FERREX®

SLUG-LENTILS®

FERREX® - THE PRODUCT INNOVATION BASED ON THE NATURAL ACTIVE INGREDIENT FERRIC-III-PHOSPHATE, INCLUDED IN THE INTERNATIONALLY KNOWN, PROVEN AND PATENTED SLUG-LENTIL-BAIT-TECHNOLOGY FOR THE SUCCESSFUL CONTROL OF SLUGS IN A RANGE OF OUTDOOR ARABLE AND HORTICULTURAL CROPS. THE ACTIVE INGREDIENT FERRIC-III-PHOSPHATE CONTAINED IN FERREX® IS A NATURAL SUBSTANCE WHICH IS PARTICULARLY ECO-FRIENDLY AND IS CONSIDERED HARMLESS AGAINST WILDLIFE, SUCH AS HEDGEHOGS, BIRDS, SMALL MAMMALS, EARTHWORMS, GROUND BEETLES, FISHES AS WELL AS FARM ANIMALS AND PETS (DOGS & CATS). FERREX® IS ALSO AUTHORIZED IN ACCORDANCE WITH REGULATION (EC) NO. 834/2007 FOR USE IN ORGANIC FARMING.

FERREX® is manufactured with the patented **SLUG-LENTILS®**-technology and is a unique **LENTIL-BAIT-formulation** that has proven to be highly attractive and successful for many years against slugs with the active ingredient metaldehyde and is now also available under **FERREX®** with the active ingredient FERRIC-III-PHOSPHATE to the agricultural sector. The premium quality wheat raw materials in the **FERREX®-formulation,** combined with the patented lentil bait extrusion production process, give **FERREX®** excellent slug attractiveness, assuring its uptake of active ingredient and leading to successful slug control. **FERREX®** has been officially tested and approved with an application rate of only 6 kg / ha and achieves a surface coverage of **60 – 66 SLUG-LENTILS®** per m², which should not be reduced for successful slug control. **FERREX®** with the **SLUG-LENTILS®-bait quality** is dust-free, rain- and moisture-stable for several days, ensures the highest possible user safety during application due to the absence of dust and keeps the attractiveness for many days based on the rain and moisture stability. For the control of slug damage in a range of outdoor arable and horticultural crops. **The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.**

IMPORTANT INFORMATION

FOR PROFESSIONAL USE ONLY AS A PROFESSIONAL MOLLUSCICIDE

Crop	Maximum individual dose (kg product/ha)	Maximum total dose (kg product/ha per year)
Ornamental plant production	6	30
Grassland (newly sown)	6	30
Strawberry	6	30
Bulb onion, garlic, salad onion, shallot	6	30
Aubergine, courgette and summer squash, gherkin, melon, sweetcorn, winter squash and pumpkin	6	30
Broccoli/calabrese, Brussels sprout, cabbage, cauliflower, choi sum, collard, kale, kohlrabi, oriental cabbages	6	30
Basil, chives, coriander leaves, edible flowers, lamb's lettuce, lettuce, mint, parsley, red mustard, rocket, rosemary, spinach, spinach beet, thyme	6	30
Beans without pods - fresh, broad bean - fresh, dwarf French bean, edible podded pea, runner bean, vining pea	6	30
Asparagus, cardoon, celery, Florence fennel, globe artichoke, leek, rhubarb, seakale	6	30
Beans without pods - dry, chick pea (outdoor), combining pea, field bean, lupin, soya bean – dry (outdoor)	6	30
Linseed, oilseed rape, poppy, sunflower	6	30
Barley, durum wheat, grain maize, oats, rye, triticale, wheat	6	30
Sugar beet	6	30
Fodder beet, forage maize	6	30
Other specific restrictions: A minimum interval of 7 days must be observed between applications. For outdoor use only, not for use on protected crops.		

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

CLASSIFICATION AND LABELLING ACCORDING TO REGULATION (EC) NO. 1272/2008

HAZARD STATEMENTS:
H319 Causes serious eye irritation.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

PRECAUTIONARY STATEMENTS:
P101: If medical advice is needed, have product container or label at hand.
P102: Keep out of reach of children.
P280: Wear protective gloves/clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists: Get medical advice/attention.
P501: Dispose of contents / container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

SAFETY PRECAUTIONS

OPERATOR PROTECTION:
Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
Operators must wear suitable protective gloves when handling the product.
However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

ENVIRONMENTAL PROTECTION:
Do not contaminate water with the product or its container.

DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the product label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

PESTS CONTROLLED:
FERREX® is attractive to slug species that damage plants. It should be applied to protect emerging seedlings and to decrease leaf or fruit damage.

CONTENT: 18 KG

CROP SPECIFIC INFORMATION:

Crop/Situation	Dose rate	Time of application	Max number per season	Interval between applications
Field crops	6 kg/ha	Apply as soon as damage is seen or indicated by slug trapping. For some crops, e.g. cereals and oil-seed rape, where slug activity is present prior to crop emergence, it is advised to treat the crop before emergence and after seed bed preparation is complete.	5	7 days
Vegetables	6 kg/ha	Apply as soon as damage is seen or indicated by slug trapping.	5	7 days
Grasslands (newly sown)	6 kg/ha	Apply as soon as damage is seen or indicated by slug trapping.	5	7 days
Strawberries	6 kg/ha	Apply as soon as damage is seen or indicated by slug trapping.	5	7 days
Ornamentals	6 kg/ha	Apply as soon as damage is seen or indicated by slug trapping.	5	7 days

FOR USE ON OUTDOOR CROPS ONLY. Controls slugs feeding on the soil surface in crops of vegetables, fruit and ornamentals grown outdoors, reducing damage during plant emergence and lower leaf damage. Damage caused by sub-surface activity to underground plant parts such as potatoes, carrots and other roots, tubers, bulbs, corms and rhizomes etc. may not be reduced. Similarly, damage caused to aerial plant parts such as flowers or Brussels sprout buds etc. may not be reduced. Use in grassland is during the establishment period only. In hops applications must only be made between cutting and 75 cm in height. When used on ornamental plants, it is advisable to test for compatibility and tolerance to crop injury prior to full scale commercial use. Application timing should be based on likely pest presence and the part of the crop attacked by the pest, e.g. seeds, seedling plants or harvestable produce. A repeat application may be required if pest pressure remains high. Leave a minimum interval of 7 days between applications.

