



# Ag & Vet Weekly

Monday October 7 – Friday October 11, 2019

*All the news on ASX-listed agriculture and veterinary companies*

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- \* NORMAN LI TAKES 37% OF FOOD REVOLUTION THROUGH CARELINE
- \* FANUCCI, DOMENAL, SANDRA MARTINO TAKE 9% OF FOOD REVOLUTION
- \* AUST PRIMARY HEMP: MANN 12%, HOOD 8%, PETRICEVIC 7%
- \* FONTERRA APPOINTS FRASER WHINERAY COO
- \* SYNLAIT CFO NIGEL GREENWOOD TO RESIGN

## MARKET REPORT

The Australian stock market was up 0.91 percent on Friday October 11, with the ASX200 up 59.7.1 points to 6,606.8 points. Eleven of the AVW-42 stocks were up, 19 fell, six traded unchanged and six were untraded.

Food Revolution was the best, up 0.9 cents or 13.6 percent to 7.5 cents with 3.7 million shares traded. Memphasys climbed 7.1 percent; Nanollose improved four percent; MGC Pharmaceuticals rose 2.9 percent; A2 Milk, Costa, Elders and National Veterinary were up one percent or more; with Bega, Fonterra and Tassal up by less than one percent.

Pharmaust led the falls, down one cent or 7.41 percent to 12.5 cents with 1.8 million shares traded. Cann Group lost 6.8 percent; Cann Global, Creso, Nufarm and Roots fell four or more percent; Murray Cod and THC were down more than three percent; Apiam and Select Harvests shed more than two percent; Auscann, Elixinol, and Seafarms were down more than one percent, with Althea, Bubs, Clean Seas, Clover, Ridley and Synlait down by less than one percent.

## DR BOREHAM'S CRUCIBLE: CANNPAL ANIMAL THERAPEUTICS

**By TIM BOREHAM**

**ASX code:** CP1

**Market cap:** \$13.0 million

**Share price:** 14 cents

**Shares on issue:** 93,125,000

**Founder and chief executive officer:** Layton Mills

**Board:** Geoff Starr (chairman), Layton Mills, Robert (Max) Johnston, Robert Clifford, Dr Kathryn Adams.

**Financials (year to June 30 2019):** revenue \$103,579\* (up 35%), loss of \$2 million (previously \$1.7 million deficit), cash of \$3.3 million (down 35%).

\* Excludes \$297,300 R&D tax refund

**Major holders:** The Trust Co (Merchant Opportunities Fund) 19.61%, Gemelli Nominees (Harry Karelis) 9.32%, Pepaanne Pty Ltd (Andrew Chapman) 8.23%, Tania Maree Vidovic 7.39%, Layton Mills 8.06%, John Andrew Rogers 3.33%

The truth about cats and dogs is that there are more pet felines in the world than mutts.

On Cannpal's industry numbers, US households have 90 million dogs and 94 million cats. In Europe pussies outnumber hounds 72 million to 63 million.

In the Asia Pacific, the moggie domination rises to 78 million versus 58 million.

Yet in the US only 30 percent to 33 percent of the \$US72 billion annual pet care spend is attributed to cats, with dogs accounting for around 60 percent (other beasts account for the rest, notably horses and - believe it or not - racing pigeons).

At the risk of backlash from the #miaowtoo movement, we reckon that dog owners are far more attached to their four-legged companions than cat owners and more willing to spend on costly procedures such as joint operations.

Cannpal chief Layton Mills cautiously agrees - very cautiously - with this contention, but adds there are physiological reason why the cannabis therapy developer is focused on dog treatments.

"Almost all cats have arthritis but there is only one approved anti-inflammatory that can be used for cats," he says. "Cats have a much more sensitive mechanism and we would need to do much more early work."

So at least for the time being, the dogs rule around the corridors of Cannpal's Double Bay HQ in Sydney, with the company focused on developing both a prescription drug for canine osteoarthritis and at least one food additive style product for doggie dermatitis.

Whatever the quadruped in question, there's a paw-city of approved treatments - and no cannabis-based remedies.

### **Cannpal prospectus passes the vet check**

In the world's crowded cannabis corner, Cannpal can claim to be the only pot stock exclusively focused on companion animal health (although it does have a vague human health research alliance with Zelda Therapeutics)

Founded by Mr Mills in June 2016, Cannpal raised \$1.5 million in seed capital and then listed on the ASX in October 2017 after raising \$6 million at 20 cents apiece in an oversubscribed initial public offer (IPO).

Notable backers include the Perth-based Merchant Opportunities Fund, which held a 27 percent stake pre-IPO and is still the company's largest holder on 19.6 percent.

Harry Karelis, who owns 8.2 percent, founded Auscann and Zelda and - more recently - the unlisted Eurocann. He also founded the non-marijuana Phylogica and was a director and chairman of Neurodiscovery before it became Oncosil.

Mr Mills has a background in fast moving consumer goods, having launched several products in the Australian market.

Chairman Geoff Starr has run the pet food businesses of multinationals Unilever and Mars Group.

For a bit of showbiz pizzazz - and on-the-ground veterinary experience, director Dr Kate Adams owns the 'as seen on TV' Bondi Vet Hospital.

Cannpal's therapeutic remit remains essentially the same, although it is pursuing a prescription route for its planned skin treatments, rather than the originally intended over-the-counter strategy.

A key point is that Cannpal has no interest in growing or handling the hash itself, but has the requisite approvals to obtain the stuff for research purposes.

### **The dope on the doggie drug trade**

The starting point is that there are no approved cannabis-based animal drugs. But treatments are being sold via a legal loophole and are widely available online.

