

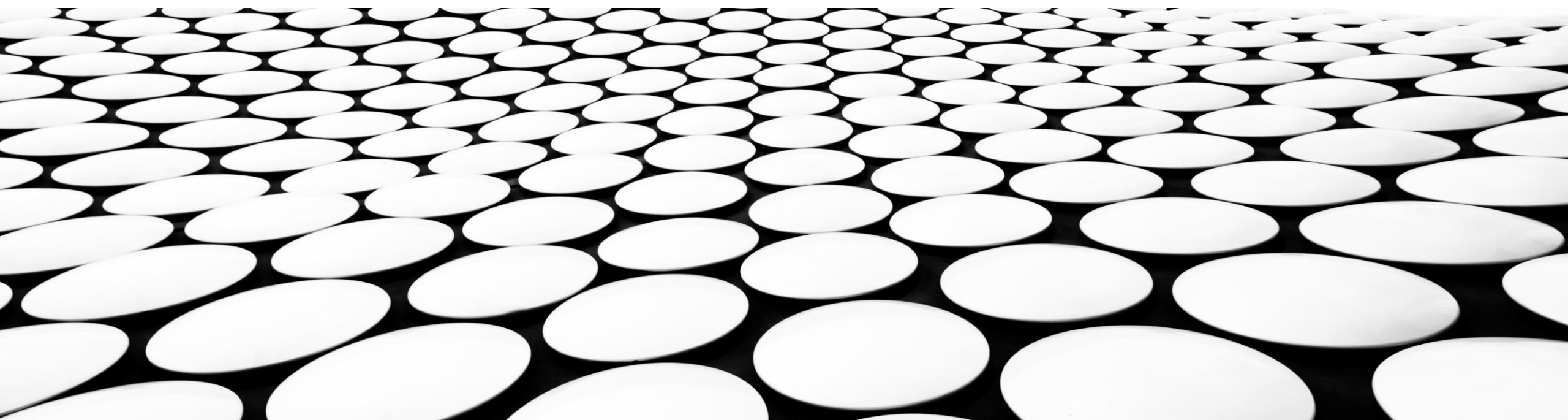
フードテックを活用した新しいビジネスモデル実証に対する支援事業

フードテック オープンイノベーションセミナー

# ゲノム編集トマトと消費者コミュニケーション

パイオニアエコサイエンス株式会社 / サナテックシード株式会社

代表取締役会長 竹下 達夫



## 2つのイノベーション



### プロダクト先行イノベーション

└ペニシリンの発見（偶発性が製品に）



### プロセスイノベーション（CRISPR/Cas9）

└プロダクトを導くプロセスの革命  
（交配育種 → ゲノム編集）

# ゲノム編集トマト (SRHG)



メディア・消費者はどう受容するか？

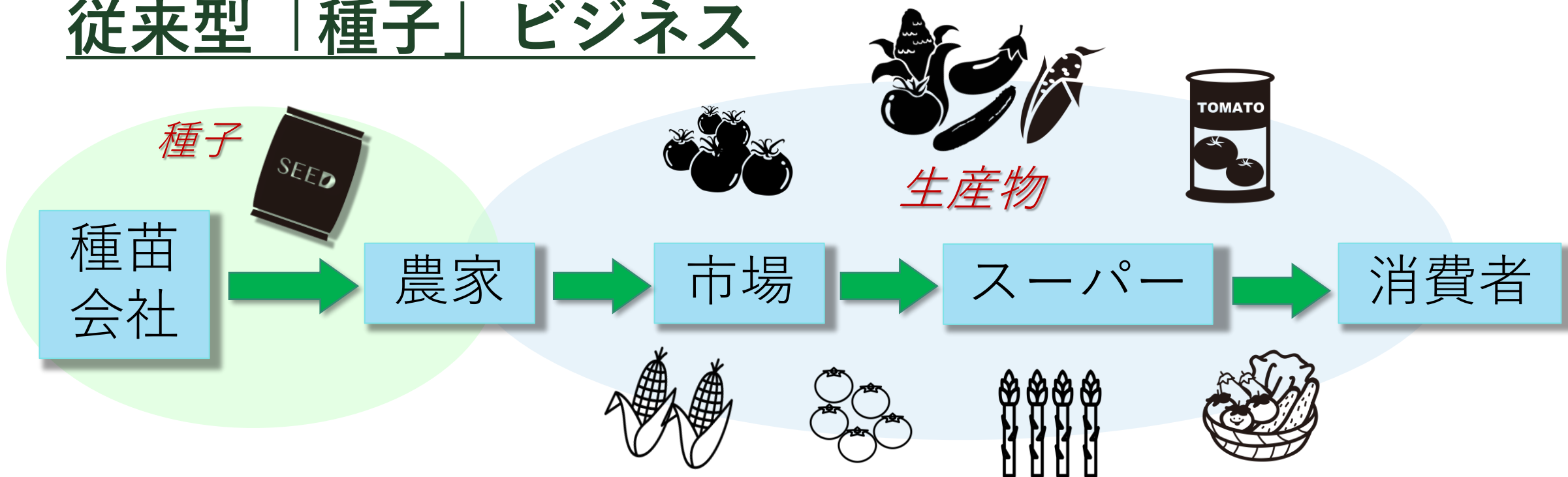


消費者のメリットは？



顧客は誰か？

# 従来型「種子」ビジネス



◆農家・スーパーへの説明責任

◆トレーサビリティとラベリング問題

# Stakeholders の Needs の違い

★ メディア — 個別に掘り下げた報道ではない

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★★ 農家 — 収量性・病虫害・売り先

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★★★ スーパー — 売り易い商品

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★★★★ 消費者 — 多様なニーズが混在

# 小売店舗（スーパー）の問題点



消費者の「意思決定時点」と「購入時点」が同じ  
VS

インターネットの購入パターン

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消費者が「欲しい」と思う商品を  
