

# Eden Research plc 2022 Annual General Meeting

29th June 2022

London, United Kingdom



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.



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

## Fundraise of £10.4m (gross) in March 2020 to:

- Register and commercialise insecticide products
- Develop use of our microencapsulation technology, known as 'Sustaine®', with conventional agrochemicals
- Expand product portfolio
- Pursue opportunities with Corteva and other collaborations





## **Key statistics**







18

Countries have granted product authorisation

66

Crop use approvals for Eden's biopesticides

£15m

Invested in IP & registrations

110

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



### **Crop protection**

Foliar disease & insect control

Open field & greenhouses

Soil pests

Post harvest shelf-life extension

Seed treatments



### **Animal health**

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

\$50+bn

\$**58**bn

\$33bn

Estimated addressable market size



### **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

**\$11**bn

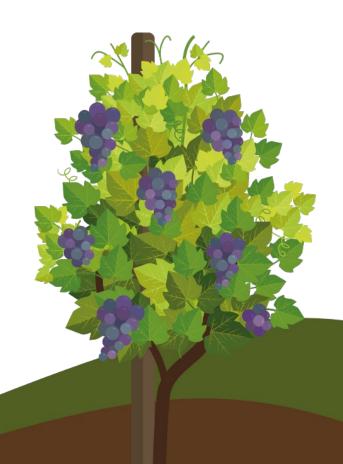
The global biopesticides market is projected to be worth more than **\$11 billion by 2027** 

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



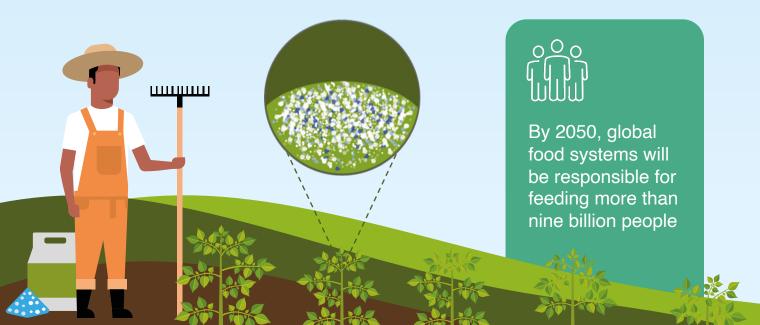
# The Drive Towards Sustainable Agriculture

Farming practices which maintain yields while increasing benefits for the environment

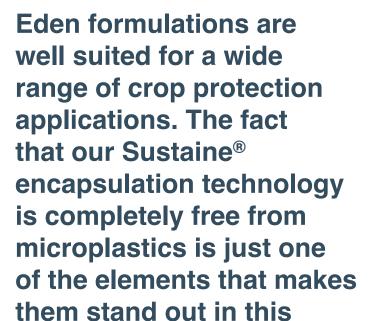
A reflection of society's increasing concern about the world's approach to food production and healthy eating

Embracing farming practices that mimic natural ecological processes

A win-win for farmers and the environment







Sean Smith CEO, Eden Research plc

rapidly evolving market.



# 2021 Overview and Results





### **Portfolio Expansion**



The expansion of Eden's existing portfolio into seed treatments and insecticides aligns perfectly with our values of focusing on sustainable solutions for agricultural challenges.

Modest product sales growth, on a volume and local currency basis, after two challenging years with considerable growth expected in 2022 and beyond.

Eden signed an exclusive commercialisation, supply and distribution agreement with Corteva Agriscience, the fourth largest agriscience inputs company in the world, for Eden's seed treatment product based on Eden's active ingredients and Sustaine®.

Diversification and strengthening of the business as the list of authorised crops grew nearly 4-fold in 2021 whilst new disease targets more than doubled – expanding Eden's addressable market in existing territories.

Eden was the first company in 2021 to receive the London Stock Exchange's Green Economy Mark which recognises London-listed companies that derive over 50% of their total annual revenue from products and services that contribute to the global green economy.

Eden's commercial collaborator, Eastman Chemical Company, received authorisation for the sale of Cedroz™ in Italy, a key market, where it is also allowed for organic agriculture.