RESTRICTIONS/WARNINGS: Due to the mode of action of FERREX®, no excessive slime secretions will be evident on or around the crop, the slugs retreat underground to die, and dead slugs will not be visible on the soil surface. Effectiveness should therefore be measured by the decreased feeding damage to the crop. Late application of pellets to broad-leaved plants may result in lodging of the pellets in foliage. Care should be taken to avoid this when making applications to edible crops, e.g. lettuce and cabbage. In cabbage and cauliflower apply prior to hearting or curd formation. AVOID application if heavy rain is expected, as this may reduce effectiveness of the pellets.
Best results are obtained when slugs are actively feeding, generally following a period of light rain in mild conditions. Where a heavy attack is likely to occur, re-apply 2-3 weeks later or whenever slug trapping shows it to be necessary (minimum interval 7 days).

APPLICATION TECHNIQUE: Uniform application by hand or equipment (e.g. fertilizing machine). The product should be spread evenly over the crops or between the cultivated plants. Care should be taken to avoid any heaps. Take care to ensure granules do not remain lodged within foliage, floret or other parts of the plants. Calibrate all equipment before use. In cases of high infestation, it may be necessary to repeat application after a minimum of 7 days to achieve optimal control.

SLUG TRAPPING: To establish the need for pellet application on winter wheat or winter oilseed rape, monitor for slug activity. Where bait traps are used, use a foodstuff attractive to slugs, e.g. chicken layers' mash, which has proven to be particularly effective.
For further information on slug control and damage risk assessment, please refer to the AHDB Information Sheet 02 (integrated slug control) which can be found at www.ahdb.org.uk/slugs.

ACTIVE INGREDIENT: 25 g/kg (2.5% w/w) anhydrous ferric phosphate present as 31 g/kg (3.1% w/w) hydrated ferric phosphate

FORMULATION TYPE: Granular bait
Local rules may differ in application or interpretation, so growers must consult certifiers, produce buyers or processors before use in organic systems.

CONDITIONS OF SUPPLY: Goods supplied by us are of high quality and are believed to be suitable when used in accordance with our directions for use. As we cannot exercise control over their mixing or use, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded. No responsibility can be accepted for any damage or injury whatsoever arising from their storage, handling, application or use.

FERREX® and Slug-Lentils® are registered trademarks of frunol delicia® GmbH.
European Patent No. 1 432 306 | Design: 4 01 08 884.7

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Sipcam UK Ltd.
4C Archway House, The Lanterns,
Melbourn Street,
Royston, Herts, SG8 7BX
For Technical Support and Guidance call 01763 212100 or visit www.sipcamuk.co.uk

Approval holder/Marketing company/Producer:

frunol delicia® GmbH
Hansastrasse 74 b
D-59425 Unna
info@frunol-delicia.de

Dübener Strasse 145
D-04509 Delitzsch
www.frunol-delicia.de

6787-46020030

FERREX®

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Product Name:	Ferrex Slug Lentils
	MAPP 19138
Active Ingredient:	2.5% anhydrous ferric phosphate (3.1% hydrated form)
Shape of Bait:	Lentil
Application Rate:	6 kg/ha
Number of Applications:	max. 5 X 6 kg/ha (7 day interval)
Baiting points/m2:	60
Crops:	See label
Harvest Interval:	0 days
Packaging:	18 kg bag (3 ha pack)

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Ferrex Lentil performance is based on proven pellet characteristics

- Produced by a patented extrusion process; uniform in shape, size and weight
- No dust when handling or during application
- No breakage of baits during application
- Resistant to rain, moisture and mould
- Proven spreading characteristics
- Stable colouring even in wet conditions
- Highly attractive + palatable baits > fast acting (even after longer periods on the soil)
- Slim biting edge allowing rapid uptake even by small juvenile slugs

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Practical tips for getting the best from your slug baits :

- Monitor in the previous crop, after harvest, before seeding…
- Timely initial application (right after seeding and rolling) is key!
- Ongoing monitoring of remaining slug baits (choose a bait with stable color)
- Re-Apply as long as baits keep disappearing (keep 7-days interval)
- Use full dose rate to get a maximum of baiting points per m^2
- Apply using adequate equipment; look for coverage, not for spreading width!

