# Farming for tomorrow: why productivity matters


## In the first of a new series, *CPM* explores with experts the importance of achieving and maintaining productivity in arable businesses.

*By Charlotte Cunningham*

**Productivity is among the many buzzwords regularly thrown about when discussing modern-day agriculture. But when you strip it back and delve into the semantics of the word, it offers an important reminder to growers who find themselves in a challenging era for crop production.**

Put simply, productivity is the state of being productive. The dictionary describes this as the effectiveness of productive effort, especially in industry, as measured in terms of the rate of output per unit of input.

This mention of comparison between output and input is vitally important when it comes to evaluating the overall productivity and efficiency of businesses – and there are a great number of factors that can impact this, explains James Webster-Rusk, senior agribusiness analyst at The Andersons Centre.

"It's a fairly challenging outlook at the moment," says James. "We've come out of a particularly difficult year in 2024 in terms of the weather impacts that we saw, and as we move further into 2025, things have been fairly sluggish.

"The price of wheat in particular has been reasonably suppressed and lacking any inspiration. But equally, costs have continued to rise and we're seeing that from all different sources."

When considering costs, James says

**Eyes on productivity**
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it's fixed ones which have a particular influence on businesses. "Once fixed costs are built in, they're very, very difficult to remove. It's a ratchet effect – where they click up and it's very challenging to reduce them again."

James says this is being exacerbated by the continued hike in pay, with minimum wage rising again this month (April). "This will increase costs by another 6.7%, plus the the National Insurance contributions that are going to come in at the same time which will bring more change for some businesses."

Adding to this is additional pressure from falling BPS rates, he explains. "We've gone from what we expected to see in terms of the decline in BPS, down to a maximum of £7200 for all farms. That's a significant hit on cashflow, particularly during the coming year, but also on overall profitability.

"This will be a real driver of change. We use model farms at Andersons to try and contextualise, and based on this, that's a change of about an expected £55/ha for this year down to around £12/ha for a 600/ha farm."

With all of these factors stacked against growers, James suggests the focus should remain on being as productive as possible. "This isn't necessarily a straight drive for yield at all costs – it's maximising output while keeping your inputs at a sensible level.

"In other words, it's not about throwing everything at the crop to maximise output and becoming unprofitable; it's about having a real focus on the efficiency of the inputs you're using."

Putting this into numbers, at current prices and using a 'back of an envelope' calculation, James says, crudely, a 10% increase in feed wheat yield, a 10% reduction in N applied and a 10% reduction in fungicide spend, with all other things being equal, would lead to a 16% rise in gross margin.

According to Ceres Rural's Louise Penn, as well as careful selection and usage of the physical inputs, a focus on the long-term sustainability of rotations can help to drive and optimise this efficiency and productivity.

"During recent years I think we've seen a realisation that soils have historically been quite neglected. Previously, many farmers were implementing shorter rotations and yields have stagnated as a result – particularly during the past decade."

Louise adds that part of the reason for this has been a focus on the 'green stuff' rather than soil. "But it's the soil which is going to help growers to make the most gains in the future."

**Delving into diversity**

**Thinking about long-term productivity, Ceres Rural's Louise Penn says something that will really benefit the soil is having diversity in rotations.**

Thinking about long-term productivity, something that should really benefit the soil is having diversity in rotations, says Louise. "The more diversity of crops you have, the more diversity of rooting you have and the more diverse microbial populations are going to be within your soil. Therefore, improving soil health and quality in the long-term will actually increase the productivity of those crops too."

## LONGER-TERM APPROACH

Louise highlights that it's important to take a longer-term view, as improvements will be based on marginal gains rather than huge changes. "However, if you can have a slight increase in yield, or healthier crops from healthier soil which require a little less input, then actually, that's going to give you the longer-term productivity and resilience which growers are grappling for at the moment."

Considering the specifics of rotational components, Louise advises ensuring the cropping approach is wider than just cereals. "We're seeing a lot of different options like maize, rye and pulses at the moment and incorporating these can go a long way to support that long-term sustainability – if grown and harvested in good conditions.

"Wheat remains king when you're comparing gross margins – it does generally give the best returns. But actually, there are a number of steps to take to ensure you're growing a good wheat crop and a lot of that comes down to what else is in the rotation.

"For example, if you can grow a good pulse crop, it's a favourable entry into winter wheat. There are other benefits too such as nitrogen fixation and the corresponding impact on the farm's carbon footprint, all of which add to both productivity and sustainability outlooks."

Taking into account all of the above challenges, as well as the potential solutions and opportunities to improve both the productivity and sustainability of arable rotations, KWS has launched a new initiative – Productivity$^2$. The firm says this should help growers to better understand the critical importance of production, yield and gross margin, while providing the tools to implement it at a farm level.

