

EDEN

THE NATURAL SOLUTION

Eden Research plc 2022 Prelims

May 2023



Eden Research plc is an AIM-quoted company focused on sustainable biopesticides and plastic-free encapsulation technology for use in the global crop protection, animal health and consumer products industries.



About us

Eden is the only UK quoted (AIM: EDEN) company focused on biopesticides for sustainable agriculture

- Intellectual property and expertise in plant-derived sustainable chemistry and delivery technologies
- Proven products
- Multiple regulatory clearances
- Strategic partnerships
- Two products commercially available

Our partners



EASTMAN

Elanco



Key statistics

Consumer products

19
Countries have granted product authorisation

Crop protection

66
Crop use approvals for Eden's biopesticides

Animal health

£16m+
Invested in IP & registrations

130
Granted and pending patents

Industry applications

We work globally through multi-national and local partnerships to develop and launch solutions for challenges facing three key industries.



Consumer products

- Head-lice treatment
- Deodorants
- Odour neutralisers
- Fragrances

\$50+bn



Crop protection

- Foliar disease & insect control
- Open field & greenhouses
- Soil pests
- Post harvest shelf-life extension
- Seed treatments

\$58bn



Animal health

- Shampoos/Conditioners
- Skin disease control
- Otic flush
- Flea & tick control

\$33bn

Estimated addressable market size




The Drive Towards Sustainable Agriculture

Farming practices which maintain yields while increasing benefits for the environment

A reflection of society's increasing concern about the world's approach to food production and healthy eating

Embracing farming practices that mimic natural ecological processes

A win-win for farmers and the environment


By 2050, global food systems will be responsible for feeding more than nine billion people



Eden formulations are well suited for a wide range of crop protection applications. The fact that our Sustaine[®] encapsulation technology is completely free from microplastics is just one of the elements that makes them stand out in this rapidly evolving market.

Sean Smith
CEO, Eden Research plc

Significant Market Potential

Crop protection products **formulated with Sustaine[®] and Eden's active ingredients** can help address many of these issues:



Consumer concerns over food safety



Increasingly challenging regulatory requirements



Farmers seeking effective alternatives

\$11bn

The global biopesticides market is projected to be worth more than **\$11 billion by 2027**

15% per annum

The biopesticides market is growing at a CAGR of approximately **15% per annum**

\$300m

Increasing time and cost of bringing new agrochemical products to market: **10 to 12 years and around \$300 million**



2022 Financial Highlights

	2022 audited	2021 audited
Revenue	£1.8m	£1.2m
Product sales revenue	£1.6m	£1.1m
Other revenue	£0.2m	£0.1m
Loss before tax	£2.6m	£3.4m
Cash	£2.0m	£3.9m

Notes:

- Revenue for the year increased by approximately 50% to £1.8m, £0.1m, or 6%, ahead of market expectations of £1.7m (FY2021: £1.2m)
- Product sales increased by approximately 45% to £1.6m, £0.2m, or 21%, ahead of market expectations of £1.4m (FY2021: £1.1m)
- Loss before tax was £2.6m, £0.5m, or 19%, ahead of market expectations of £3.1m loss (FY2021: £3.4m loss)
- Cash position at the year-end was £2.0m, £0.2m, or 9%, below market expectations of £2.2m (31 December 2021: £3.9m)