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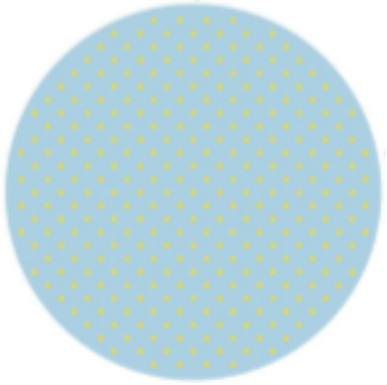
Pellet performance depends on quality manufacturing process



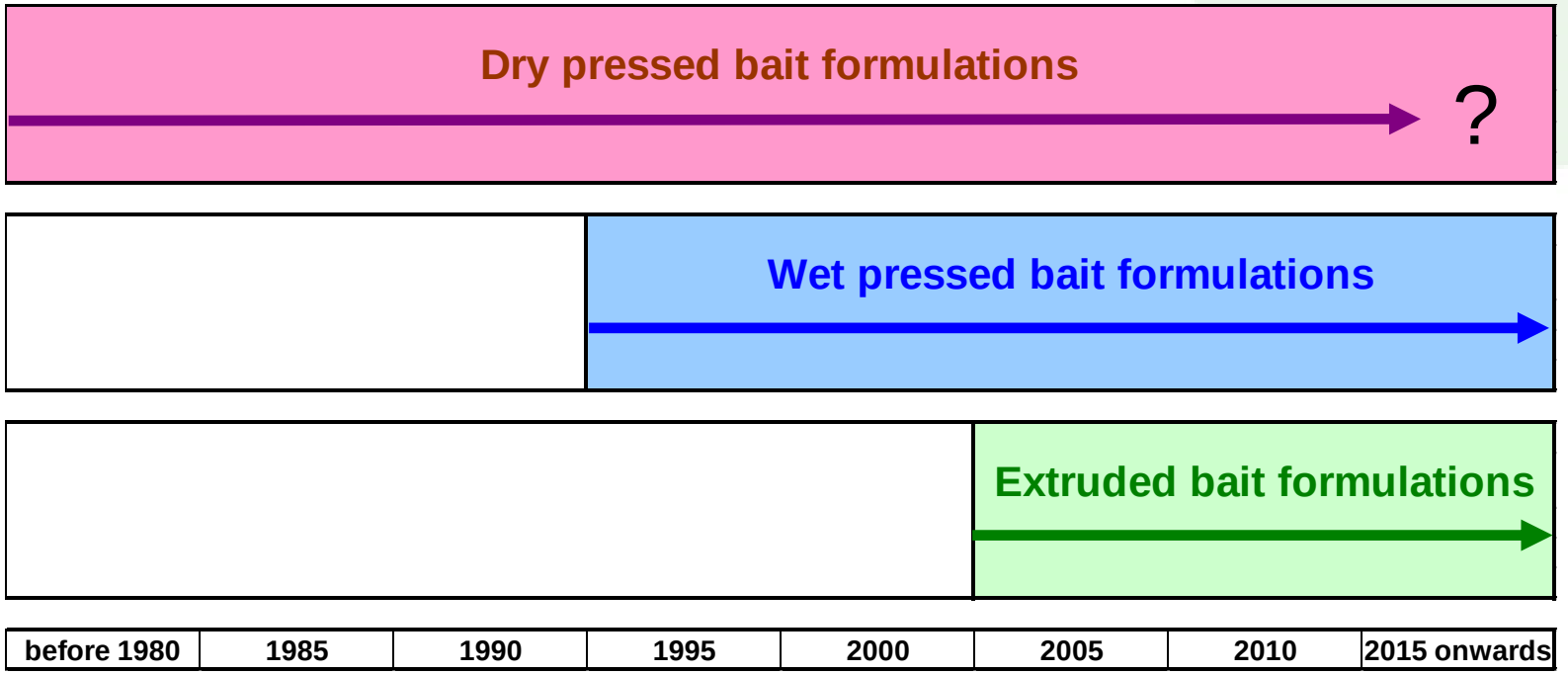
Evolution of Molluscicide Formulations

Three principle types of manufacturing technologies

- Dry (steam) pressed products
- Wet pressed products
- Extruded products

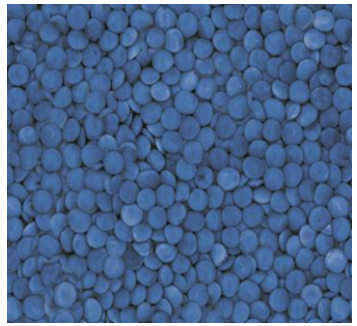
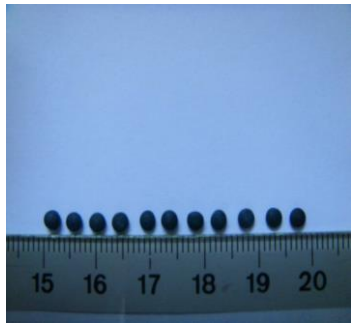
<u>“Common Principle”</u>

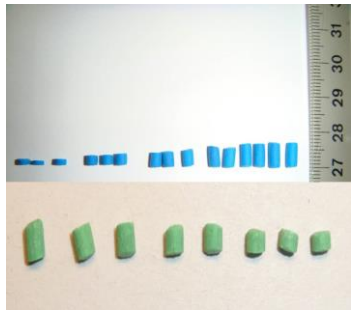
The food matrix and the A. I. are blended irreversibly to form the bait.



