

British Guild of Agricultural Journalists
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Good advice is the key, says farmer-inventor

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Coming up with an innovative idea invariably stems from identifying a need or useful improvement; and that was certainly the case with Micheal Summers, whose Smartprobe grain moisture meter is unique in that it can be 'read' from ground level without the expense of a wireless transmission system.

But rather than just describing the features and benefits of his device, this article explores the often tortuous process of turning an innovative idea into a commercial product. It explores elements of product design, development, patent protection, packaging and distribution through Mr Summers' experience to give some guiding pointers for other would-be farming innovators.

Peter Hill

Good advice is the key, says farmer-inventor

Bringing a new product to market is fraught with difficulties for farmers wanting to diversify their business. But at least the Lamma show offers a relatively low-cost launchpad for such ventures. **Peter Hill** reports

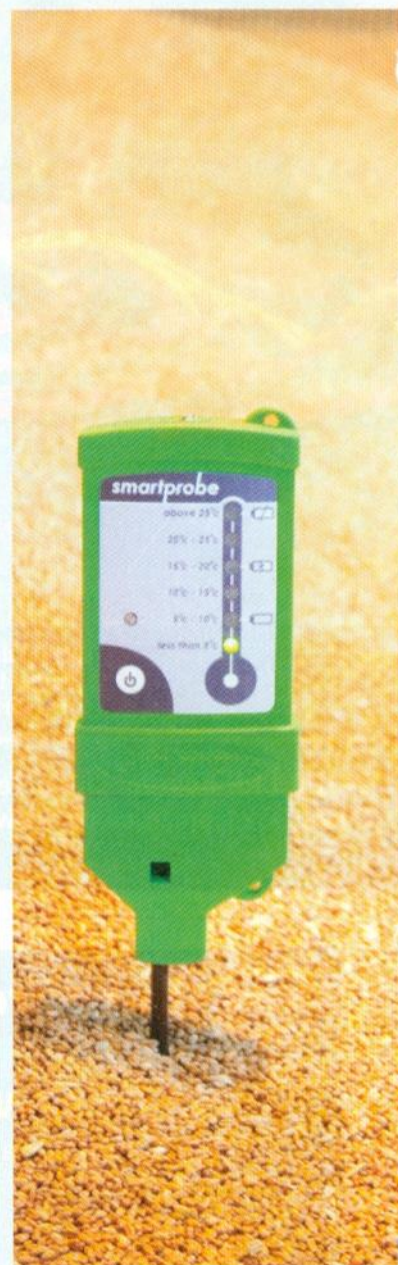
The first day of last year's Lamma show could not have gone better for arable farmer Micheal Summers. Cold fingers and toes were forgotten as the outcome of a challenging

farm diversification project was received enthusiastically by fellow growers.

"It was a great relief and also very exciting that we got such a good response," he says. "It made all the

effort worthwhile because it looked as though we had a viable product on our hands."

Mr Summers has joined a growing number of farmers looking for additional income streams who



have successfully created a product that people want to buy. Rapeseed oil, organic flour and microbrewed beer are among the farm-related products that have been devised, packaged and brought to market.

