

Cheese without the cow: Could bioengineering produce animal-free dairy products?

Australian-US firm Change Foods is creating cheese from scratch using bio-engineering technology, claiming that their products will hold an advantage over other current cheese alternatives in terms of faster product, price parity and customization for healthy traits.

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Change Foods is the first in Australia to work on cheese production from a bio-engineering point of view, which its Founder and CEO David Bucca says gives it an advantage over other technology such as cell-based production

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Change Foods' fermentation technology is based on using a microbial host to directly synthesize the compounds required to make cheese directly to skip ahead several steps.

"From a dairy point of view, the rest of the cow is essentially inefficient and not needed other than to metabolize grass into milk – so we've gotten rid of this huge animal and shifted focus to feeding a microbial host with feedstock like sugar to produce the cheese compounds and directly process that into cheese instead of producing milk and then taking more steps to convert this,"? said Bucca.

"Right now we're narrowing down the optimal host from microbes such as bacteria, yeast and filamentous fungi, and are also optimizing the best contender for each compound we want: Casein to make the cheese, and microbial lipids to give aroma, texture and profile."?

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