### 2021 Results

Overview	2021	2020
Revenue Product sales revenue Other revenue	£1.2m £1.1m £0.1m	£1.4m £1.1m £0.3m
Administrative expenses Capitalised development and IP costs	£2.6m £1.6m	£2.2m £1.7m
EBITDA loss (excl. share-based payments) Loss before tax	£2.0m £3.4m	£1.5m £2.5m
Cash	£3.9m	£7.3m

### **Notes**

- Product sales increased 4% by volume and 6% on a constant currency basis.
- Sales of Mevalone continued to be negatively impacted for use on wine grapes, due to a decline in demand compared with pre-Covid levels.
- Milestone payments of £0.14m invoiced by Eden to Corteva in 2021 and subsequently received, treated as deferred income under IFRS-15 as part of the audit process.
- Admin expenses increased due to the introduction of new team members, primarily in the R & D team.

### **Mevalone**®

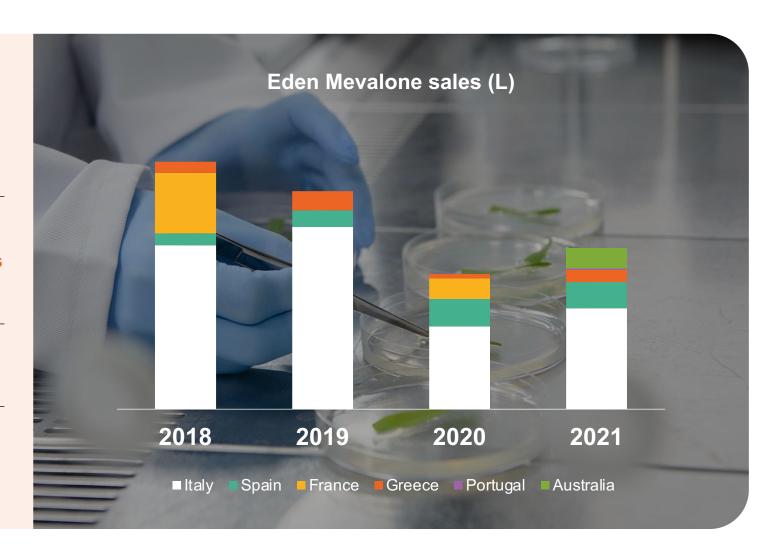
### Eden sales to distributors 2018 - 2021

As has been previously communicated to shareholders, post-season sales in 2019 were strong, with good ex-distributor sales growth expected in 2020, following ex-distributor sales growth of 35% seen in 2019.

The global COVID-19 pandemic significantly affected demand for grapes for wine production which led to lower sales and a higher stock position at the end of 2020 held by our distributors.

As such, there were almost no postseason sales in 2020 which resulted in a considerable reduction in Mevalone sales.

Unfavourable weather conditions, including hard frosts, in parts of southern Europe significantly affected grape production in 2021.





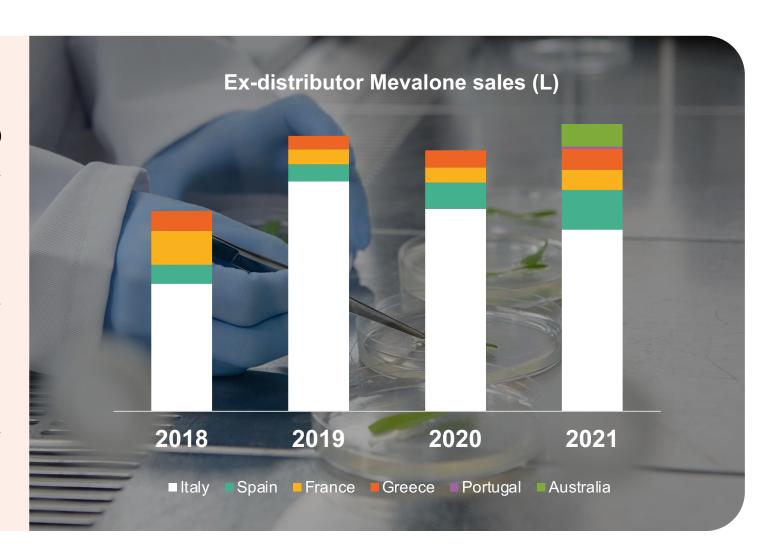
# Mevalone® Distributor sales 2018 - 2021

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).