Pellet performance depends on quality manufacturing process

Production Method	Ingredients	Pellet Uniformity
Extruded Bait	**Sticky Paste**	**Very Uniform size & shape**
Wet Pressed Bait	Dry material + Moisture	Varying uniformity
Dry Pressed Bait	Dry materials	Not uniform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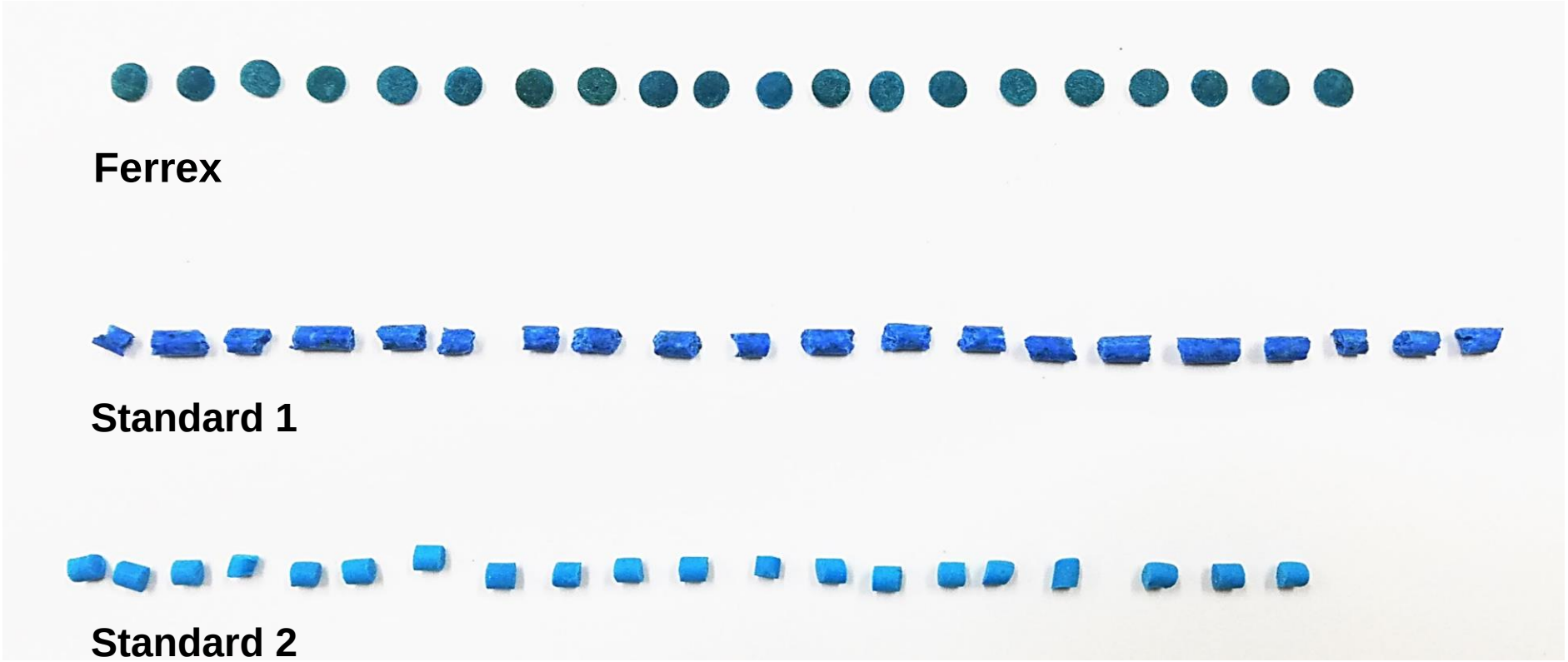
Precision manufacturing ensures slug pellet uniformity



	Anhydrous ai	Hydrated ai
Ferrex	25 g/kg	31 g/kg
Standard 1	29 g/kg	37 g/kg
Standard 2	23.9 g/kg	29.7 g/kg

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Pellet performance depends on quality manufacturing process

Potential Dust Issues:

- **Dust "clouds" = No spread!**
  - **AI uncontrolled release on fields, road etc**
- **Machine and operator contamination**
- **Weak baits break at application/filling leads to AI losses**
  - **Difficult to calibrate, achieve good coverage & spread**
- **Reduction in efficacy**
  - **Slugs do not feed on small particles**
  - **Uneven application**

Breakage Potential	Dust Potential	Production Method
No/Very low	No/Very low	Extruded Bait
Low/Medium	Low / Medium	Wet Pressed Bait
Very High	Very High	Dry Pressed Bait

Ferrex lentils retain their colour even in extreme conditions

A comparison of Ferric Phosphate slug pellets under 24 hours simulated wet (rainfall) conditions

Ferrex lentils have excellent stability and moulding characteristics

Ferrex Lentils after 7 days of irrigation

Ferrex Lentils after 21 days of irrigation

Competitor Product after 3 days

Efficacy Check after 21 days (350 DERORE/m²)

Day (DAT)	Plant damage % leaf surface	Slug mortality in %
1	11	0
2	15	40
3	15	50
4	15	70

FD trial, 2009

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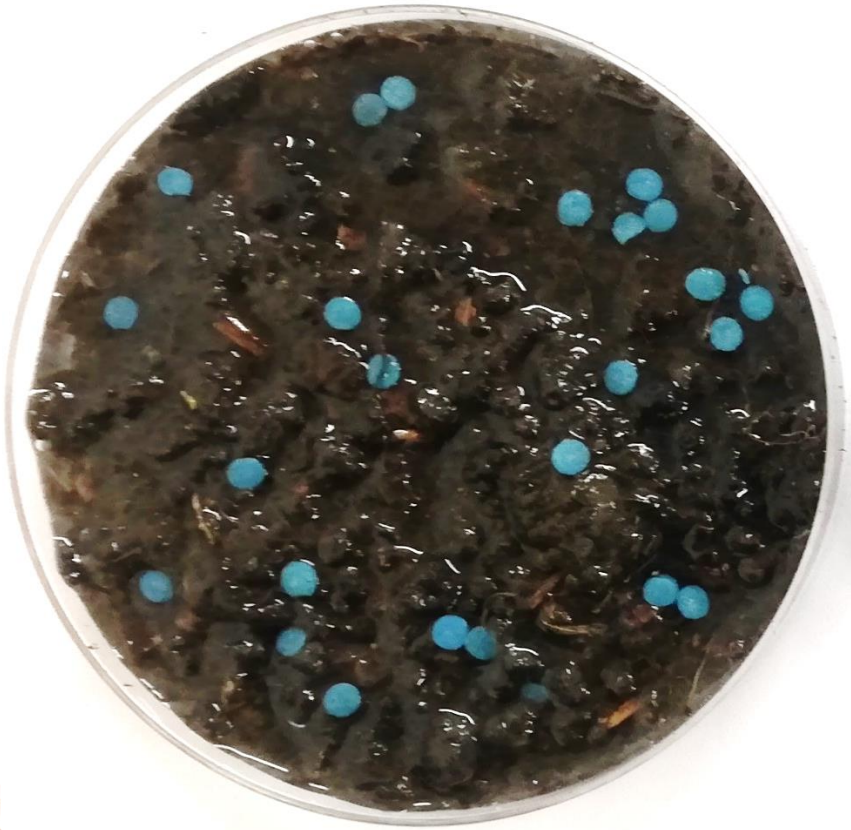
Ferrex exhibits excellent mould resistance against market standards

