WORLDWIDE fruit

Regenerative Farming in the United Kingdom

Chandler & Dunn

Case Study 2
2025

Context

Agriculture stands at the forefront of some of the world's most pressing challenges, including soil degradation, biodiversity loss, water scarcity, and extreme weather events. Recognising the critical role that the agricultural sector plays in both contributing to and addressing these issues, **Worldwide Fruit Limited** (WFL) has committed to a holistic and collaborative approach to sustainability. Their journey is not just about meeting industry expectations—it is about proactively shaping a more resilient, regenerative, and responsible supply chain.

Since 2019, WFL has worked closely with **Blue North Sustainability**, a consultancy specialising in agricultural sustainability, to support farmers in implementing practical, long-term solutions. This partnership has shifted WFL's approach from a prescriptive "top-down" model to a "bottom-up" strategy that genuinely empowers farmers. By prioritising farmer-led initiatives, WFL ensures that sustainability efforts are not only effective but also deeply rooted in the realities of agricultural operations.

Through this ongoing collaboration, WFL has driven key initiatives such as water stewardship projects, the large-scale roll-out of the **SHERPA** online sustainability management system, and **carbon footprint** reduction programs. These efforts have equipped farmers with the tools, knowledge, and support needed to navigate the complexities of modern agriculture while reducing environmental impact.

These case studies highlight WFL's commitment to sustainability by showcasing the progress, challenges, and opportunities within its supply chain. They capture how farmers and suppliers are adapting to climate change, reducing carbon footprints, and strengthening livelihoods. A key theme across these stories is the mindset shift required for sustainable and regenerative practices to take root. Farmers are moving beyond conventional approaches, embracing new ways of thinking, and finding innovative solutions to long-term resilience.

These case studies serve several purposes:

- **Demonstrating Progress**: Showcasing real-world examples of how sustainability efforts translate into action and impact.
- **Encouraging Knowledge Sharing**: Providing a platform for farmers and suppliers to exchange insights, challenges, and lessons learned.
- **Strengthening the Business Case for Sustainability:** Highlighting the tangible benefits of regenerative practices, from improved soil health to economic resilience.
- **Aligning with Global Sustainability Goals:** Supporting WFL's commitments under the Courtauld Commitment 2030 and other key sustainability frameworks.

By documenting and sharing these stories, WFL and Blue North aim to inspire meaningful change across the agricultural sector—one rooted in collaboration, innovation, and farmer empowerment.

This case study highlights regenerative farming in East Kent, United Kingdom. WFL supplier, Chandler & Dunn, has adopted practices that strengthen soil health, enhance biodiversity, improve orchard performance, and build resilience in the face of increasingly variable weather, rising input costs, and reduced availability and effectiveness of agrichemicals. The study explores the mindset shifts, motivations, lessons learned, and benefits experienced along their journey. Beyond the individual farm, this work illustrates the broader potential of regenerative agriculture within UK apple orchards, and the vital role growers play as long-term stewards of the land.

Case studies in the 2025 series:

- Case Study 1: Regenerative Farming in the Koue Bokkeveld, South Africa.
- Case Study 2: Regenerative Farming in the United Kingdom, Chandler & Dunn.

BLUE NORTH
THINKING. FUTURE

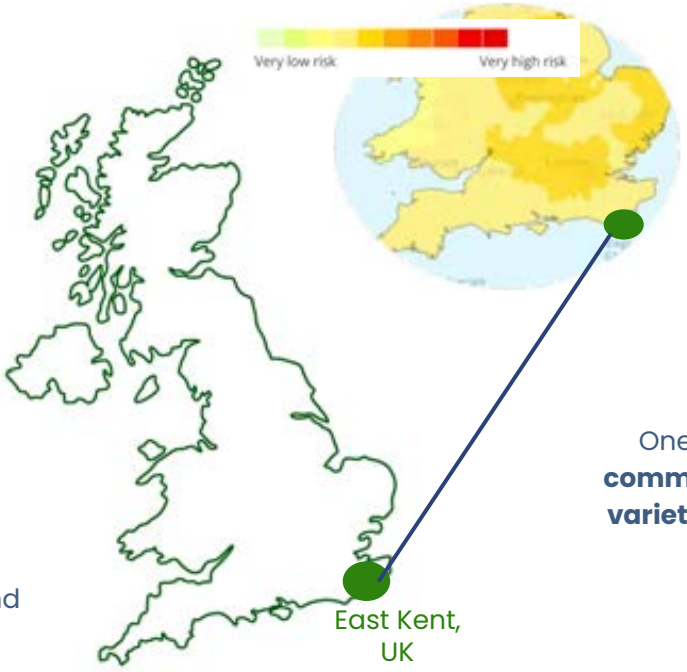
Compiled by Malissa Murphy and Wilmie Cronjé
Blue North Sustainability

