<tr>
<th>Application Rate</th>
<th>Boom Height Above the Target Canopy</th>
<th>Natural Aquatic Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to maximum label rate</td>
<td>0.5 m or lower</td>
<td>170 metres</td>
</tr>
<tr>
<td>1 L/ha or lower</td>
<td>0.5 m or lower</td>
<td>100 metres</td>
</tr>
<tr>
<td></td>
<td>1.0 m or lower</td>
<td>375 metres</td>
</tr>
<tr>
<td>SITUATION</td>
<td>DISEASE</td>
<td>RATE</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Turf</td>
<td>Brown Patch or Large Patch (Rhizoctonia solani)</td>
<td>1-1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Dollar spot (Sclerotinia homeocarpa)</td>
<td>1-1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Fairy ring (Basidiomycete fungi)</td>
<td>1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Fusarium patch (Microdochium nivale or Fusarium spp.)</td>
<td>1-1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Lepista spp.</td>
<td>1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Pythium blight, (Pythium spp.)</td>
<td>1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Pythium root dysfunction, (Pythium spp.)</td>
<td>1.5 L/ha</td>
</tr>
<tr>
<td></td>
<td>Ectotrophic Root Infecting Fungi (ERI) including: Spring Dead Spot (Ophiostoma narmari), Take-all patch (Gaemannomyces graminis f. sp. avenae)</td>
<td>1.5 L/ha</td>
</tr>
</tbody>
</table>

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THE LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION
For more information on Lexicon Intrinsic Brand Fungicide, visit crop-solutions.basf.com.au or call 1800 558 399