The Smartprobe grain temperature monitoring device is Mr Sum-

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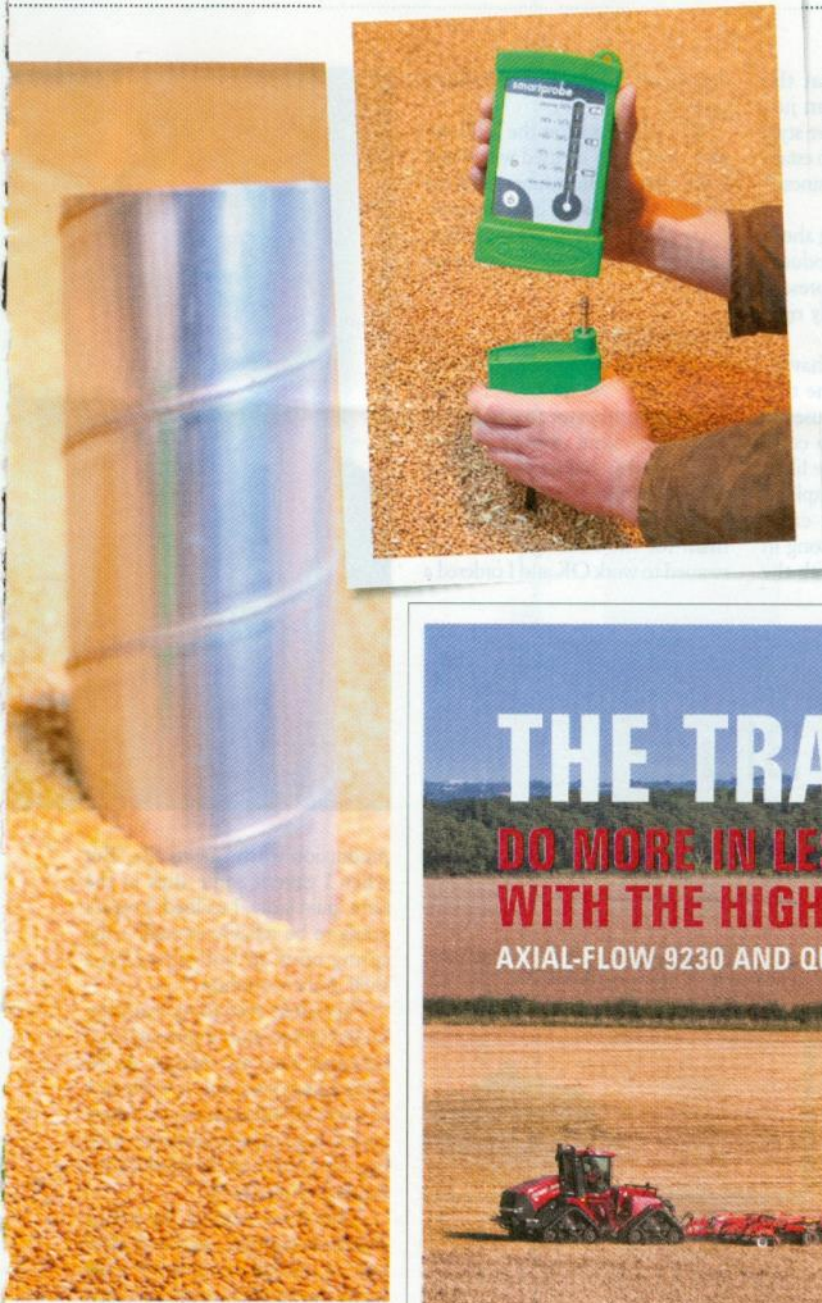
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The original prototype proved the concept and is still happily reporting grain temperature in the farm store.

personal experience. "It came to mind after I spent some time clambering up piles of grain to monitor temperature using a conventional spear," says Mr Summers. "I expected to find something that would make the job easier and was surprised when the only alternatives were expensive and quite technical network systems. "I thought something

in between a complex system and the basic spear would already be made and was inspired by the LED display on a battery tester I use in the farm workshop," he adds. "After I suggested the idea to a grain spear supplier and found they weren't the least bit interested, I decided to look into it further."

Research into the likely cost of getting the device to market, as well as some rudimentary calculations as to potential sales, suggested this could be the answer to the diversification dilemma.

TELLING FARMERS

"Having spent 15 years as an agricultural banker telling farmers how to run their businesses, I had →p104

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mers' contribution to this entrepreneurial trend. It looks as well made, packaged and presented as anything produced by an established business, but only because it has been subjected to detailed preparation.

EXTRA INCOME

Mr Summers and his wife Karen, who took on the tenancy of the family's 190ha farm near Market Harborough, Leicestershire, a little over a year ago, were aware of the need for an extra income stream for the business when he became involved in running the farm after 15 years working as a regional agricultural banking manager.

Stonton Wyville Farms grows winter wheat, oilseed rape and oats (the latter under contract to a horse feed manufacturer) and, as is often the case with new devices, the Smartprobe is the outcome of

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to put my money where my mouth is," says Mr Summers. "I didn't know it at the time but I was setting out on a challenge that I'd have happily packed in several times over the following months."

A key element of the programme has been to find companies able to undertake different aspects of the design and manufacturing requirements of the project.