Contents & Overview

p.4 **CHAPTER 1. CHANDLER & DUNN'S SUSTAINABILITY JOURNEY**

Chandler & Dunn is a **family-run farming enterprise in East Kent**, combining orchards, arable land, and livestock. With increasing climate variability, rising input costs, and reduced effectiveness of agrichemicals, the team recognised the need for a more resilient orchard system. A shift in mindset—**seeing the orchard as a living ecosystem** rather than a production unit—sparked their transition toward regenerative practices. This chapter outlines the influences, motivations, and values that shaped this journey, and introduces the C&D Model Farm as a structured approach to testing, learning, and demonstrating regenerative orchard management in a commercial context.

Proud heritage spanning over **200 years**



Cultivates about **200 ha of apple** orchards across their Goldstone and Perry farms

One of the first farms to **commercially grow the Jazz variety**, following successful trials with WFL

p.9 **CHAPTER 2. TRANSLATING VISION INTO ACTION**

Chandler & Dunn's regenerative approach is grounded in managing the orchard as a connected ecosystem. **Using Land App, the team established a natural capital baseline to guide and monitor habitat integration.** Pollinator and wildflower strips have been introduced between orchard rows, alongside reduced mowing, increased organic matter inputs, drip irrigation, targeted water management, and integrated pest control that relies more on natural predators than chemicals. This chapter outlines how these practices work together to enhance soil structure, biodiversity, water efficiency, and orchard resilience under commercial growing conditions.

p.14 **CHAPTER 3. OUTCOMES AND FUTURE OUTLOOK**

Chandler & Dunn has observed higher Class 1 yields, improved storability, and visible signs of ecosystem recovery, including increased beneficial insect and bird activity. These outcomes have strengthened confidence in continuing the regenerative approach. Looking ahead, the **C&D Model Farm** will be used to further test, refine, and demonstrate practices under commercial conditions. By sharing lessons and evidence through the WFL grower network, the aim is to support wider adoption of regenerative approaches and **contribute to a more resilient and nature-positive orchard sector across the UK.**

Chapter 1: Chandler & Dunn's Sustainability Journey

1.1 A Changing Landscape for UK Fruit Growers

Across the United Kingdom, fruit growers face the dual challenge of maintaining profitable orchards while enhancing biodiversity, protecting soil health, and building resilience to climate change. As consumer expectations and retailer sustainability standards intensify, the ability to demonstrate measurable progress—rather than make aspirational commitments—has become essential.

Kent, long known as the "Garden of England," lies at the heart of this transformation. With 3,387 hectares dedicated to apple orchards (Orchard and Storage Census Report 2025), it remains the leading fruit-producing region in the UK. Yet the pressures are mounting. National orchard area has declined slightly over the past decade—from 5,577 hectares in 2016 to 5,532 hectares in 2025—with the two lowest-hectare years recorded in 2023 and 2024. The wider fruit area contracted by 6.8 % in 2024, even as total output value rose by 22 % to £350 million (Horticultural Statistics 2024).

Behind these figures lie compounding stressors: rising input and labour costs, increasingly warmer, wetter winters followed by hotter, drier summers, and declining pollinator populations. For progressive growers, managing natural capital is no longer an ethical choice but a strategic necessity for long-term viability.

1.2 A Family Farm at the Forefront of Change

Family-run Chandler & Dunn Ltd (C&D), based in East Kent, exemplifies how traditional farming enterprises are evolving. Spanning 610 hectares across Goldstone Farm (Ash) and Perry Farm (Wingham), the operation integrates fruit, arable, and livestock enterprises with ventures such as an on-farm butchery and camping business. Within this mosaic, 200 hectares of apple orchards form the heart of the enterprise and the focus of its sustainability ambitions.