Despite a small decrease in 2020, there is a general growth trend (14% year-on-year) in distributor sales of Mevalone over the four-year period, exceeding industry estimates of 12% growth during the same period.

We expect to return to strong sales growth in 2022 for both Mevalone and Cedroz, 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.).



### **Innovation Capacity**

Development of in-house R&D – reduces dependency on 3<sup>rd</sup> 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.



# **Strategy and Investment Case**



## **Our Strategy**



- 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





- 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



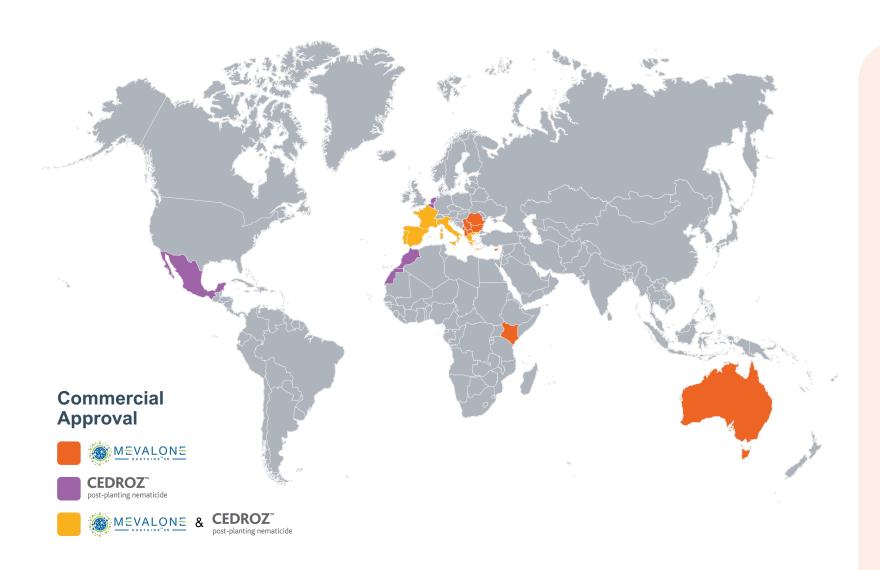


# Strengthening and growing the team

- 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**



Our presence in Europe grew in 2020-21 through new authorisations for both Cedroz™ and Mevalone®, and we anticipate further approvals in Europe and further abroad in 2022.



There was a total of six new approvals in 2021.



Our US EPA approval for the sale of Mevalone<sup>®</sup> and Cedroz<sup>™</sup> is anticipated this year.