Product sales growth

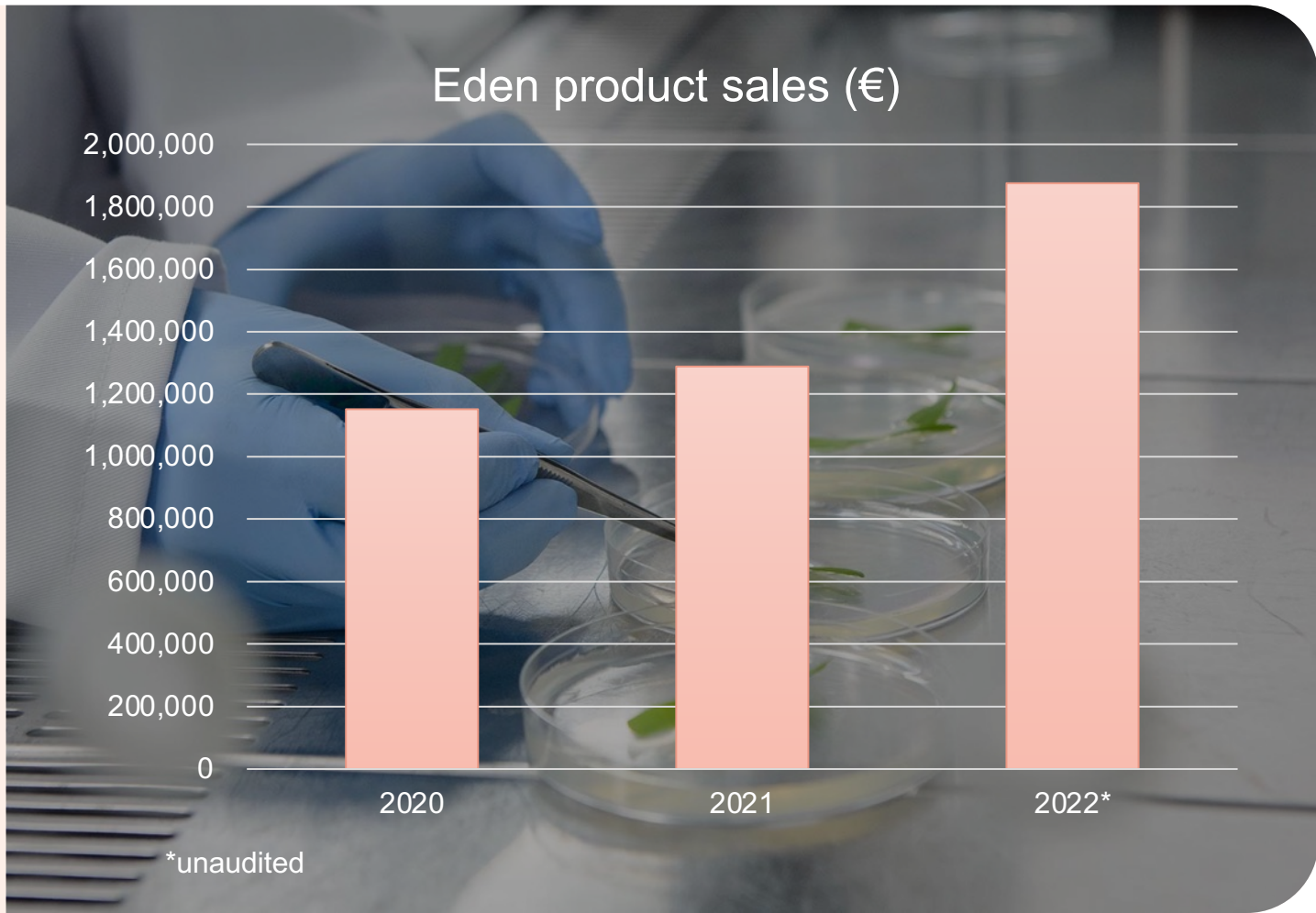
Eden product sales 2020 - 2022

Sales of Mevalone made by our distribution partners in the same period reflect a positive overall trend driven by the addition of new territories (e.g. Australia) and label expansions (e.g. Spain).

Following low growth in 2021, there has been a significant increase in product sales in 2022 of c. 45%, **far exceeding industry estimates of 12% growth during the same period.**

We expect to see further strong sales growth in 2023 even when only considering the countries in which we currently have approval.

Growth is anticipated at both the producer level (Eden) and distributor level (Sipcam, et. al.).



2022 Non-Financial Highlights

- US EPA national approval received for Mevalone®, Cedroz™ and three active ingredients in September 2022
- Initial US state approvals received before year-end with additional approvals expected in 2023
- First sale of Mevalone to Sipcam Agro USA made in December 2022 in support of commercial sales in 2023, subject to state approvals
- Corteva France appointed as exclusive distribution partner for Mevalone in France; a key growth opportunity

Innovation Capacity

Development of in-house R&D – reduces dependency on 3rd parties, CROs, etc.

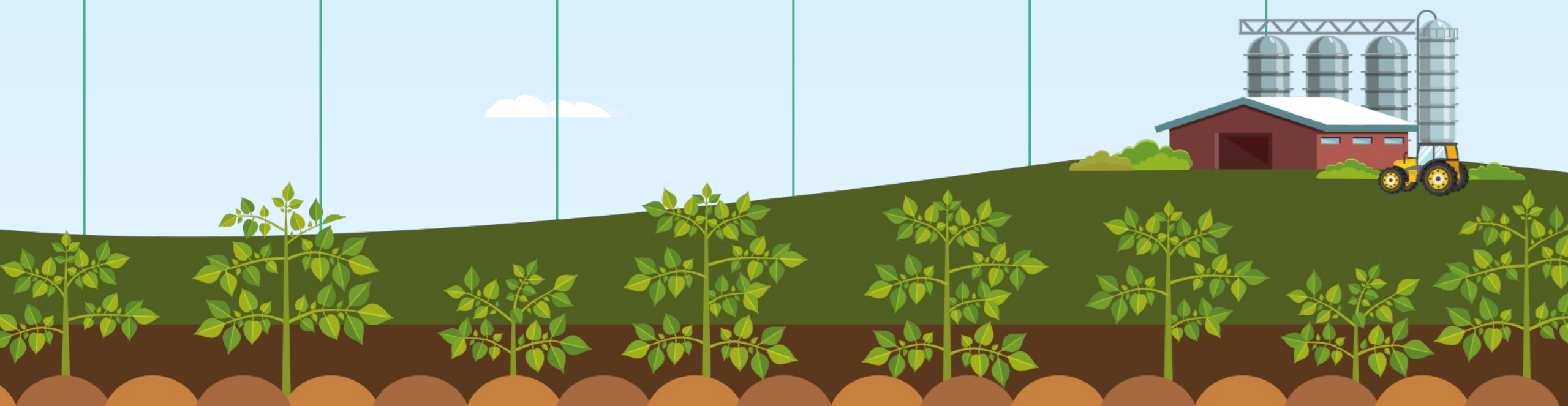
In-house capabilities now include formulation, microbiological screening, plant and seed evaluations and analytical work.

Laboratories are now GLP-ready and operating to this standard adding credibility and opportunities for cost savings and revenue generation.

