



# Echelon Duo Advanced

Herbicide + Insecticide & Fertiliser 15:1:17

*Multi-purpose granular formulation*

*providing season long weed and insect control*

## Product Overview

Echelon Duo Advanced Herbicide + Insecticide & Fertiliser features a unique combination of herbicide, insecticide and fertiliser technology for effective pre-emergent control of Summergrass (*Digitaria ciliaris*), Crowsfoot (*Eleusine indica*), Wintergrass (*Poa annua*) and Creeping Oxalis (*Oxalis corniculata*) and residual insecticide for control of African Black Beetle (*Heteronychus arator*), Argentinian Scarab (*Cyclocephala signaticollis*) and Billbug (*Sphenophorus brunnipennis*) in most turfgrass situations.

Echelon Duo Advanced Herbicide + Insecticide & Fertiliser contains 10g/kg Oxadiazon, 1g/kg Thiamethoxam and is coated on a 300SGN (3mm) dust free, homogenous granular fertiliser for uniform nutrient distribution resulting in sustained turf growth for a 4-8 week period. The fertiliser granule has a balanced Nitrogen (15%) to Potassium (17%) fertiliser ratio, with the addition of Phosphorus (1.6%) and a range of trace elements including Magnesium (1.8%), Sulphur (10%), Boron (0.02%), Iron (0.06%) and Zinc (0.01%).



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## Key Features

- > All in one solution. Pre-emergent herbicide, residual insecticide and turf fertiliser in one pass. Saves application time and associated costs.
- > Season long prevention for a range of weeds and insects. Protection up to 90 days.
- > The pre-emergent herbicide, Oxadiazon is a shoot absorbed pre-emergent herbicide, having the least amount of impact on the root system.
- > The residual insecticide Thiamethoxam provides improved bioavailability in soil at lower soil moisture levels – ensuring better movement and coverage as well as quicker performance over several other residual products.
- > Convenient and easy to apply through granular fertiliser spreaders.
- > Safer to handle and apply due to the low active ingredient concentrations.
- > Promotes a healthy turf response which increases competition from weeds and recovery from insect attack.

## Mode of Action

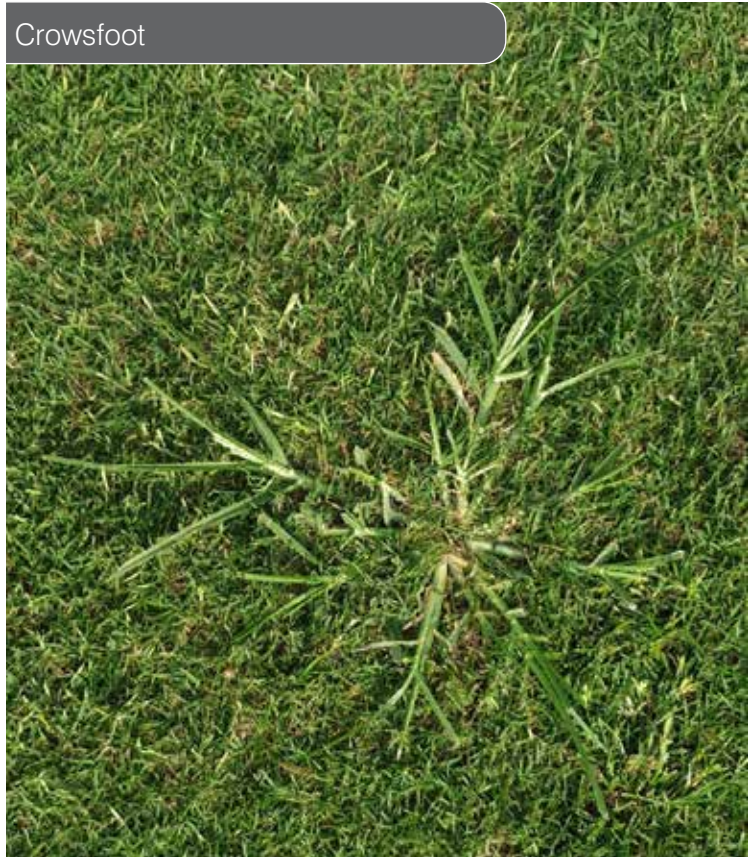
### GROUP 14 HERBICIDE

Oxadiazon, one active ingredient in Echelon Duo Advanced is a pre-emergent herbicide, which offers excellent residual performance on key turf weeds in all turf situations. Oxadiazon has a unique mode of action (Group 14) involving shoot absorption rather than root uptake. It interrupts chlorophyll production (a key component of photosynthesis) in the susceptible weed, destroying the new leaves of weed seedlings germinating in the treated soil. As chlorophyll is only in plant leaves, oxadiazon herbicide cannot impact on the root system of the desirable turf species.