Productivity$^2$ builds on KWS' previous campaign, Sowing For Peak Performance, explains Kate Cobbold. "Sowing for Peak Performance underlined our commitment to help all growers get the very best from their crop genetics in the face of challenges such as climate change, reduced availability of agrochemistry and the desire to reduce the carbon footprint of production.

"But we've never downplayed the role of outright productivity, and with the rising costs involved in crop production, a new emphasis on the importance of food security and the ongoing pursuit of business sustainability, yield is still very much king."

KWS' commitment to driving productivity forward through its genetics was highlighted in the company's performance in the new 2025/26 RL.

"Significant successes for our new wheat varieties include additions to all of the four quality wheat groups with the new Group 1 KWS Vibe being the highest outright protein yielder and KWS Arnie, KWS Equipe and ▶

KWS Newbie taking the top three placings in Group 2," explains Kate.

"Turning to Group 3, new additions KWS Solitaire, the top Group 3 variety on the new RL with a yield 107% of controls and KWS Flute, another high yielding all-rounder, have the potential to serve all market opportunities be they distilling, export, feed or biscuits.

"In Group 4, where KWS Dawsum's reliability and all-round strength have made it the UK's most popular wheat by area grown in recent years, KWS Scope tops the Group and is the new RL overall with a yield of 108% of control for the UK as a whole.

"Then in barley, KWS' first hybrid variety Inys also takes the top slot for highest winter barley yield overall, together with a new two-row addition KWS Valencis becoming the highest yielding conventional variety on the list."

This focus on productivity extends beyond cereals, and according to KWS UK maize product manager Andrew Cook, average dry matter yields of early maturing KWS maize varieties have improved by 25.8% in between 2005 and 2023.

"In 2005, the average dry matter yield of our varieties with an FAO maturity rating of less than 170 was 15.9t/ha. But by 2023 that had risen to 20t/ha, with starch yields rising by 38.8% from 5.23t/ha to 7.26t/ha.

"This has occurred at the same time as new varieties being introduced with FAOs as low as 150, meaning maize can now be grown in a far wider range of locations with less heat units than ever before.

**Enhanced maize genetics**

**Average dry matter yields of early maturing KWS maize varieties have improved by 25.8% in between 2005 and 2023.**

"Depending on the trait, genetic gains in maize have been in the region of 1.3-2% a year and this is a trend we see continuing into the future."

Andrew believes such gains are exemplified by the latest varieties from the KWS stable, such as early variety KWS Reo (FAO 170) and KWS Portabello (FAO160/70).

"Then there's the later maturing KWS Zimo (FAO 190) which delivers high dry matter yields as a maincrop and is suitable for both ruminant feeding and AD use. Again, its excellent early vigour provides rapid establishment and promotes a longer growing window.

"Whereas Agrolino (FAO 200) is another great example of maize productivity in action, with its suitability for favourable sites enabling it to deliver heavy yields for both forage and biogas segments, where a long growing season is available."

It's the same situation in sugar beet, notes sugar beet product manager, Martin Brown, with KWS breeders delivering a range of varieties combining outright yield, high sugar content and strong functionality. "Katajana KWS, for example, is the highest yielding beet cyst nematode tolerant variety available to UK growers while Chyma KWS provides a new level of tolerance to cercospora through our CR+ trait. It's the only variety with this in the UK at the moment.

"Cercospora leaf spot (CLS) is one of the most destructive leaf diseases in sugar beet and can reduce crop yields by 50%. With CR+, the spots appear later and disease progression is slowed down considerably, so it's a highly valuable trait for growers.

"Often with beet varieties the introduction of new traits means these 'novel varieties' aren't on par with the elites and have a significant yield lag, however Chyma bucks this trend."

Smart Uma KWS – a Conviso Smart variety – is another example of how genetics and technology can work together to deliver higher productivity in sugar beet production, adds Martin. "It's a sound choice for growers with its Conviso technology not only helping with weed control, but also with workloads across the rotation.

"Developed by KWS and Bayer, the system reduces herbicide applications through the development of specific varieties, like Smart Uma KWS, which are resistant to the Conviso One herbicide.

"With only one application required for highly effective control of a broad spectrum of weeds in sugar beet, it simplifies herbicide choice while also freeing up time for spray operators across all crops, helping to apply chemistry at the time it's most effective."

**Committing to the future**

**KWS' Kate Cobbold says the firm's new Productivity$^2$ initiative is evidence of their commitment to identifying and developing the genetic components of yield required to fast-track the super-varieties in demand to build a sustainable, secure and resilient food supply chain.**

Kate concludes: "These varieties are first in a pipeline of what's been achieved so far. Productivity$^2$ is evidence of our commitment to identifying and developing the genetic components of yield required to fast-track the super-varieties in demand to build a sustainable, secure and resilient food supply chain."

## Productivity Matters

In this new series, Productivity Matters, *CPM* has teamed up with KWS to examine the breadth and depth of how optimum productivity can be achieved within arable rotations.