常に売っているとは限らない

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ゲノム食品（種子）の科学的根拠を  
分かりやすく説明できない

# 我々のアプローチ ①初期動作



家庭菜園 = 農家 + 消費者 (Prosumer)

苗の無償配布による消費者兼農家のモニタリング  
真のメディア (4,000人に苗を無償配布)



LINEによる栽培指導と相互・多方向  
コミュニケーション

『育てるひろば』に (1,166名参加)



# LINEによる相互・多方向コミュニケーションで学んだこと



顧客に対するPush型コミュニケーションでない  
「協働」「共創」のマーケティングを学んだ

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血圧・睡眠に関する意外なほどの  
好反応な事例（レポート）が多かった

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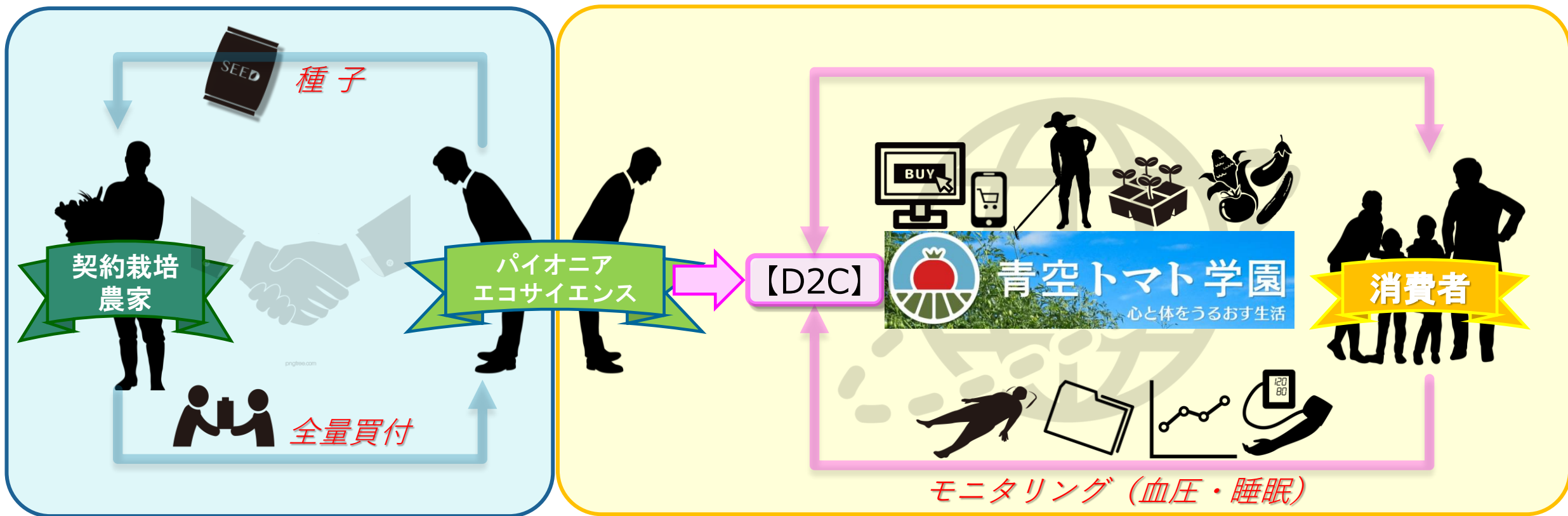
ハイギャバトマトのファンクラブ的な  
コミュニティが形成された



# 我々のアプローチ ②青空トマト学園



家庭菜園 ⇔ D2Cの青果・加工品販売に着手  
『青空トマト学園』…健やかマルシェ



## まとめ

**ゲノム編集種子（機能的）  
＋  
インターネット（スマホ/タブレット等モバイル機器）の  
『常時接続性』**



- ・ 消費者ダイレクトの共創関係
- ・ 消費者の「選択の自由」と「安全」を担保する

**<<どんな形質を作り出すかが鍵>>**

# 我々のアプローチ 全体図

- ・2大ゲートキーパーなし  
(農協・農家+スーパー)
- ・利益の源泉は種子ビジネスではない  
(ゲノム種子は最大の差別化起爆要因である)