Costs partially offset by reduced external spend on CROs, significantly reduces development cycle time, enables new IP development.

Progress is being made on the potential benefits of the second-generation encapsulation technology licensed in from University of Massachusetts Medical School.

The Company's patent portfolio, including new patent filings, is managed by D Young & Co.



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Strategy and Investment Case



Our Strategy



Business line diversification

- Pursuit of opportunities in seed treatments
- Development of insecticides
- Ongoing work with Elanco Animal Health to launch new products
- Expand crops and diseases treated
- Geographic diversification (seasonal and climate variation)



Research, development and operations

- Supply chain optimisation
- Expansion of in-house screening and field trials capability
- Accelerate commercialisation of Sustaine® for conventional actives
- Increasing self-reliance for R&D
- Reduce time to market



Commercial growth

- Regulatory clearance in new countries, crops and diseases
- Accelerate Sustaine® development
- Partnerships for Mevalone® in new territories
- Pursue collaboration with majors and select national partners
- Route to market optimisation

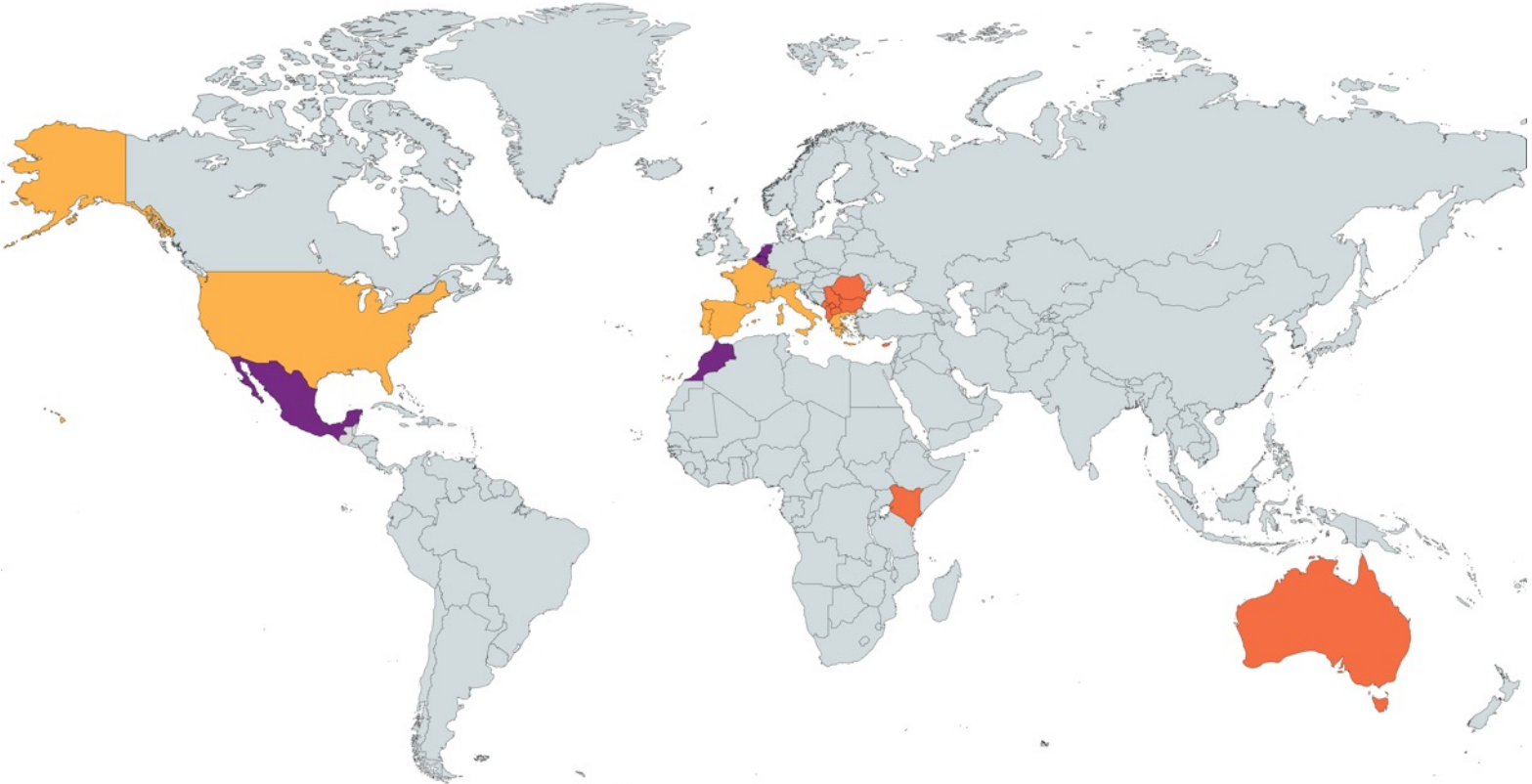


Strengthening and growing the team

- Added capacity in R&D, including microbiology, plant biology, agronomy, and analytical chemistry
- Robust approach to data quality
- Expand commercial team
- Addition of in-house regulatory expertise – accelerating time to market and reducing regulatory costs



Commercial Footprint



Commercial Approval

-   MEVALONE
-   CEDROZ[™]
post-planting nematicide
-   MEVALONE &  CEDROZ[™]
post-planting nematicide

Our presence in Europe grew in 2021-22 through new authorisations for both Cedroz[™] and Mevalone[®], and we anticipate further approvals in Europe and further abroad in 2023.



