

27 May 2021

## WOA ENTERS CONSUMER DEVELOPMENT FOR BILLION DOLLAR PLANT-BASED MARKETS

### Highlights:

- *Extensive research program led by Curtin University has successfully produced a number of early-stage food and drink prototypes using WOA's Modified Lupin Protein (MLP) concentrate*
- *MLP was successfully added to WOA's oat milk product OatUP increasing the protein levels. Plans are underway to rapidly develop and launch this as an additional OatUP product line*
- *An udon noodle was fortified with MPL, creating a protein-enhanced noodle with a desirable, firm texture when eaten*
- *Confirmed the MLP concentrate can become an instantly soluble powder, with potential for protein enrichment in hot drinks or protein supplement for sports beverages*
- *MLP was shown to form a gel-like matrix which can be used to create plant-based yoghurt, cheese, tofu or mayonaise*
- *Early-stage meat analogue formed from MPL was more cohesive than soy, highlighting potential as a non-GMO ingredient for plant-based meat analogues*
- *Results confirm MLP can be used as a food ingredient and transition WOA into consumer product development targeting five multi-billion-dollar global food and beverage categories*
- *Lupin based protein balls have been developed and are now available to purchase at [dirtycleanfood.com.au](http://dirtycleanfood.com.au)*

**Wide Open Agriculture (WOA)** ("WOA" or the "Company") is pleased to announce that following a three-month intensive research program led by Curtin University and food scientist and co-inventor of the lupin technology, Dr Stuart Johnson, a number of early-stage food and drink prototypes have successfully been developed using WOA's Modified Lupin Protein (MLP) concentrate.

This marks the most significant milestone in the Company’s lupin project to date and is a major step towards confirming the commercial viability of using MLP across multiple plant-based food and beverage sectors.

The research confirmed that MLP can be added to WOA’s oat milk product OatUP, which will increase the milk’s protein level. Plans are now underway to rapidly develop and launch a protein enhanced oat milk product as an additional product line. High protein, low GI (glycaemic index) udon noodles were also successfully created, tasted and product development will be progressed.

Results have confirmed that the MLP can form a gel-like matrix using additional gelation mixtures, which can then be used to create plant-based yoghurt, cheese and mayonnaise products. Oat and lupin protein balls have also been developed and are now available for purchase on [dirtycleanfood.com.au](http://dirtycleanfood.com.au).

In an encouraging development, an early-stage plant-based burger matrix has been developed and displayed good qualities of texture and gelation. This product can now be used as the base material for further development to create a plant-based burger, sausage or mince for taste, sensory and nutritional testing.

Developing these early-stage food prototypes was a critical step towards commercialisation, as it unlocks the possibility for global food manufacturers to develop and launch their own products using MLP as a key ingredient. It also accelerates WOA’s ability to develop, launch and market multiple plant-based protein products under the Dirty Clean Food brand.

The research has also provided WOA with the critical data and building blocks to transition into consumer product development across five food and beverage categories, including plant-based meat, non-dairy milk alternatives, noodles, plant-based snacks and protein supplements.



(1) PV Plant Milk Report (2) Future Market Insights (3) Zion Market Research (4) Markets and Markets (5) Grand View Research



## Category 1 – Plant-based milk

WOA has successfully added MLP concentrate to OatUP which has increased the milk’s protein level. This would allow the product to compete more strongly against soy and dairy milks which have slightly higher protein levels than traditional oat milks.

Highly encouraging feedback surrounding the taste, nutrition and eco-friendly credentials of this protein enhanced OatUP has led to an increased corporate focus to rapidly develop and launch a new product line. Discussions are already underway with OatUP development partners to rapidly generate a proof-of-concept product. This product would become an alternative option for consumers alongside traditional OatUP which is currently on sale.



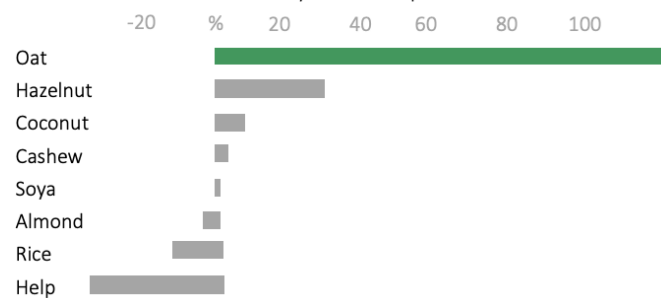
### \$3.7BN GLOBAL MARKET

The global oat milk market was estimated at USD 3.7 billion in 2019 and is expected to grow at a compound annual growth rate (CAGR) of 9.8% from 2020 to 2027.<sup>1</sup>

Grand View Research (1) Nielsen: UK Data (2)

### SALES OUTPACING OTHER ALTERNATIVE MILK <sup>2</sup>

Oat milk sales grew by 108% in the year to 30 January while more established almond and soya milk sales plateaued



## Category 2 - Plant-based meat alternatives

The potential for modified lupin protein concentrates to form a stable emulsion gel matrices (a base for embedding meat-like fibres of plant protein for a plant-based meat) has been successful. This gel can now be used as the base material for creating plant-based meat products with further development underway to create a plant-based burger for taste and nutritional testing. Additional meat alternatives such as plant-based sausage, chicken and mince will also be investigated in future research.