Orchards in the Kent countryside

About Chandler & Dunn

- **Region:** East Kent
- **Scale:** 610 ha across Goldstone and Perry Farms
- **Fruit enterprise:** 200 ha of apple orchards
- **Markets:** UK retailers via WFL
- **Family Enterprises at a Glance:** Livestock (pedigree Sussex herd); Arable production; Goldstone Butchers; Sandwich Sausage Company; Farm camping enterprise

Photo by Chandler & Dunn

As one of Worldwide Fruit Limited's (WFL) flagship UK suppliers, C&D has built a strong reputation for stewardship and innovation. Its fruit enterprise—managed by Richard Chandler and Charlie Dunn—has consistently trialled new varieties, tested climate-resilient practices, and contributed to collaborative projects exploring orchard ecology and integrated pest management.

1.3 Seeing the Orchard as an Ecosystem

A quiet spring evening marked a turning point for Charlie Dunn. The orchards, usually alive with insects and pollinators, were still. The silence revealed what had been missing. "We'd created a tidy, efficient system," he recalls, "but one that wasn't alive."

Historically, like many commercial orchards, C&D relied on routine spraying and regular mowing to maintain uniformity. While efficient in the short term, this "green desert" approach limited biodiversity and reduced natural resilience. Recognising this, Charlie began to see the orchards not as production units but as living ecosystems, where soil health, water quality, and wildlife collectively underpin fruit quality and farm viability.

1.4 Mindset Shifts and New Influences

Transitioning toward regeneration required unlearning long-held assumptions. Generational habits, cost–risk considerations, and reliance on chemical inputs had historically favoured intensive management approaches. Over time, however, several factors began to shift thinking on the farm.

One was the changing effectiveness and availability of agrochemicals. Historically, the chemistry available was more powerful and required fewer applications. Today, achieving the same level of control often requires multiple rounds of spraying with less potent products—driving up fuel use, labour time, and overall costs. Stricter regulations and reduced availability further encouraged alternative approaches. Charlie also prefers not to use pesticides unless necessary, with health warnings on product packaging serving as a visible reminder of their wider impacts.

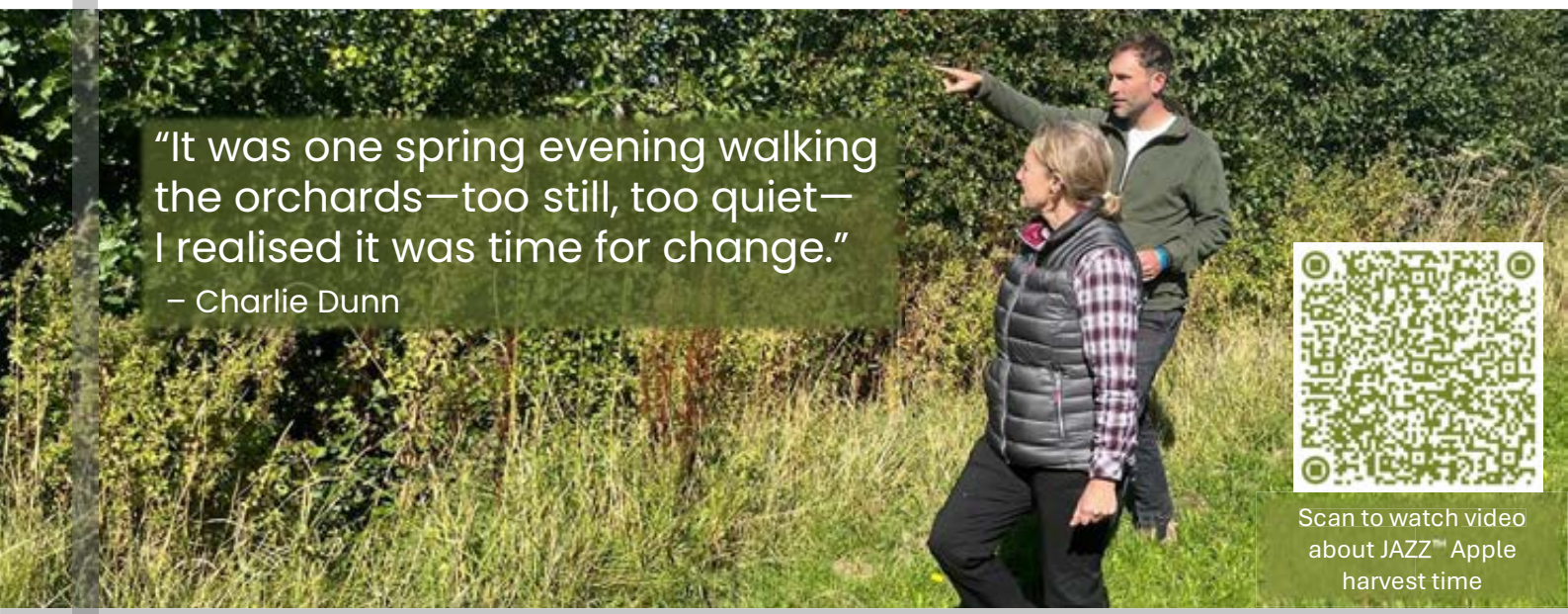
Environmental awareness also played a role. The nature of Charlie's work—spending long hours outdoors and observing the orchards across the seasons—reinforced a desire to see more biodiversity in and around the farmed landscape.