Our US EPA approval for the sale of Mevalone[®] and Cedroz[™] was granted in September 2022.



We have commercial partners in place across six continents to support future expansion.

Mevalone[®] Regulatory Progress 2019 - 2021



Since
2019

5x

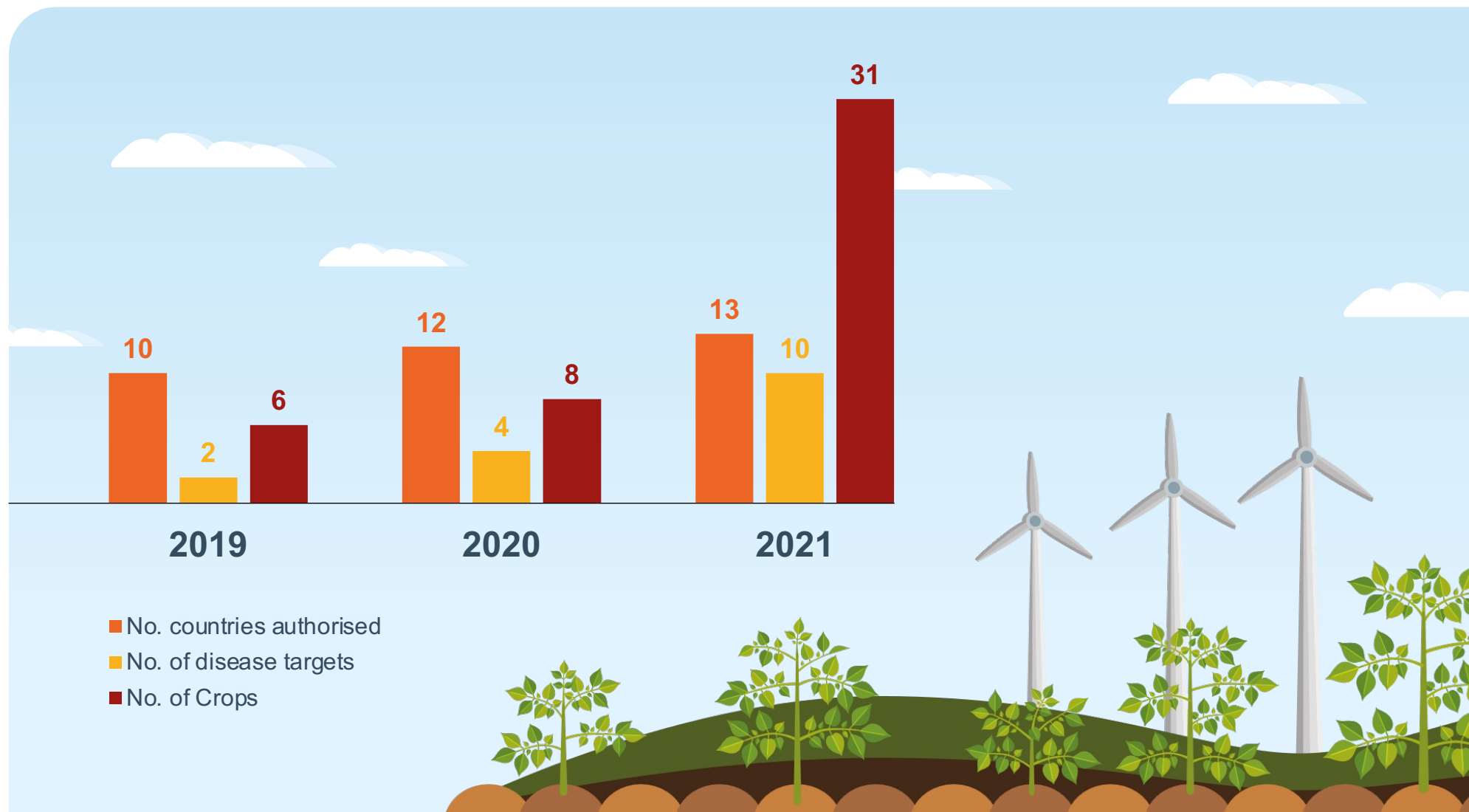
Increase in
disease targets

5x

Increase in crop
authorisations

30%

Increase in country
authorisations



- No. countries authorised
- No. of disease targets
- No. of Crops

Regulatory position



EFSA (EU)



- Application for the renewal of Eden's three active ingredients (eugenol, geraniol and thymol) has been submitted to EFSA for its review.
- The renewed approvals will provide an additional ten years of data protection.
- Much of the newly submitted data will likely be useful for active ingredient and product registrations in other parts of the world.

Organic (EU)



- All three of Eden's active ingredients have been approved as inputs for organic agriculture in the EU.
- The organic market in the EU is expanding at a faster pace than any other part of the agrochemicals sector and, as such, the ability to sell inputs for organic agriculture is a valuable tool for Eden.

EPA (US)



- The latest news is that EPA has approved Eden's three active ingredients, as well as Mevalone and Cedroz in September 2022.
- This allowed for some sales of Mevalone, in particular, in 2022, but should result in meaningful sales in 2023 and beyond.