Beyond Meat, Impossible Foods and Burcon utilise or manufacture plant-based proteins as the key ingredient of their current alternative meat range. With an increasing number of products becoming available in supermarkets globally, these products are being accessed by consumers as to their impact on climate change, animal-welfare concerns and potential health benefits they may have.



Beyond Meat  
US\$7.5 billion Valuation <sup>1</sup>



Impossible Foods  
US\$4 billion valuation <sup>2</sup>



Burcon NutraScience  
US\$416m Valuation <sup>3</sup>

(1) Yahoo Finance @ 26<sup>th</sup> May 2021 (2) March 2020 Reuters Article: Impossible Foods raises \$500 million at nearly \$4 billion valuation (3) Yahoo Finance @ 26<sup>th</sup> May 2021



If successful in creating plant-based meat products in the future, WOA believes there are a number of promising attributes that could make the Company's lupin-based products stand out at the point of sale. Lupins are low GI, high in protein and dietary fibre, non-GMO and gluten free. They also have a low carbon foot-print, low water pollution and are an important component of regenerative farming systems.

### **Category 3 – Plant-based snacks**

WOA has developed and launched plant-based protein balls which are now available to purchase at [dirtycleanfood.com.au](http://dirtycleanfood.com.au). The protein balls are made using standard lupin protein, which does not require WOA's patented process to create WOA's Modified Lupin Protein (MLP) concentrate which will be applied to develop more complex food products.

The limited edition Oatein balls will have limited impact on revenue but demonstrate that WOA has successfully transitioned into selling a lupin-based product within a short timeframe. The Company will now investigate other potential lupin products that can be sold in small batches.



Additionally, udon, which are wheat flour noodles were fortified with lupin protein, creating a ready to eat protein enhanced noodle that has a base formula that could transition into pasta products. The noodles remained solid when boiled and the next phase of development is underway to produce a consumer ready gluten-free, low-GI noodle.

Results also confirmed that the modified lupin protein concentrate can form a gel-like matrices using additional gelation mixtures, which can then be used to create plant-based yogurt, cheese and mayonnaise products. An early-stage yogurt product was created and initial taste tests are promising.

### **Category 4 – Protein supplements**

During testing, it was confirmed that the MLP concentrate can become an instantly soluble powder, which can be used for protein enrichment in hot drinks or as a protein supplement for sports beverages. This is a highly encouraging outcome and the Company will investigate if additional supplements and vitamins can be incorporated to create a plant-based protein powder for sports drinks.



## Next steps

WOA's business development strategy is two pronged with a focus on DCF in-house product development along with offering the modified lupin protein to external food manufacturers.

Data from these results will be used for in-house consumer product development of oat milk and udon noodles and components such as flavourings and colours will be incorporated to produce a number of final products which could be sold to consumers.

The research outcomes are also expected to reduce the time required for future product development work and the scale-up required towards commercial production of food and drink products for wholesale and retail distribution. WOA is also in final stages of consideration to purchase pilot-scale food processing equipment for in-house development.

This announcement has been authorised and approved in accordance with the Company's published continuous disclosure policy and has been approved by the Board.

## [ENDS]

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## About Wide Open Agriculture Ltd

Wide Open Agriculture (WOA) is Australia's leading ASX-listed regenerative food and agriculture company. The Company's innovative Dirty Clean Food brand markets and distributes food products with a focus on conscious consumers in Australia and South-East Asia. Products are chosen based on their market potential and the positive impact they deliver to farmers, their farmland and regional communities. The company is based in the Wheatbelt of Western Australia. WOA operates under a '4 Returns' framework and seeks to deliver measurable outcomes on financial, natural, social and inspirational returns.

WOA is listed on the Australian Securities Exchange (code: WOA) and the Frankfurt Stock Exchange (code: 2WO) and is the world's first '4 Returns' publicly listed company.

[www.wideopenagriculture.com.au](http://www.wideopenagriculture.com.au)

[www.dirtycleanfood.com.au](http://www.dirtycleanfood.com.au)

Sources:

(1) pulseaus.com.au