0 day



Ferrex

Standard 1

Standard 2

A comparison of Ferric Phosphate Slug Pellets under moist conditions on unsterilized soil at room temperature

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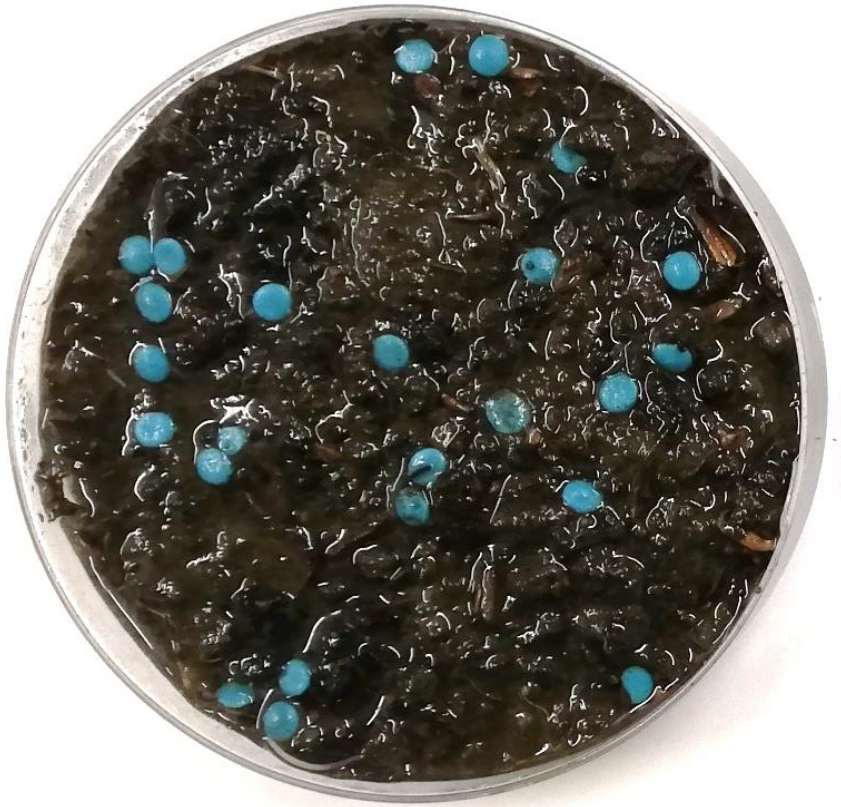
Ferrex exhibits excellent mould resistance against market standards

2 days



Ferrex

Standard 1

Standard 2

A comparison of Ferric Phosphate Slug Pellets under moist conditions on unsterilized soil at room temperature

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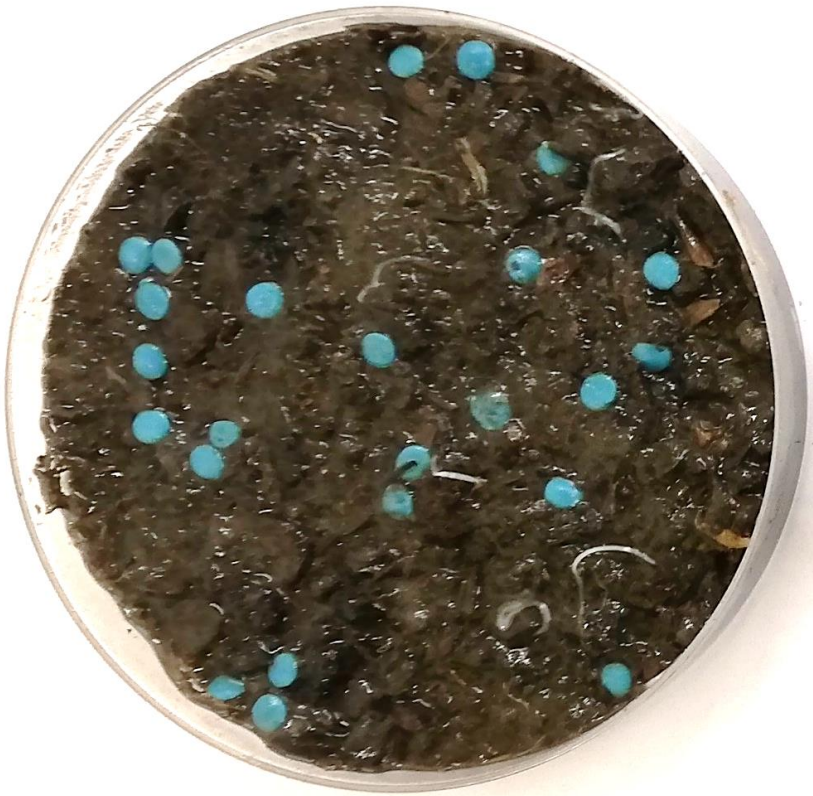
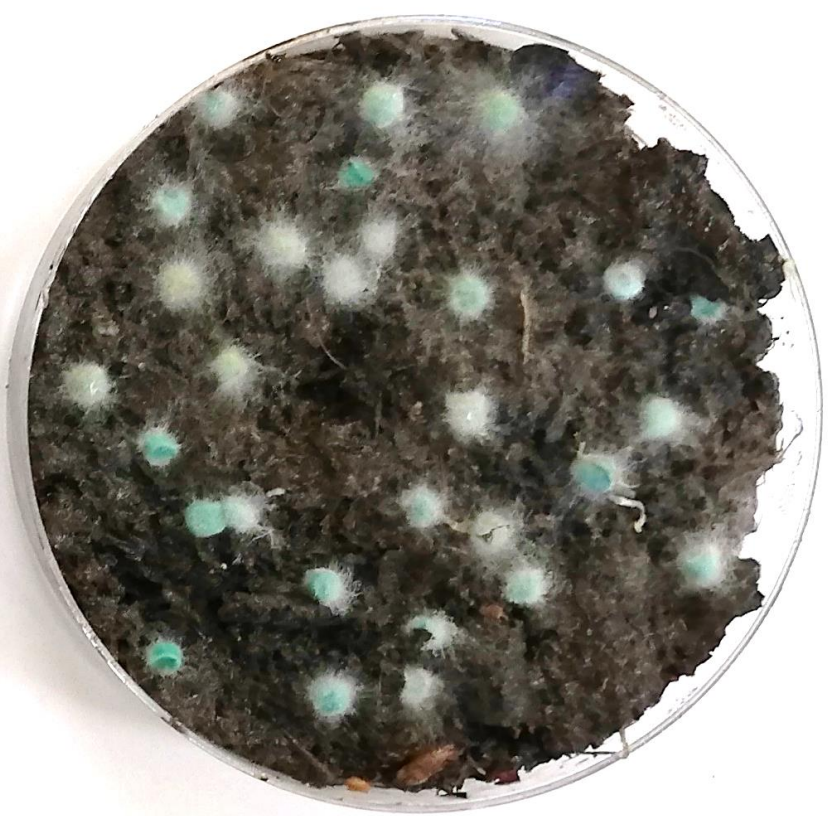
Ferrex exhibits excellent mould resistance against market standards