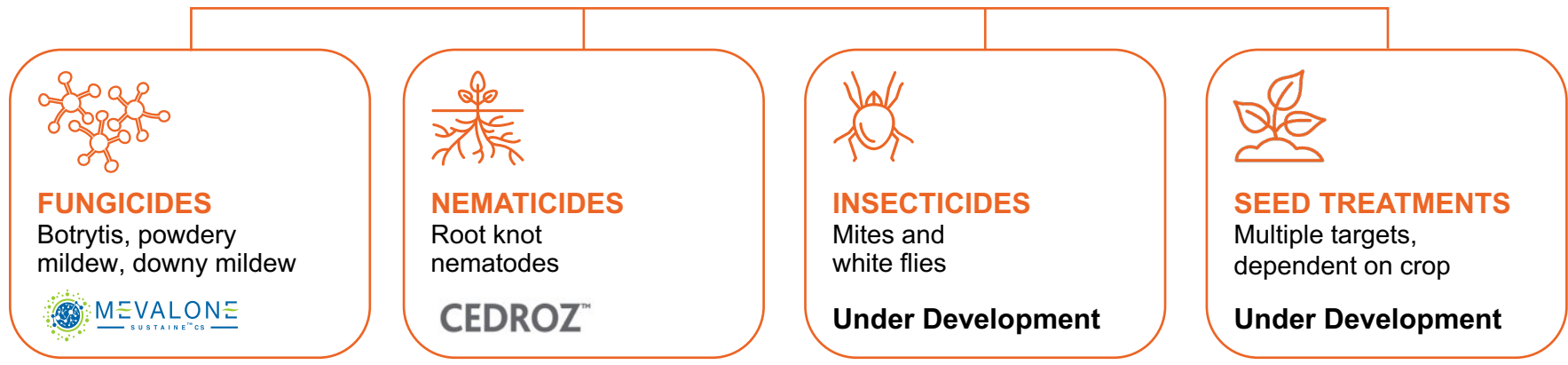
Rest of the World



- Eden is working with Sipcam Oxon to expand registration in key territories around the world, including **Brazil, Argentina, Chile, South Africa and New Zealand**.
- Authorisation received for Mevalone in Poland in April 2023 and anticipated in **other central European countries** in 2023.

Our product focus

Our focus is on developing products based on sustainable chemistries to protect crops from pests and disease, with equal or better performance when compared with conventional pesticides.



Active ingredients

Our products give growers reduced risk, increased flexibility and security.



Product Characteristics

Enabling sustained delivery, increasing residual efficacy and reducing use rates

Tackling resistance build-up

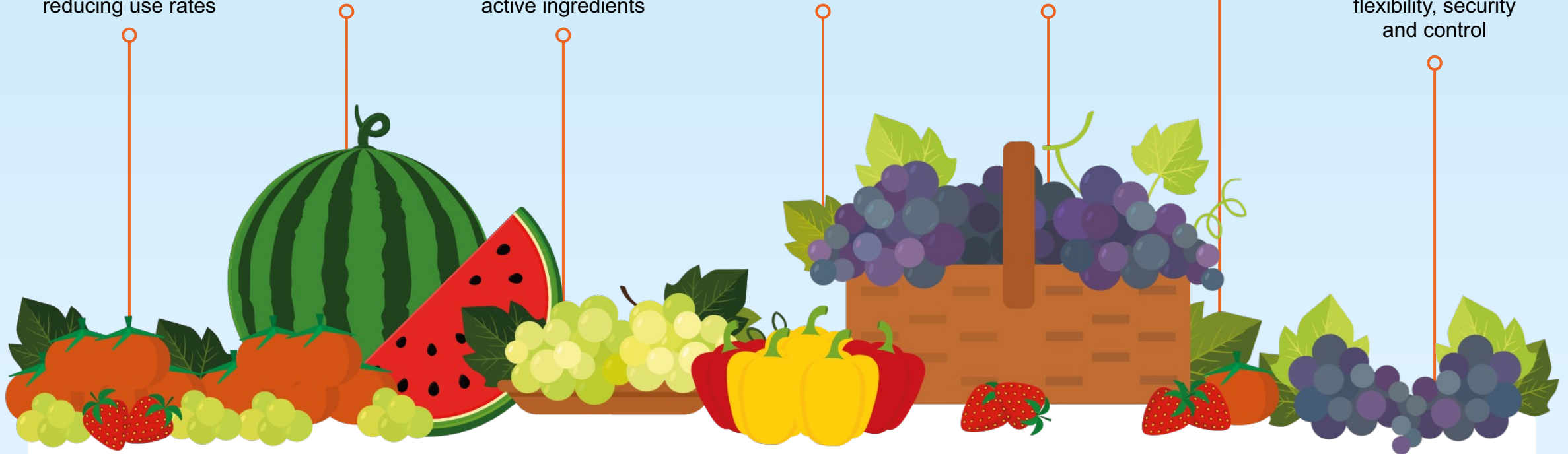
Solvent-free, stable formulations with high loadings of active ingredients

Protecting plants from potentially damaging chemicals

Polymer-free formulation technology

'Residue free'

Low or no pre-harvest intervals giving growers flexibility, security and control



Positive Outlook for Organic Growth



How organic growth will be achieved

The team at Eden now has the necessary capabilities to formulate, develop, test (up to pot plant level) and register products that it has created.

