Four surprising proteins on the future menu

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We're thinking more about the food on our plates, and where it comes

from, these days. To cater to changing tastes and dietary preferences, menu options are being rewritten across Australia and the globe.

There will be an extra two billion mouths to feed come 2050. So, we're going to need to produce more protein, sustainably, and from more sources.

That's where innovative science and technology step in. The proteins we eat and how they're made are changing. There are almost endless possibilities for foods of the future.

Here are four surprising and tasty options our Future Protein Mission is helping Australia plate up in future.

1. Move over meat pie, enter meat slice

Protein powders can come from all sorts of sources. You are probably familiar with whey and plant-based options like pea and rice protein.

With Meat & Livestock Australia, we've been working on new form of protein powder. It's made from meat and is suitable for sweets.

It's surprisingly white and flavorless, so it can add a high protein-punch to snacks from protein balls, to snack bars and smoothies. As it's derived from lesser cuts of red meat, it's a smart way to add value to Australian industry.

Australia has a point of difference to deliver on this too. Australian red meat is high-quality and safe with comparatively high sustainability credentials. While still in development, our Future Protein Mission is working fast to bring it to market.

2. Capturing the science in your home brew

Fermentation has been used for thousands of years to preserve and make foods like bread and cheese.

Now, a new technique known as precision fermentation offers a way to rapidly make new complex protein ingredients from yeast, fungi and algae. It uses the same fundamental principles as fermentation but is more precise: harnessing microorganisms to replicate natural proteins with almost endless possibilities.

Precision fermentation has a small environmental footprint and rapidly produces protein in large volumes. It's making way for new products, such as animal-free milk options. These taste much the same as cow's milk and contain the same nutrients as dairy.

3. Growing a taste for lupins

Ever heard of lupins? This legume is super nutritious and very high in protein and fiber, but they aren't mainstream. At least, not yet.

Early varieties were bitter to taste but an Australian sweet lupin variety was developed last century. Australia now produces about 55 percent of the world's lupin supply, albeit mostly for animal feed.

By further developing the taste and nutritional profile of lupins, we can expect to see these on more dinner tables around the world. That includes turning them into high-protein ingredients, like flours for use in products through to home baking.

4. Adding a new white fish to the menu

Australia has a thriving salmon industry. But, with the exception of barramundi and some emerging industries, we don't farm a large volume of white-flesh fish.

With consumer demand growing, particularly for sustainable options, we're hoping to change this. We've identified a promising local white-flesh species, pompano. Typically prized as a sport fish, we're working on bringing it to dinner tables.

Our focus is on sustainable farming practices that uphold high welfare standards.

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