Peer networks and international exposure provided further inspiration. Initiatives linked to customer strategies, commitments, and targets — such as Net Zero Food Production — together with insights from the 2017 Next Gen Fruit Group visit to South Africa, demonstrated that alternative orchard-management approaches were both possible and productive.

Alongside this shift in mindset, there was growing recognition of the need for more consistent ways to measure regenerative change. Without standardised baselines or shared indicators, it had been difficult to quantify benefits or compare progress between orchards. Establishing a clearer, more data-driven approach became important for learning, decision-making, and communicating outcomes with confidence.

Policy developments have since begun to reinforce this direction. Programmes such as the Sustainable Farming Incentive (SFI) now support practices that enhance soil health and biodiversity. While these incentives did not drive the initial change at C&D, they provide alignment and reassurance for its continuation over the long term.

Together, these influences transformed curiosity into strategic intent. "We realised regeneration wasn't an alternative to productivity — it was how we'd stay productive," says Charlie.



1.5 Defining a Vision for the Future

C&D's transition is guided by the ambition to create an orchard system that is productive, resilient, and regenerative. The goal is to reduce reliance on agrochemicals, strengthen soil health, enhance biodiversity, and build a system that performs reliably under climate variability. This work is grounded in the development of the C&D Model Farm, which provides a structured approach to testing and refining regenerative orchard practices, with progress measured consistently over time. It also forms part of a wider WFL-facilitated model farm programme linking C&D with Dennegeur in South Africa, enabling aligned monitoring, shared methodologies, and knowledge exchange between regions.

The C&D Model Farm is

A regenerative orchard innovation and demonstration hub where practices are trialled, monitored, and evaluated under commercial conditions.

Its purpose is to:

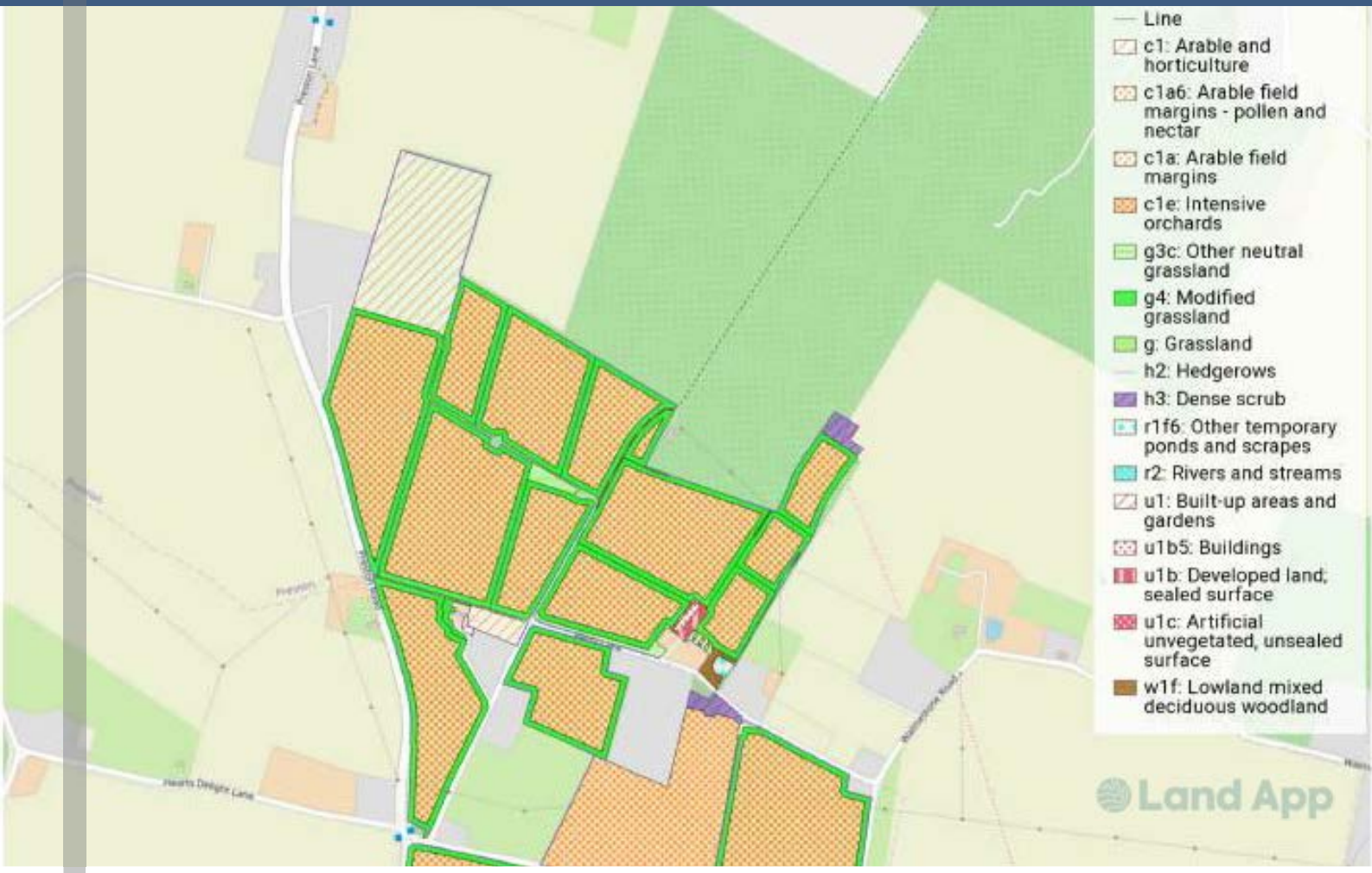
- ✓ Reduce reliance on agrochemicals & synthetic inputs
- ✓ Strengthen soil health, water efficiency, & biodiversity
- ✓ Improve resilience & long-term orchard performance
- ✓ Generate evidence that is repeatable & measurable

Its role in the grower network:

- ➢ Acts as a knowledge transfer hub for WFL growers.
- ➢ Provides a practical blueprint that others can adapt to their own contexts.

Focus areas:

- Water use efficiency
- Soil structure and health
- Carbon sequestration
- Organic nutrition
- Herbicide reduction
- Orchard biodiversity enhancement



Chapter 2: Translating Vision into Action

2.1 From Baseline to Action

To put its regenerative philosophy into practice, C&D first needed a clear picture of its existing natural assets. Working with Land App Accredited Professional George Chanarin, the team established a comprehensive baseline of habitats and natural features across the enterprise.