5 days



Ferrex

Standard 1



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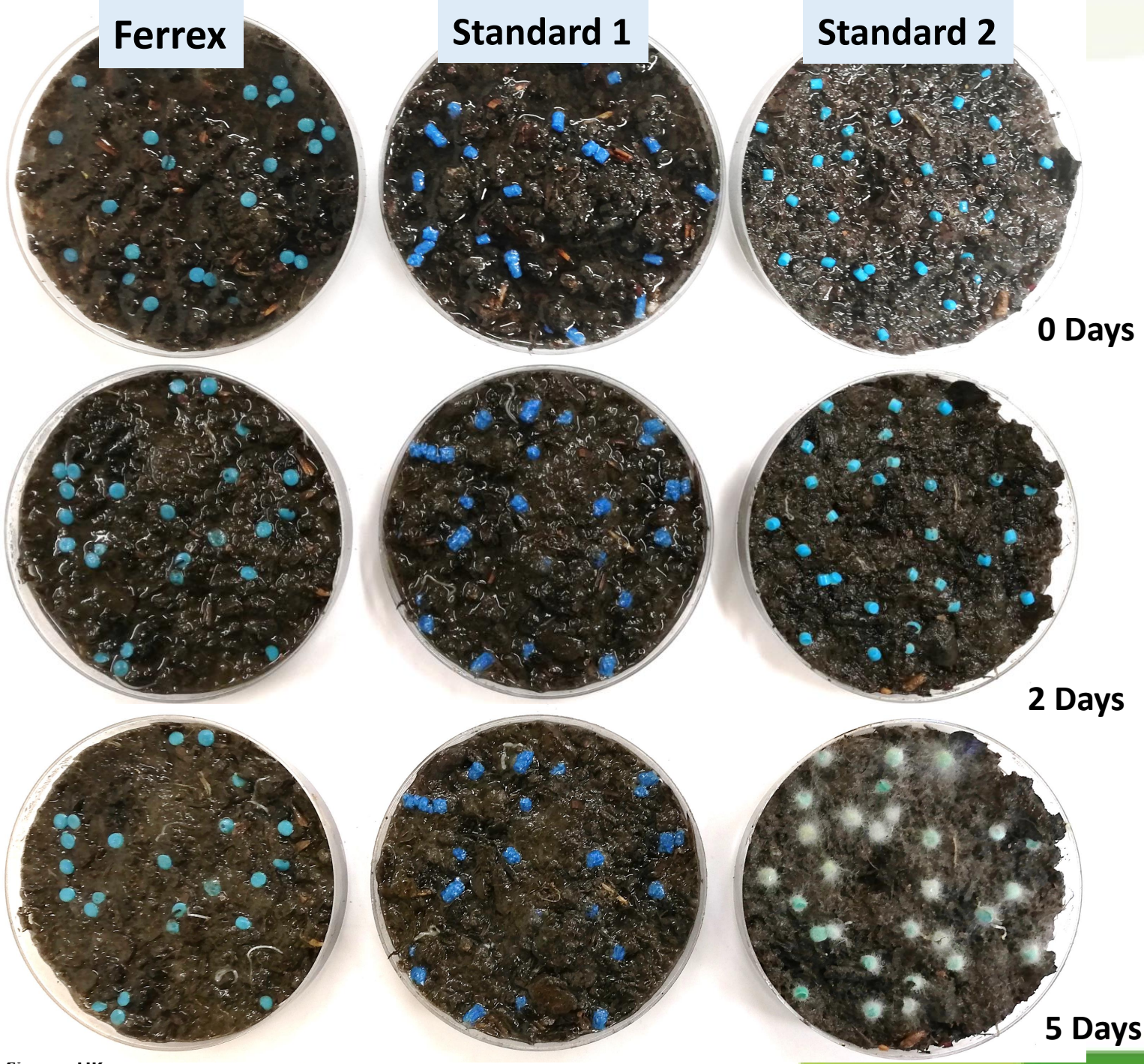
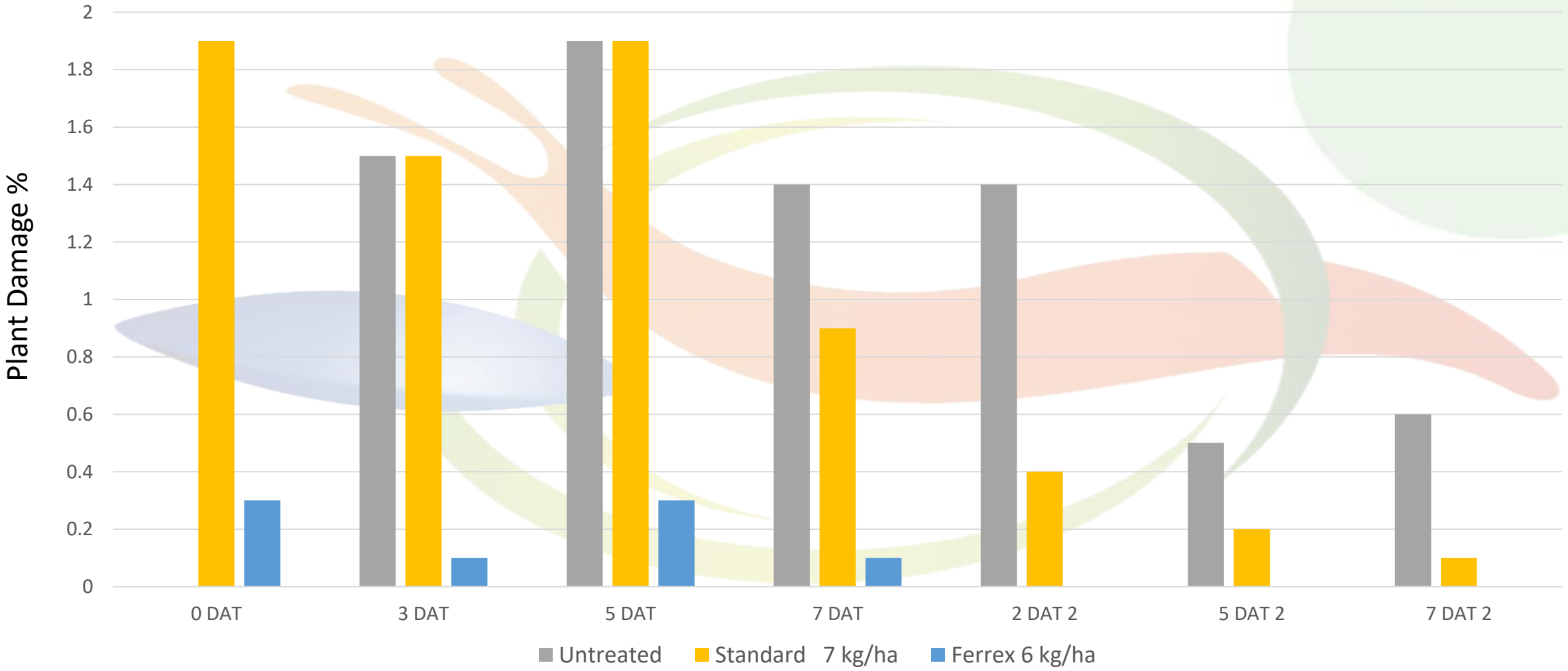


Ferrex exhibits excellent pellet characteristics