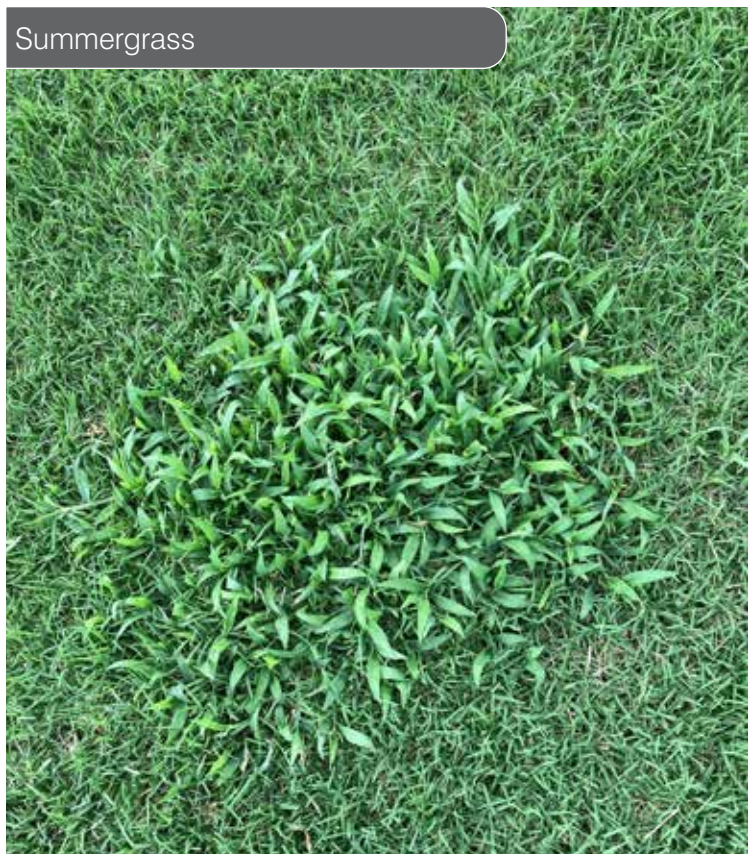
### GROUP 4A INSECTICIDE

Thiamethoxam, another active ingredient in Echelon Duo Advanced is a systemic insecticide. Thiamethoxam is readily taken up by the foliage and roots and further distributed acropetally (upwards in the plant). Target insects can be controlled by contact action in the soil or via stomach action by ingestion of the active ingredient when feeding on the treated plant material. Thiamethoxam works by blocking nicotinic acetylcholine receptors, preventing acetylcholine from transmitting impulses between nerves, resulting in the target insect's paralysis and eventual death. Upon ingestion, the target insect stops feeding quickly, limiting further plant attack.

Crowsfoot



Summergrass





## Echelon Duo Advanced – Use Rates & Label Recommendations

SITUATION	TARGET	TURF SPECIES	RATE	CRITICAL COMMENTS
Warm season turfgrass areas, including fairways, golf tees, municipal sports fields, industrial and commercial lawns	Pre-emergent control of Summergrass ( <i>Digitaria ciliaris</i> ), Crowsfoot Grass ( <i>Eleusine indica</i> )	Kikuyu ( <i>Pennisetum clandestinum</i> ), Buffalo Grass ( <i>Stenotaphrum secundatum</i> ),	300 kg/ha (3 kg/100 m <sup>2</sup> )	<p>The product is ready to apply. No mixing or dilution is required. Apply product evenly to dry foliage and bare areas using a granular spreader able to give even coverage. Application must be made before weeds have begun to germinate. Established weeds will not be controlled. After application water in with at least 10 mm of sprinkler irrigation. Control of germinating weed seedlings can be expected for up to 10 weeks after application depending upon temperature, rainfall, soil type and other factors. If longer control is required a repeat application should be made 7-10 weeks after initial application.</p> <p>DO NOT mow treated area until product has been watered in and turf foliage has dried. Avoid application when daytime temperatures are consistently above 32°C. This product is not recommended for use on putting greens, low cut tees or bowling greens.</p> <p>DO NOT apply on turf containing Carpet Grass (<i>Axonopus</i> spp.), Centipede Grass (<i>Eremochloa ophiuroides</i>) and Dichondra unless some damage is acceptable.</p>
	Pre-emergent control of Winter Grass ( <i>Poa annua</i> ), Creeping Oxalis ( <i>Oxalis corniculata</i> )	Common Couch ( <i>Cynodon dactylon</i> ), Hybrid Couch grass (Not Santa Ana) ( <i>Cynodon dactylon</i> , <i>C. transvaalensis</i> )	400 kg/ha (4 kg/100 m <sup>2</sup> )	
		Saltwater couch ( <i>Paspalum vaginatum</i> ), Queensland Blue Couch ( <i>Digitaria didactyla</i> ), Bahia grass ( <i>Paspalum notatum</i> ), Zoysia grass ( <i>Zoysia matrella</i> )		
	First instar larvae of African Black Beetle ( <i>Heteronychus arator</i> )		300 kg/ha (3 kg/100 m <sup>2</sup> )	<p>Apply prior to or at peak egg hatch, mid spring to early summer, or when small larvae are present. Irrigate with 6 to 12 mm of water commencing within 1 hour of application.</p>
	First and second instar larvae of Argentinian Scarab ( <i>Cyclocephala signaticollis</i> )			
	Larvae of Billbug ( <i>Sphenophorus brunnipennis</i> )			
				<p>Monitor adult activity through late spring and early summer. Spray when numbers peak or when small larvae (4 mm) are found in the thatch or surface soil. Early application is essential to minimise grass damage due to feeding. Irrigate with 6 to 12 mm of water commencing within 1 hour of application.</p>