One company that develops electronic devices produced a rough prototype to see if the idea worked. It then liaised with a plastics prototyping specialist to come up with a layout for the electronic components and a design for the casing that would be easy to manufacture and assemble, and look good too.

"I decided early on that the device had to be more than just functional – it needed to have style and a quality that would help establish a name for our new business," says Mr Summers.

"We were already thinking ahead to the potential for other products, so we felt it important to present the equipment professionally right from the outset."

He also concluded that having a detachable probe and one that could fold in half would be useful.

"We originally planned a combined display unit and probe like a conventional grain spear," explains Mr Summers. "But you can't easily send something 2m long in the post, so we came up with the

detachable head unit and folding probe."

That will also allow the LED display module to be used with other types of probe in future – and the display module itself is production-ready for future developments that remain under wraps for the time being.

GIVING IT SOME STICK

It was while devising the folding probe that Mr Summers came to fully appreciate the need for thorough testing at every stage of development before committing to production.

"We designed a spring mechanism for the folding probe that seemed to work OK and I ordered a



production batch," he recalls. "But when I gave it some stick in the farm grain store, I realised it wasn't going to be reliable enough – the spring units are still sitting on a shelf in the workshop."

Thereafter, everything was thoroughly tested and re-prototyped if necessary after any changes. As Mr Summers points out, it is cheaper to make modifications and changes at that stage than when costly tooling has been made to produce the finished components.

A die for moulding the plastic casing, for example, cost the equivalent of a small car despite being made by a manufacturer in China for a quarter of the cost of having it made in Britain.

The electronic components are produced closer to home – just four miles up the road from the farm, in fact – and local suppliers have been signed up where pos-

*** If you anticipate selling overseas, take out patents in every market – otherwise, ideas can be copied via the internet before you've had a chance to exploit them**

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Micheal Summers was tempted to give up on the complex process of bringing the Grainsafe Smartprobe to market – but response to the device at last year's Lamma show convinced him to stick with it.

to exploit them.”

CE MARK

Obtaining the CE Mark required to sell products within Europe was more challenging because it is up to the supplier to determine which of the myriad regulations apply to the product before making sure it complies with them.

“In our case, because the Smartprobe has batteries, we had to ensure compliance with several

different regulations, including one that requires us to have a recycling process in place,” Mr Summers explains. “We took professional advice for both patents and the CE Mark but you really have to understand what you’re doing yourself.”

His best decision? Employing a professional with commercial experience to help run the project, he answers.

“It’s tempting to have someone who just helps with administration but Julie Hine has dealt with suppliers and worked on our packaging and marketing resources to keep the project moving during her two days a week with us when I’ve had to devote time to the farm or other aspects of the project,” says Mr

Summers.

And what has it all cost? “Let’s put it this way,” he responds. “It’s all been financed out of farm cashflow thanks to the excellent harvest we had in 2011 and it has been quite tax-efficient because of generous allowances for R&D expenditure.”

“I could have bought a 150-200hp tractor with what we spent – but all I’d have is a fancy tractor,” he adds. “With this investment, we’ve created a new business that, all being well, will make a significant contribution to future farm income.”

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sible. The biggest outlay is for tooling up; after that, relatively small production runs can be ordered cost-effectively.

“That means we don’t have to carry a lot of components in stock,” notes Mr Summer. “And because the Smartprobe is quick to assemble, test and package for dispatch, I can get one out in a day if I don’t have any built up.”

DIFFERENT SUPPLIERS

In all, Smartprobe production draws on supplies from 12 different suppliers. These range from everything from the electronic components made up the road to the casing made in China and from the cardboard boxes they are dispatched in to the recyclable branded sticky tape that secures them.

“In the development process they all had suggestions and ideas of their own,” says Mr Summers. “But while it’s important to take note, it’s also important to stick with your vision and ultimately get things done the way you want them.”

Applying for patent protection was one of least onerous aspects of the project, being neither as complicated nor as expensive as expected.

But nor is the protection as strong as might be expected, Mr Summers warns: “If you anticipate selling your product overseas, then you need to take out patents in every market – otherwise, with easy access to information via the internet, novel ideas can soon be copied before you’ve had a chance

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