- Resistance to rain, moisture and mould
- Stable colouring even in wet conditions

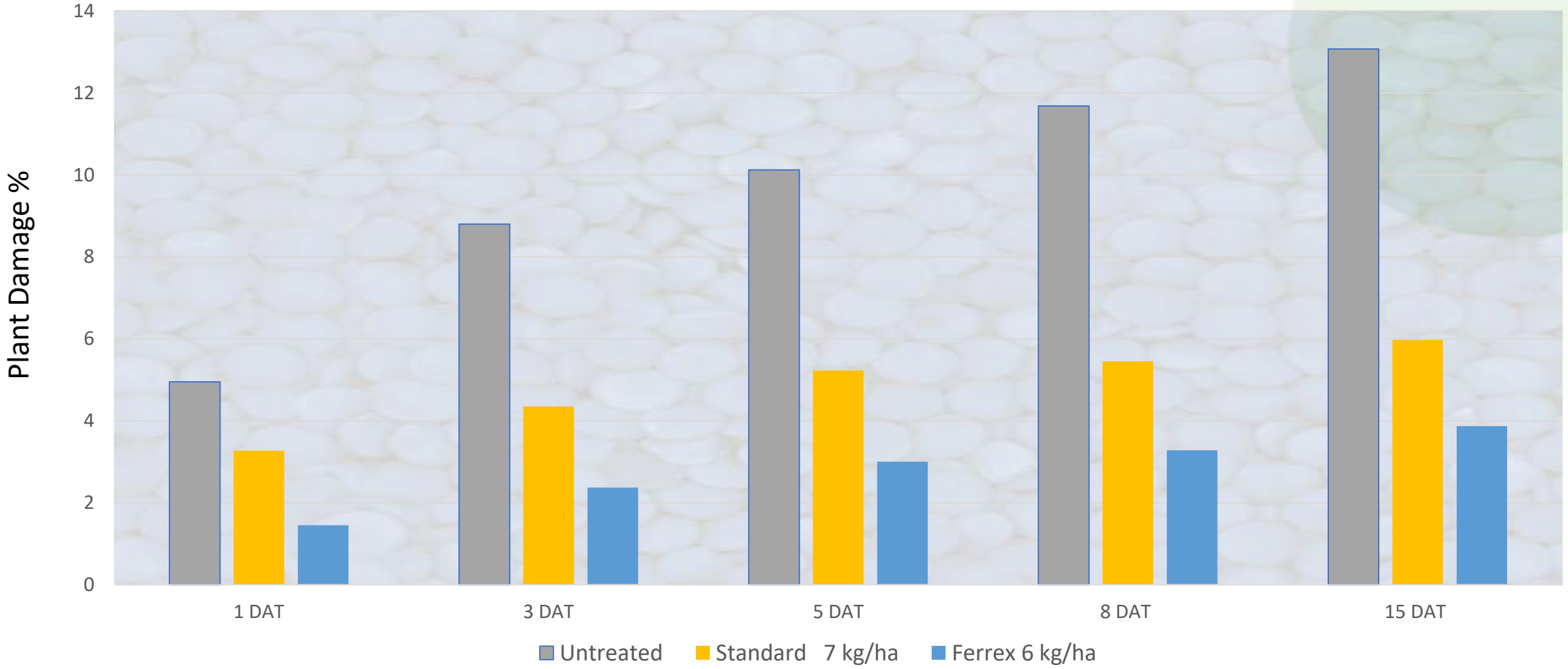
Ferrex slug lentils outperform market standards