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## Maximising performance

- > Avoid application when the turf foliage is wet. Apply to a dry leaf to reduce potential of plant damage.
- > Do not use on putting greens, low cut tees or bowling greens.
- > Avoid application to newly seeded turf areas. The pre-emergent may impact on seed germination.
- > Avoid application to fairways / turf surfaces adjacent to natural water bodies.
- > Avoid application if heavy rains or storms are forecast within 3 days.
- > Apply using a properly calibrated granular applicator which will apply the granules in a uniform pattern. Uniform application is essential for satisfactory weed control. Spreader settings for Scott's Accupro, Scott's R8A, Spyker and Vicon are outlined on the label. As each individual spreader varies, therefore use these settings as a guide only.
- > Ensure turf area is free of leaves and other debris, mowing if necessary, so that the granules reach the soil surface. Delay reseeding of Ryegrass or Bentgrass into treated areas for 4-5 months (Ryegrass 4 months & Bentgrass 5 months).
- > Avoid mowing treated area until product has been watered in and turf foliage has dried.
- > After application water in with at least 10 mm of sprinkler irrigation. Control of germinating weed seedlings can be expected for up to 10 weeks after application depending upon temperature, rainfall, soil type and other factors. If longer control is required a repeat application should be made 7-10 weeks after initial application.
- > Avoid application when daytime temperatures are consistently above 32°C.
- > Do not apply on turf containing Carpet Grass (*Axonopus* spp.), Centipede Grass (*Eremochloa ophiuroides*) and Dichondra unless some damage is acceptable.

Billbug



## About Us

Indigo Specialty Products is a privately-owned business, formed and owned by a small team of industry professionals with extensive experience in manufacture, distribution, development and product registration. We are a business focused on production & supply of plant protection, pest control, plant nutrition, soil, water management & biological products. Specialising in Australasian non-crop and niche horticultural markets, including Turf & Amenity, Nursery Production, Industrial Vegetation Management, Forestry, Pest Control and Consumer Home Garden & Pest Management.



## Formulated in Australia

Our goal is to manufacture the Indigo product ranges in Australia as much as possible, where we can oversee product quality processes, whilst allowing us the flexibility to modify products to overcome ever changing challenges. Our ProForce and HydroForce range of products will be formulated in Australia using imported materials. Our Xcel Fertiliser and BioForce Biological range will be manufactured in Australia to the highest possible standards.



## Developed & Researched for local conditions

We are heavily focused on local research and development to ensure our products perform at their peak in the Australian markets. We actively invest in field trial research programs and modify our formulations to match the local conditions of the key markets in which we operate to maximise performance.



## Focused on Specialty markets

We strive to be relevant in our core markets, by adding value via overcoming issues and obstacles that are present in the markets we operate within. We do this by focusing on control of key pests or diseases or by solving key management issues that our valued end user customers have. We also strive to be active in the core markets in which we operate by working closely with our allied distributor network, offering support, service and advice where required.



## Diagnostic Services

We offer a complete diagnostic services package, known as TechForce, designed to evaluate and identify key agronomic problems, so we can be better informed in recommending products for the specific situation. We also believe that by offering these services, our customers and users of our products can evaluate performance of the portfolio in a quantifiable and scientific approach. We use some of Australia's leading laboratories in delivering results for our services including PhoySn Analytical, Westgate Labs, Botanic Research, Biological Crop Protection and Royal Botanic Gardens.