Label extensions and country approvals of Mevalone and Cedroz continue to increase, which directly increases the Company's addressable market.

Numerous applications for regulatory approval of Mevalone and Cedroz are pending around the world in key markets:

- UK, Germany, Poland, New Zealand, Morocco, Tunisia, etc.



The pipeline of products that Eden is developing covers the following addressable markets/applications:

- Seed treatment
- Insecticide
- Downy mildew
- Cannabis
- Potato Cyst Nematodes
- Potato Blight

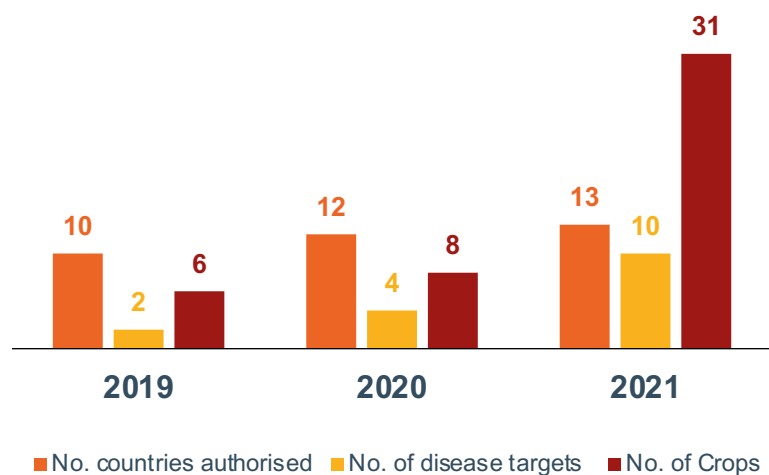
Projects with multiple partners are well underway using Eden's Sustaine encapsulation technology with third party active ingredients, tackling the ever-increasing issue of intentionally-added microplastics.

Mevalone[®] Biofungicide

Background

Mevalone is a foliar biofungicide which was developed initially to target botrytis on grapes.

Since its launch in the EU in 2016, the label for Mevalone has been significantly expanded, as shown in the table below:



Current status

Approved in Southern EU on a wide range of targets and crops

Approved in Kenya and Australia

Approval in the US received in September 2022

Approval in Poland received in Q2, 2023

Approval in New Zealand and other c. EU countries expected in 2023

Approval in the UK expected in 2023 – Distributor appointment pending

Submissions pending for approval in various other key markets around the world, including **Brazil, South Africa, Chile, Argentina**

Opportunity	Current		Future		Total	
	S.EU	ROW	US	C.EU		ROW
Addressable market €m	101	10	94	106	271	582
Potential Eden sales €m*	3.0	0.3	2.8	3.2	5.4	14.7

*Based on peak sales and a full label of all key target diseases and crops

Cedroz™ Bio-nematicide

Background

Cedroz is a **bio-nematicide targeting root-knot nematodes** in high value crops.

A development and **commercialisation agreement was signed with Eastman Chemical** in December 2016.

The **agreement covers 29 countries** on providing Eastman with the exclusive distribution rights.

Sales of the product began in the EU in 2020.

Approval has also been granted in the US on all nematode species.

Current status

Approved in Southern and Central EU on a wide range of high-value crops

Approval in the US received in September 2022

Sales growth has been slower than expected for various reasons

Submissions made for approval in various additional key markets around the world

Opportunity

	Current			Future		Total
	EU	ROW	US	ROW		
Addressable market €m	113	8	189	301	611	
Potential Eden sales €m*	2.3	0.2	5.7	6.0	14.2	

*Based on peak sales and a full label of all key target diseases and crops

Downy mildew

Filling a gap in the market

Background

Due to the recent restriction of a number of key downy mildew products, there is a **strong need for replacement products.**

Eden has **already tested Mevalone against downy mildew in the past with encouraging results.**

Now that key competitor products are being removed from the market, the **opportunity to sell Mevalone as part of an integrated pest management programme has arisen.**

The key market, in the first instance, is France.

Current status

Second year regulatory field trials are complete with good results received.

There are currently **three potential partners for the product**, two of whom are existing distributors, who have already expressed a strong interest in this opportunity.

Regulatory submissions are planned for Q2 2023 in the EU.

Opportunity

	Future				Total
	France	S.EU (exc. France)	US	ROW	
Addressable market €m	272	592	144	1,392	2,400
Potential Eden sales €m*	8.2	11.8	4.3	13.9	38.2

Significant additional growth opportunities



Cannabis

Eden has been approached by a new potential partner to see if Mevalone, or any other Eden formulation, would be suitable to target the cannabis market in the US and Canada.

The targets for the crop include botrytis, which is well known to Eden and against which Mevalone is highly efficacious on numerous other crops.

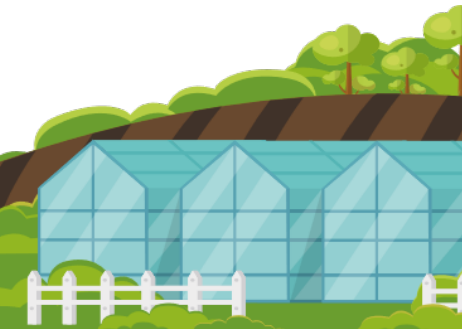
A project plan is under development with field trials taking place in 2023.