NIAB/TAG Herefordshire UK, **Winter Wheat** n=1 Application 1: 15th October, Application 2: 22nd October

Sipcam UK All Trade Marks recognised

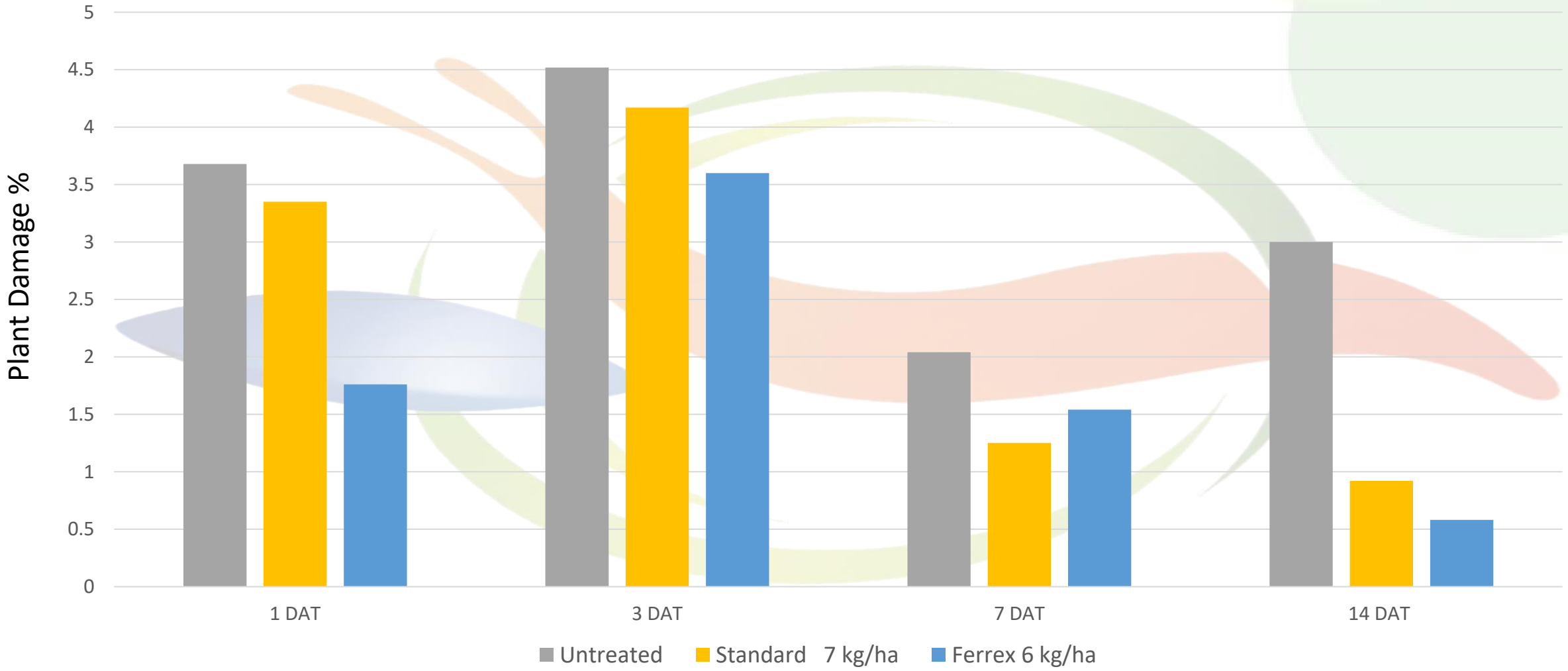
Ferrex slug lentils outperform market standards



Independent Research Organisation Cheshire UK, **Spring rape** n=1 Application 1: 17th June

Sipcam UK All Trade Marks recognised

Ferrex slug lentils outperform market standards



Independent Research Organisation Leicestershire**,** UK, **Spring barley** n=1 Application 1: 24th June

Sipcam UK All Trade Marks recognised

Application information

Calibration testing was carried out by SCS to NSTS Standards for 5 of the most common used machines .

Please see application summary on www.ferrex.tech

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Photographs by permission of SCS Spreader & Sprayer Testing Ltd

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