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



### **Mevalone**<sup>®</sup>

## Regulatory Progress 2019 - 2021



**5**x

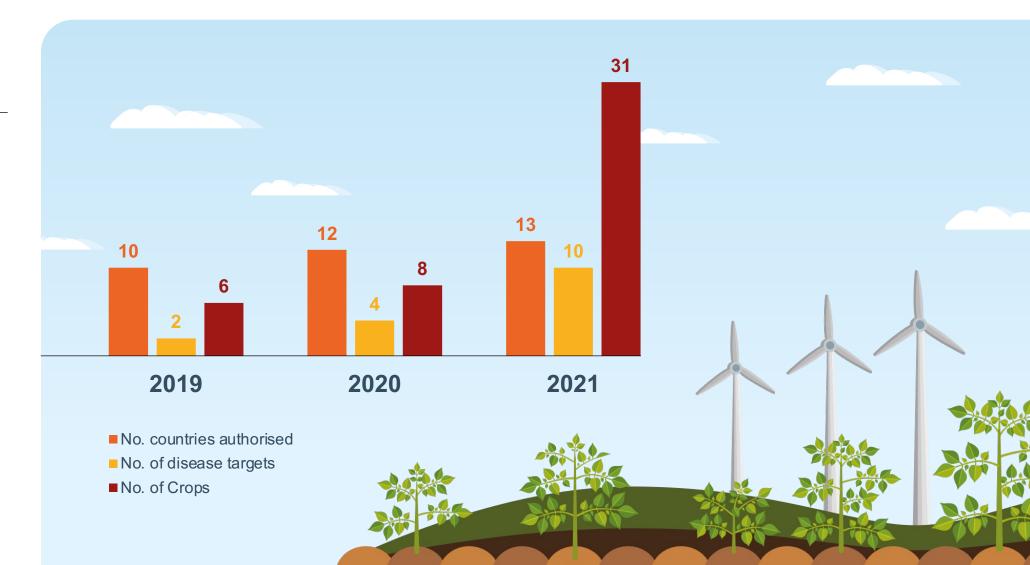
Increase in disease targets

**5**x

Increase in crop authorisations

30%

Increase in country authorisations



### **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.



### EPA (US)

- The latest news is that EPA approval for Eden's three active ingredients, as well as Mevalone and Cedroz will be published in 2022.
- This would allow for some sales of Mevalone, in particular, in 2022, but could result in meaningful sales in 2023 and beyond.





- · 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.



#### **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.
- · Authorisations anticipated in Morocco and Tunisia in 2023



# **Organic Growth: Current Products**



# 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.





#### **FUNGICIDES**

Botrytis, powdery mildew, downy mildew





#### **NEMATICIDES**

Root knot nematodes

**CEDROZ** 



#### **INSECTICIDES**

Mites and white flies

**Under Development** 



#### **SEED TREATMENTS**

Multiple targets, dependent on crop

**Under Development** 

### **Active ingredients**

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







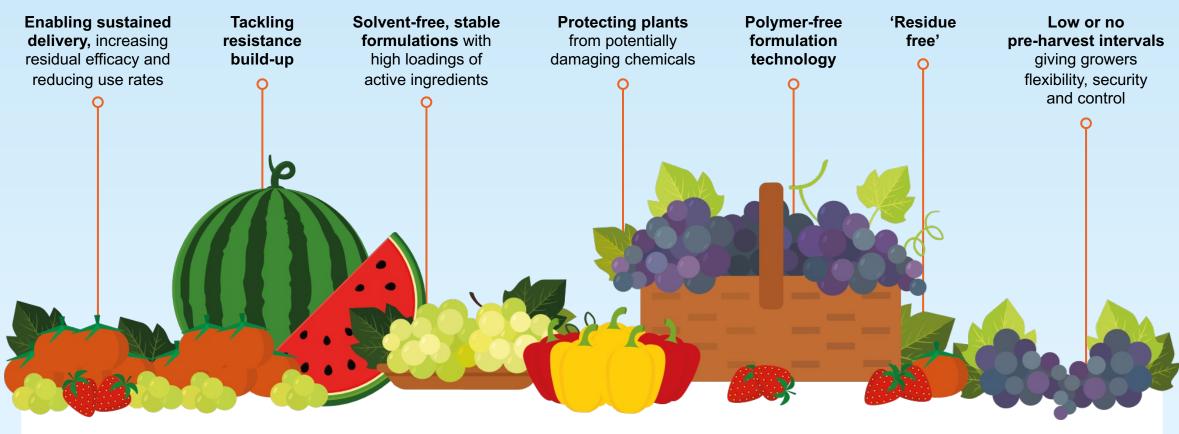








### **Product Characteristics**













# **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:

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



- 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.

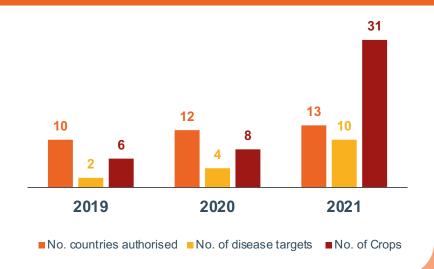




### **Background**

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 and New Zealand expected in 2022

Approval in Central EU expected in 2023 - SumiAgro appointed

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** 

Sales of c.€1.4m expected in 2022 (2021: €1.1m)

Opportunity	Current			Future		
	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



# **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 Mexico which gives access to the all-important US agricultural import market.