## サナテックシード

機能的差別化戦略

- ・D2C ビジネスモデル
- ・高GABAで世界をリード
- ・トマト品種の多様化 (カラフル)
- ・高機能 (健康・美容) 品種
- ・高糖度品種

実質社会受容

加工原料

## パイオニアエコサイエンス

D2C (販売)  
青果物・粉末  
ジュレ・ピューレ



健やかマルシェ・育てる広場



栽培指導→CX戦略



契約農家

Web購入  
(常時接続)

ビジネス  
実質社会受容

ストーリー

共感 (SNS/UGC)



いいね♡



## 消費者



家庭菜園4,000人に苗を無償提供  
(2021～)

～家庭菜園の新しいビジネスモデル～  
(20\*\*～)



# シシリアンルージュ ハイギャバ関連 事例掲載①

## <Financial Times> Top Stories

### < Top Stories

Opinion **Agricultural production**

#### The government needs to get a grip on gene editing before the UK loses out

Other countries may reap the benefits, jobs and profits of pioneering techniques from British scientists

CAMILLA CAVENDISH

+ Add to myFT



© Jonathan McHugh 2021

oldest agricultural experiment, in which researchers have studied soil quality since 1843. In front were neat rows of camelina plants, which had been modified to express the Omega-3 oils usually found in fish. This crop, its creator Professor Johnathan Napier explained, could provide us with the Omega-3 we humans are routinely told to eat, without endangering the ocean's fish.

makes me grin at the sheer wondrousness of human ingenuity. The Sicilian Rouge High GABA tomato is the world's first food whose genes have been edited using CRISPR-Cas 9 technology — in this case, to provide more of the GABA amino acid which apparently lowers blood pressure. It's already being grown by thousands of Japanese gardeners, who probably guess that decades of traditional selective breeding techniques couldn't have achieved this result with such precision.

Eight years ago, scientists at England's Sainsbury lab were among the first in the world to use CRISPR-Cas 9 to gene-edit plants (though for a different purpose). If I worked there, I might be quietly wondering whether it's worth staying in the UK much longer. Despite government fanfare this week about relaxing some rules on research, there is still no way for UK-based scientists to get their discoveries to market in the UK and thus actually improve the foods we eat.

the benefits, jobs and profits. Ministers are treading gingerly, aware that some organic farmers worry about cross-pollination and some consumers distrust GM foods. But the debate is moving on, and the government risks being left behind.

The public are also out of date. For despite the EU ban, much of our meat, milk and eggs already come from animals fed with GM crops. Back in 2016, the Royal Society found that two-thirds of all

be a substitute for statins. But I find it hard to object to its existence, when we already fortify breads and cereals with folic acid, water with fluoride and milk with Vitamin D. And I can't help hoping that the same techniques will eventually be used to edit out the deadly allergens from peanuts and sesame seeds, which leave some anxiously policing every takeaway, school lunch and restaurant meal.

Gene editing was supposed to be a post-Brexit dividend, a way to help Britain lead the world in life sciences, by breaking free of the strict EU bans on both gene-editing, which tweaks a specific site in the genome, and genetic modification, which introduces foreign DNA. The government thinks it's taken a big step by making it easier to plant gene-edited crops. But it hasn't budged on genetic modification, and there is no timetable for making future decisions about how to bring these products safely and responsibly to market. As one researcher put it: "what's the point of running field trials

The Environment Secretary George Eustice has made a strong case that gene editing can make crops more resilient to pests and climate change, and produce more nutritious food. He should regulate products according to their safety, not by the underlying technique. The government has hinted it will reassess the use of GM, not just GE, "in the longer term" — which is usually code for "never".

## シシリアンルージュハイギャバ関連 掲載②

*~The writer, a former head of the Number 10 Policy Unit, is a Harvard senior fellow ~*

A tomato has just gone on sale in Japan which ten years ago would have made me squeamish but now makes me grin at the sheer wondrousness of human ingenuity. The Sicilian Rouge High GABA tomato is the world's first food whose genes have been edited using CRISPR-Cas 9 technology — in this case, to provide more of the GABA amino acid which apparently lowers blood pressure. It's already being grown by thousands of Japanese gardeners, who probably guess that decades of traditional selective breeding techniques couldn't have achieved this result with such precision.

Japan is not a cowboy nation. Its regulators are treading carefully, and insist on clear labelling. But with this tomato, they have just leapt ahead in a global race. I have no idea if the Sicilian Rouge can be a substitute for statins.

As the Japanese tomato was unveiled, Professor Sophien Kamoun of the Sainsbury lab sent an anguished tweet. "This really upsets me," he wrote. "We were among the very first to develop the tech in plants, so much potential, so many opportunities." Unless the UK moves much faster, we will see our inventions being commercialised elsewhere and imported back to us. Whether or not you fancy a gene-edited tomato, our lunch is already being eaten by other nations.