Cannabis has multiple crop cycles per year, meaning that the necessary field trials for efficacy and regulatory purposes can be undertaken in a relatively short timeframe.

Due to recent legislation changes in Canada and the US, the pesticides market for cannabis is growing rapidly, with particular focus on sustainable products, such as Eden's.

Other

Evaluations in additional areas of significant commercial potential include black sigatoka (banana), potato blight and potato cyst nematodes. In each case, the initial evaluations have produced encouraging results.



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Organic Growth: New Products



Seed Treatments

What are Seed Treatments?

Physical, biological or chemical agents applied to seeds to provide protection and help improve overall crop performance

Multiple functions: supporting greater uniformity of seed germination, plant height, vigour and biomass by protecting against pathogens and pests and/or can act as a source of crop nutrition or growth regulation.

Treatments are typically applied either as a solid/dust or as a liquid.

Colourants are used in seed treatments to give a clear indication that a seed has been treated and to confirm uniformity of the coating.

Major Players



Crop Science



Key information

SEED DRESSING



Application of low volumes of product to the seed surface.

Typically increases seed weight by <1%

SEED COATING



Produces a continuous, thin film over the whole seed surface.

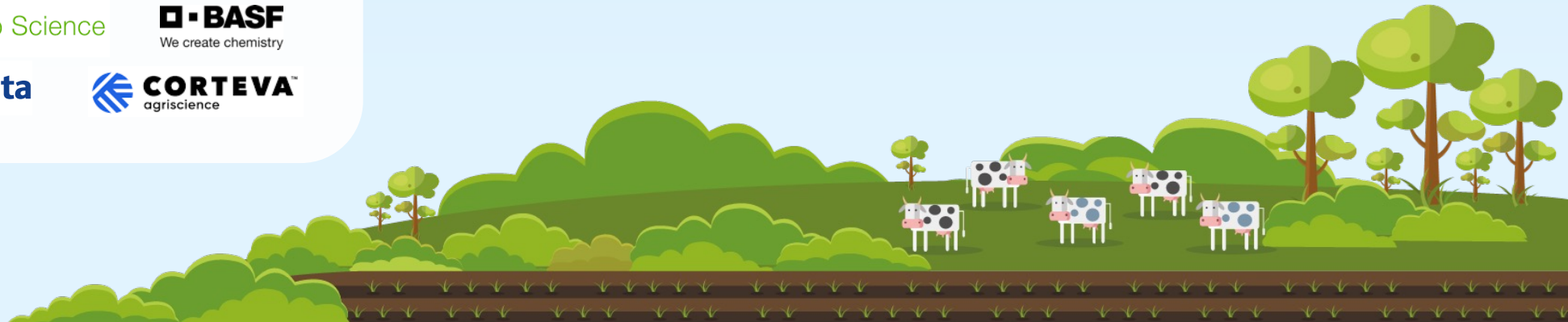
Can increase seed weight by up to 5%

SEED PELLETTING



Thick covering of the seed whereby all seeds become uniform.

Can increase seed weight by up to 5000%



Seed Treatments – Corteva

On the path to commercialisation

Background

Two incumbent ingredients used in Corteva's seed treatment products have been, or will shortly be, **banned in key markets**.

Eden has developed a formulation for use in **seed treatments** for a specific application area.

A development and commercialisation agreement was **signed with Corteva in May 2021**.

Initial markets are the **EU**, plus the **UK**.

In time, it is expected that the product will be commercialised into other geographies, such as the **US**.

Current status

Semi-field studies have shown good efficacy

Field trials, undertaken by both parties, showed **efficacy and produced successful trials**

Formulation testing by Corteva has been successful

We are aiming to submit an application for regulatory authorization as soon as possible. If successful, this will result in sales of the product by Eden to Corteva in time for the 2024 growing season.

Opportunity

	Current	Future		Total
	EU, UK	EU, UK	US	
Addressable market €m	40	95	240	375
Potential Eden sales €m*	3.6	8.6	21.6	33.8

*Based on peak sales and a full label of all key target diseases and crops

Insecticide

Significant opportunities for effective, new products

Background

Due to a ban on numerous insecticides, such as neonicotinoids, there is a **large opportunity for effective, new products**.

Eden has developed **new formulations for use as an insecticide against at least four key target pests**, including spider mites, whitefly, aphids and thrips.

Formulation stability issues led to a change in formulation in 2020.

Two lead formulations were created, both of which have shown good efficacy in field trials.

Field trials of the current formulations have taken place in 2021 and 2022.