### **Current status**

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

### Approval in the US expected in 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

<sup>\*</sup>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 currently underway with results expected in Q3, 2022.

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 Q4 2022 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





### 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 which will see field trials taking place in 2022.

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.



### Return to product sales growth

#### **Current status**

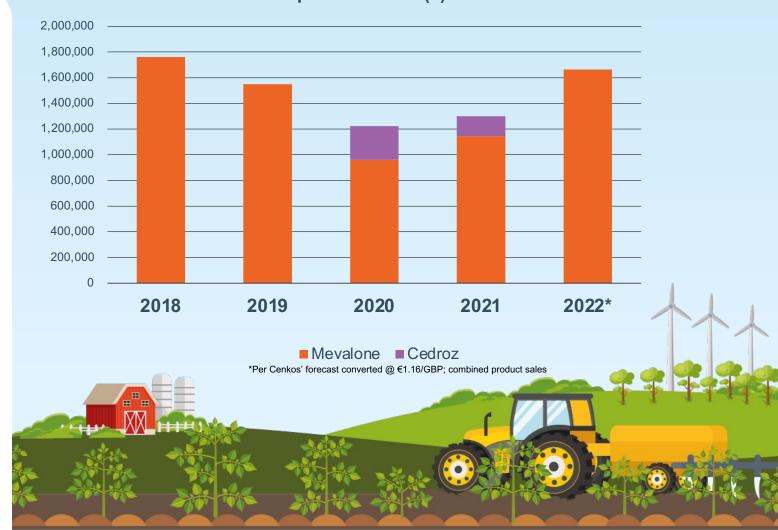
The table shows forecast growth in **Eden's** product sales for Mevalone and Cedroz in 2022 of around 28%, per Cenkos' forecast\*.

There are additional opportunities for further sales growth in 2022, such as the approvals of Mevalone and Cedroz in the US which are expected this calendar year.

Although it remains to be seen how impactful US sales are likely to be during 2022 due to timing uncertainties, we expect that US approval could result in meaningful sales in 2023 and beyond.

Label extensions and new territory regulatory submissions are currently under review in several additional countries, and these will continue to pay off in the form of ongoing sales growth.

### Eden product sales (€)







# 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**









### 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 PELLETING



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

<sup>\*</sup>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 are underway in 2022.

#### **Current status**

Initial data received from the field trials which are currently underway shows good efficacy, consistent with that in 2021

Following successful trials, Eden will provide 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 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		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



# 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

<sup>\*</sup>Based on peak sales and a full label of all key target diseases and crops

### **Outlook**



Strong balance sheet and a return to year over year growth despite challenging conditions



Moving forward with our new products, including insecticide products, seed treatments and optimised fungicides



Additional regulatory approvals expected in 2022 with commercial impact this year and beyond



In-house work including formulation, microbiological screening, plant and seed evaluations and analytical work now working to GLP standards and producing results and shortened development cycles





## **Portfolio Expansion**



The expansion of Eden's existing portfolio into seed treatments and insecticides aligns perfectly with our values of focusing on sustainable solutions for agricultural challenges.

Eden was the first company in 2021 to receive the London Stock Exchange's Green Economy Mark which recognises London-listed companies that derive over 50% of their total annual revenue from products and services that contribute to the global green economy.

Eden's commercial partner, Sipcam Oxon, received authorisation for the sale of Eden's bio-fungicide in Spain for use on a range of new crops for the control of a larger number of fungal pathogens – reflecting an expanded addressable market. Further expansions underway. Eden signed an exclusive commercialisation, supply and distribution agreement with Corteva Agriscience, the fourth largest agriscience inputs company in the world, for Eden's seed treatment product based on Eden's active ingredients and Sustaine®.

Eden's commercial collaborator, Eastman Chemical Company, received authorisation for the sale of Cedroz™ in Italy.



# Thank you