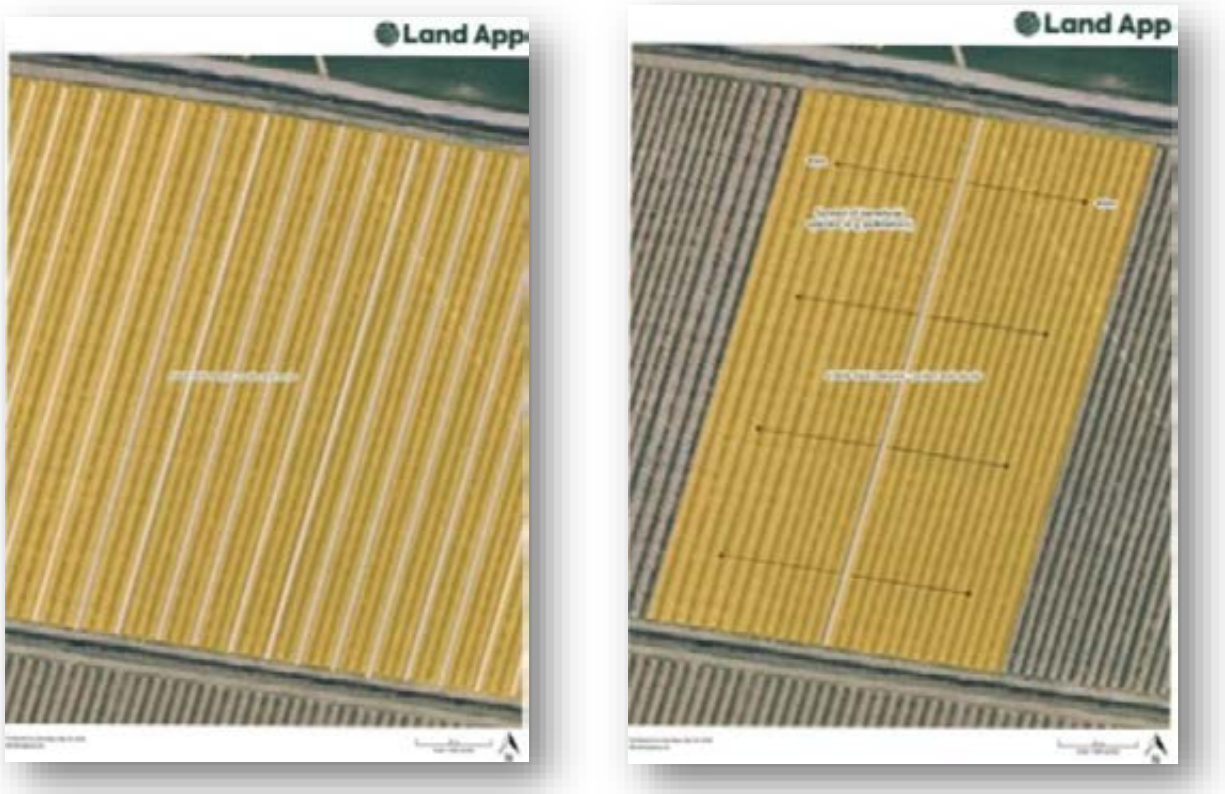
The mapping revealed an operation already performing strongly, with significant investment in natural infrastructure:

- **25 km of hedgerows** forming habitat corridors throughout the farm
- **Herb-rich leys** supporting diverse plant communities
- **Extensive field margins** buffering orchards from surrounding farmland
- **Habitat patches** for beneficial insects and pollinators

This baseline provided a verified starting point from which future interventions could be designed and their impacts measured with precision. Building on this foundation, the team began mapping where pollinator strips have been established and where future ones are planned within the orchards. This planning layer also helps visualise how ecological infrastructure will expand over time, supporting a clear pathway of continuous improvement.

2.2 Mapping Pollinator Strips Within Orchards

With the baseline in place, attention turned to pollinator integration. In one orchard block, Charlie established a system where a pollen-nectar mix was sown in every third row between apple trees. This alternating-row layout ensures that beneficial insects are evenly distributed across roughly one-third of the field, maximising their contribution to natural pest control.



Land App visualisation of alternating pollinator strips established between orchard rows, showing every third row planted with pollen and nectar mix.

Land App allowed these arrangements to be visualised clearly, communicated to staff, and shared with partners such as WFL—creating a transparent record of biodiversity integration across the orchards. This mapping approach also helps Charlie compare different layouts—such as every third row versus every fourth—and assess which seed mixes and strip widths work best under commercial growing conditions. The aim is not only to integrate habitats, but also to learn from them, refine them, and scale what proves effective.

2.3 Balancing Production and Biodiversity

By dedicating one-third of inter-row space to wildflower and pollinator strips, C&D demonstrates that ecological enhancement can strengthen overall orchard performance, supporting pollination and pest control without reducing yield.

Land App's analysis mapped the extent of this integration, revealing how ecological infrastructure supports the orchard ecosystem:

- **Habitat cover:** 19.76 % of the orchard area supports biodiversity
- **Core-to-edge ratio:** 21.66 % of cropland benefits directly from adjoining habitat
- **Habitat connectivity:** 95.64 %, enabling insect movement across orchards
- **Largest connected habitat area**: 153.74 ha

Together, these insights provide a practical foundation for testing, refining, and scaling habitat integration across additional orchard blocks. This orchard-scale integration is part of a broader shift toward managing the farm as a connected ecological system.

2.4 Regenerative Practices in Action

C&D's approach treats the farm as a connected ecosystem, where each element supports the next.