Current status

Initial **data received from the field trials undertaken in 2022 shows good efficacy**, consistent with that in 2021

Following successful trials, Eden has provided samples of the final formulation to a list of potential distribution partners

It is expected that **announcements on the appointment of distribution partners will be made in due course**

Regulatory submissions are planned for 2023/4 in both the US and EU

Subject to regulatory authorization, first sales of product are estimated to be 2024/5 in the US and 2025/6 in the EU

Opportunity

	Future			Total
	EU, UK	US	ROW	
Addressable market €m	338	237	1,320	1,895
Potential Eden sales €m*	6.2	6.8	17.4	30.4

*Based on peak sales and a full label of all key target diseases and crops

Sustaine[®] projects

Addressing the rising microplastics issue

Background

In addition to using microencapsulation system, Sustaine, in our in-house developed products, such as Mevalone and Cedroz, **it is possible to use Sustaine with third-party active ingredients.**

Using Sustaine brings multiple benefits including formulation stability, residual effect and patent protection.

More recently, the **issue of microplastics**, which are currently used in agrochemical formulations has **created a new demand for plastic-free, sustainable alternative encapsulation systems.**

Eden has received numerous enquiries about using Sustaine with third party active ingredients.

Current status

Field trials underway with multiple industry partners.

Decisions regarding future evaluations based upon current trials are expected in due course.

The EU has recently provided likely timescales for the ban on the use of intentionally added microplastics in agchem.

Opportunity

	Future			Total
	EU	US	ROW	
Addressable market €m	TBC	TBC	TBC	TBC
Potential Eden sales €m*	TBC	TBC	TBC	TBC

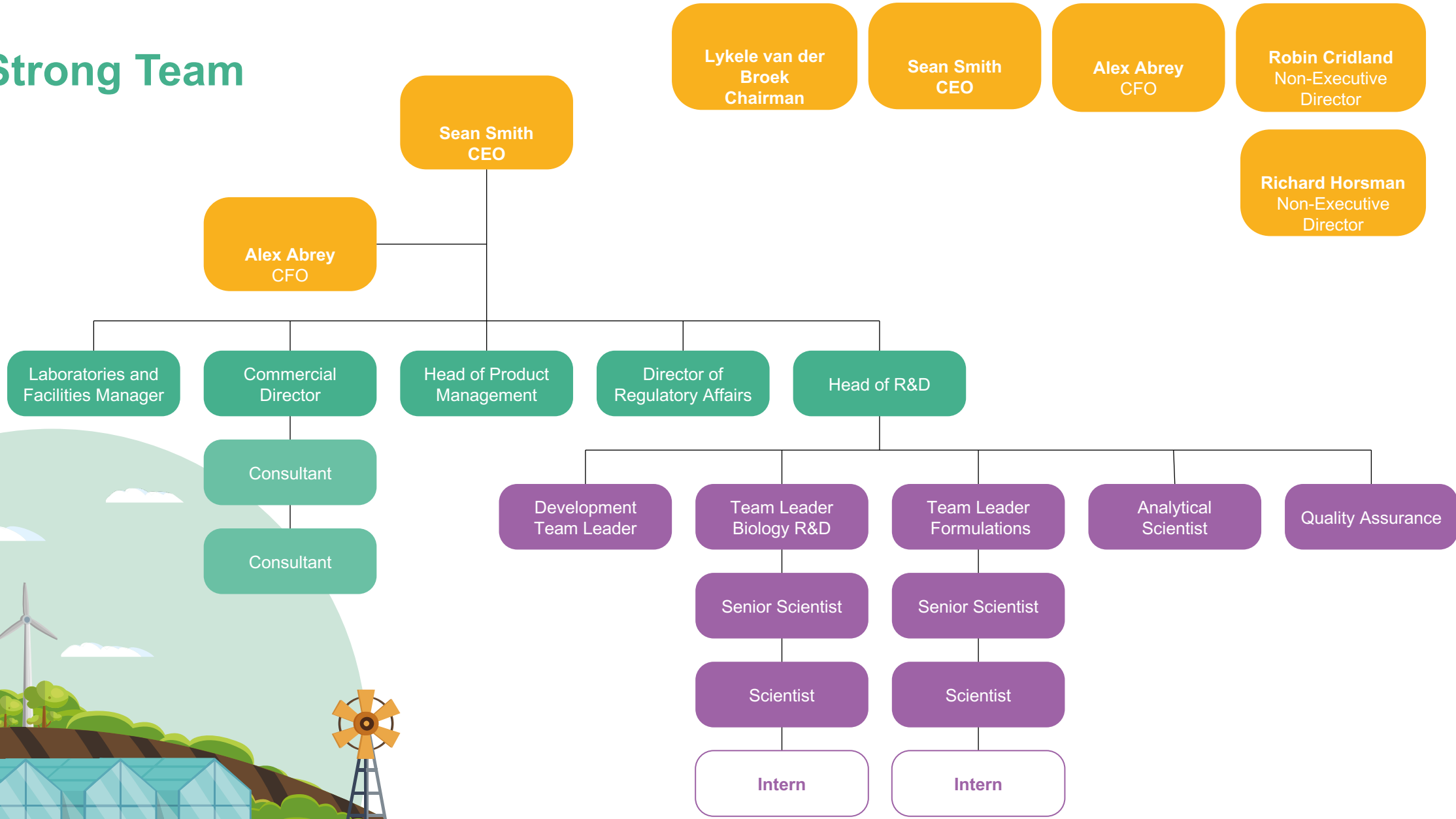
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Thank you



A Strong Team



Lykele van der Broek
Chairman

Sean Smith
CEO

Alex Abrey
CFO

Robin Cridland
Non-Executive Director

Richard Horsman
Non-Executive Director