Soil Health and Fertility

- Application of organic chicken manure on 15 % of the land over the past two years to build organic matter and improve water retention.
- Minimal tillage throughout 15-year orchard lifespans to preserve soil structure.
- Annual fruit mineral analysis, with leaf analysis planned as part of Model Farm monitoring

These actions have improved soil structure and increased organic matter, resulting in healthier trees and greater natural resilience to pests and diseases.

Water Stewardship

- Drip irrigation has been installed across most new orchards.
- Groundwater and rainwater loggers are being used to identify moisture variations.
- Collaboration with NFU and local water authorities helps optimise water use and storage.
- Rainwater harvesting is planned from winter 2025 onwards.
- Targeted thinning is used to reduce water stress in young orchards and support even establishment.

Integrated Pest Management (IPM)

Alongside water management, the team has refined pest control methods to rely more on natural balance than on chemistry.

- Use of pheromone traps and targeted spraying only when pest thresholds are exceeded.
- Construction of 200 bamboo earwig homes from recycled orchard canes.
- Installation of bird, owl, and bat boxes made from repurposed apple bins to encourage natural predators.

A ‘no-mow’ approach allows wildflowers to establish, supporting pollinators and natural pest control.

Pollination and Biodiversity

- Headlands left unmown, later expanded into wildflower zones and ponds.
- Native species reintroduced into windbreaks to create connected habitat corridors.
- Wildflower mixes selected using NIAB East Malling Research (BeeSPOKE) guidelines.

This growing plant diversity ensures year-round food sources for pollinators and natural pest predators.

Crop Rotation and Variety

- Adoption of disease-resistant apple varieties such as Monalisa (planted 2022), requiring no fungicide for scab control.
- Crop rotation with arable and livestock operations.

Together, these crop rotations and variety choices support long-term orchard resilience and reduce dependency on chemical inputs.

Chapter 3: Outcomes and Future Outlook

3.1 Custodians of the Land

C&D's regenerative journey reflects both personal and professional commitment. For Charlie Dunn, the work is about responsibility and legacy—ensuring that the land remains productive and healthy for future generations. He describes himself and his team as "custodians of the land," guided by stewardship and long-term thinking.

3.2 Motivation and Evidence

Participation in the 2018 WFL–T&G wildflower trial provided strong evidence that ecological enhancement yields real benefits. Even in a difficult production year, orchards with wildflower strips performed better than comparable blocks, particularly regarding rosy apple aphid control. Seeing these results first-hand reinforced confidence in regenerative principles and deepened the motivation to keep improving.

Curiosity and continuous learning also drive progress. The team is constantly exploring how to improve soil performance and close the productivity gap between orchard blocks. Charlie's philosophy is simple but enduring: "You've got to give it a chance."

Healthier orchard systems have helped extend Class 1 fruit storability and performance.

3.3 Early Outcomes

C&D monitors annual fruit mineral status, biodiversity indicators, storability, and orchard performance metrics, ensuring that regenerative outcomes can be tracked consistently over time. This monitoring provides the basis for evaluating changes and building confidence in the practices adopted.

The benefits of regeneration are already visible across C&D's orchards.

- **Higher Class 1 yields and improved storability:** Jazz apples have stored successfully until June with minimal quality loss, extending the marketing window and supporting stronger returns.
- **Healthier trees and soils:** Improved soil structure and greater organic matter have enhanced water retention, reducing irrigation demand and stress during dry periods.
- **Increased biodiversity:** Beneficial insects and birds of prey are more abundant, indicating balanced ecosystems and improved natural pest control.
- **Visible ecosystem recovery:** Staff have noticed more earthworms while pruning and birds following tractors during field work—simple but powerful signs of life returning to the orchards.

Together, these changes point to a healthier and more resilient orchard system.

3.4 Positioning the Model Farm for the Next Phase

With foundations now established, work on the Model Farm has shifted toward preparing for the next phase of implementation. Seed mixes and orchard preparation have been finalised in collaboration with Omnia, Hutchinsons, Michelle Fountain and NIAB, with orders placed ahead of spring sowing. Once harvest concludes, the team will move directly into ground preparation. Supporting equipment, including a direct drill and a side-discharge spreader for non-living mulches, has also been secured.

A new fortnightly measurement routine has been introduced, linking crop-protection activities with recorded inputs across both trial and control orchards. A weekly biodiversity, pollinator and pest/disease log is now part of the orchard team's work programme, helping to build a clearer understanding of how the system responds over time.

Mulching is currently a major area of focus, particularly the processing and application of non-living mulches across treated areas. Finalising a combined biochar, compost and mulching strategy is dependent on full soil assessments and TerraMap results, which are pending.

Biochar workstreams are advancing in both the UK and South Africa, including assessment of equipment such as large mobile chippers, application rates, particle size, whether UV cover is required, and how best to blend biochar with compost. Trial design is being developed to assess water-use efficiency, soil-health improvements, disease suppression, cost–benefit performance, and mulch activation across both model farms from 2026 onward. As part of this work, the team is also exploring the potential of Johnson–Su bioreactors for orchard systems, with proof-of-concept trials planned ahead of any commercial application.

These activities represent a shift from establishing baselines to applying regenerative practices under monitored commercial conditions. Future case studies will profile the results, data, and learnings as implementation progresses.

3.4 Learning, Reflection, and Improvement

The early outcomes observed across C&D's orchards became evident within just a few seasons, reinforcing confidence in the regenerative approach and helping to inform ongoing work.

Charlie reflects that one lesson stands out: the importance of evidence. Quantifying impacts from the outset would have captured the value of regenerative practices even more clearly. This focus on measurable data now defines the farm's forward strategy—turning observation into verified insight.

Among the range of strategies tested, two have proven particularly effective:

1. **Building organic matter** through compost and manure application; and
2. **Establishing diverse wildflower mixes** that enhance soil biology and natural pest control.

3.5 Retail and Market Response

Retail partners have responded positively to C&D's efforts. Feedback from them highlights both the commitment behind the work and the tangible results achieved. Growing market recognition for regenerative produce reinforces the economic and reputational benefits of investing in long-term environmental stewardship.

3.6 Knowledge Sharing and Collective Impact

Beyond his own farm, Charlie aims to influence others through evidence-based knowledge sharing. He recognises that each grower faces unique conditions—there is no single template for regeneration—but shared learning can accelerate progress. His advice is pragmatic: do what's relevant to your farm, measure everything, and learn from the results.

Through platforms such as Fruition Producer Organisation and WFL's grower network, these lessons are helping others apply regenerative practices in their own contexts—driving collective improvement across the UK supply chain.

3.7 Support and Alignment Through WFL

Throughout this journey, WFL has played a key enabling role—standardising scorecards, supporting data collection, and providing a shared framework for monitoring natural capital. The farm's habitat mapping has been carried out using UKHab standards within Land App, providing a consistent way to assess baseline condition and track changes over time.

This shared approach allows WFL to identify where each supplier is already strong and where further support may be valuable. The same data also feeds into Product Carbon Footprinting (PCF) processes, capturing the carbon benefits of hedgerows, woodlands, and permanent pastures alongside emissions sources—offering a more holistic picture of environmental performance across the grower network.

By working alongside growers, WFL supports practical, on-farm change grounded in real experience.

3.8 The Next Decade

Looking ahead, the aim is to build on what has already been learned and to expand regenerative practices further across C&D's orchards. Through WFL's grower network, shared data and insights can help shape a more sustainable fruit-growing landscape across the UK—enhancing biodiversity, soil health, and water management at scale.

3.9 Conclusion

Orchards, as perennial cropping systems, offer a unique opportunity within British agriculture to demonstrate regenerative impact. Their stable structure allows ecological benefits to build over time, enabling pollinator habitat, hedgerows, and predator corridors to function as part of the production system rather than as external additions. The C&D Model Farm has been established to support this next stage. Its role is to provide a structured framework for testing, monitoring, and refining regenerative orchard practices under commercial conditions, helping translate practical experience into actionable insight for other growers.

C&D's experience to date shows that regeneration strengthens both farm and landscape resilience. By linking biodiversity, pollination, and productivity, Charlie Dunn and his team are helping to shape a new model for UK fruit farming—one where nature and agriculture work together to sustain future generations.

"We see ourselves as custodians of the land. The decisions we make now must leave the orchards stronger for the next generation."
– Charlie Dunn

Sources:

- Information for this case study was gathered from Interviews with Chandler & Dunn by the Worldwide Fruit team.
- Unless otherwise indicated, all photographs were captured by the Worldwide Fruit team during a site visit to Chandler & Dunn.
- Orchard and Storage Census Report 2025
- Horticulture Statistics 2024