“A lot of vets are importing CBD [cannabidiol] illegally or getting it from places like Nimbin,” Mr Mills says.

Northern New South Wales’ pot capital? Should have known ...

Mr Mills adds the vast majority want a product that can be prescribed legally - and won’t exactly advocate mulling up for Molly in a heartbeat.

“In global markets it’s clear that if you want to sell cannabis products, they need to be approved veterinary medicines,” he says.

Mr Mills says the US Food and Drugs Administration, which is responsible for animal health products there, is clearly concerned about the unregulated trade. Having said that, the area is a low priority relative to more pressing human concerns such as controlling vaping and opiate abuse.

### **Cannpal’s dual focus**

Cannpal’s lead compound CPAT-01 is an oral liquid to treat osteoarthritis. About one in four dogs will develop osteoarthritis, while 65 percent of those aged over seven are thus afflicted.

CPAT-01 contains the ‘whoopie’ agent THC, tetrahydrocannabidiol, but with low psycho-activity because of the “synergistic” effects of the cannabidiol and the THC.

CPAT-1 influences the genes and biomarkers that modulate the inflammation process, including the cannabinoid receptor 2 that plays a key role in pain and inflammation signalling and responses.

CPAT-01 is expected to compete with existing non-steroidal anti-inflammatory drugs (Nsaids) which have known adverse effects.

These include the Zoetis-owned Rymadol (carprofen), the Aratana-owned Galliprant (grapiprant) and Boehringer Ingelheim’s Metacam (meloxicam).

“If you can improve anti-inflammatory responses you can also get a benefit that extends to other conditions such as mood enhancement and anxiety,” Mr Mills says.

As for food additives, or what the marketing people like to call “nutraceuticals”, the company is developing Dermacann, a non-THC product for inflammatory skin conditions.

Arguably, Mr Mills says, the product could be sold as an over-the-counter food additive - and better than what’s currently on the market.

The product could be an adjunct to existing non-cannabinoid treatments such as Apoquel (oclactinib), an allergic dermatitis treatment that turned over \$US500 million last year.

## **Passing the vet test**

Dermacann is the subject of trials at two specialist dermatology clinics, in Sydney and Brisbane with the intended recruitment of 30 dogs.

Endpoints include improvement in skin health and improvement in the targeted biomarkers.

The company has already approached the Australian Pesticides and Veterinary Medicines for a steer on the path to approval.

With CPAT-01, the company has launched two trials, having applied to the US Food and Drug Administration for investigational new animal drug status.

A dose escalation effort, the first trial involves 60 dogs across 12 vet clinics and is structured as a randomized, placebo-controlled, double-blinded trial.

The first dog was dosed in August. More of a safety trial, the second effort is being carried out by the Canadian contract research organization, Kingfisher.

Earlier trials involving 48 beagles and foxhounds passed all of the usual safety and pharmacokinetic stuff. The trials also detected “significant” changes to the gene pathways and biomarkers known to modulate the anti-inflammation process.

The latest trials will assess visual measures such as lameness and observable pain.

“We are also looking at inflammatory biomarkers such as gene expression and establishing parameters we can take into the next [pivotal] studies,” Mr Mills says.

He says the trick is to harness the hundreds of cannabis constituent ingredients – such as cannabinoids and flavonoids – into specific and effective treatments.

“What might work for one dog might not work for another.”

## **Something else to chew on**

Cannpal is also in a research collaboration with the revered Commonwealth Scientific and Industrial Research Organisation to explore hemp and cannabis oil drug delivery via micro-encapsulation technologies.

As anyone who has owned a dog or a cat would know, dispensing a pleasant flavored tablet is much easier than forcing a liquid formulation down their throats.

The other benefit of micro-encapsulation is that the rich flavonoids and terpenes in hemp oil are volatile and prone to oxidation. Converting them to powdered form will enhance the shelf life of the products.

## **Finances and performance**

Cannpal had \$3.3 million in the bank as of June 30, which is enough to fund the current studies, but not for an eventual pivotal study. The company gleaned just over \$103,000 of revenue from interest income.

While the it hit the 'paws' button on some research to preserve capital, the full-year loss still came in at just over \$2 million compared with a \$1.7 million shortfall previously. But head office costs were slashed to \$478,000 from \$570,000 the previous year, while R&D expenditure increased to \$1.59 million from \$661,000 previously.

The skin product is intended to be a near-term revenue generator, but it's hard to put a time-line on when the funds will start to flow.

Mr Mills says the company has no need for more funds "in the foreseeable future". It has not raised additional equity since the IPO, so Brownie points there.

Cannpal shares peaked at 29 cents in early February 2018 and fell as low as 10.5 cents last December.

## **Dr Boreham's diagnosis:**

Mr Mills notes that the non-steroidal Galliprant was approved only two years ago but has garnered a 12 percent market share and chalked up more than \$US50 million of annual revenue. Not bad for a drug that showed only 18 percent improvement over placebo.

The global animal pain medication market was worth \$US1.7 billion last year, up from \$US1.3 billion previously. Given the vast addressable market, Cannpal is on to something, but we don't think the regulatory route will be a lay-down misère.

After all, there's far more anecdotal evidence of the worth of cannabis therapeutics than scientific literature.

Mr Mills says being publicly-listed is a "very big learning curve, but in a positive way".

The biggest issue, he says, is competing with the aforementioned unapproved products but he's not going to bow-wow-wow to the fly-by-nighters.

"As a publicly listed company you have morals and standards that you want to uphold," he says. "We are going to do this in a very robust way."

Ultimately, Cannpal's drug pricing and efficacy will determine whether the 'dopey dogs' therapeutic concept takes off.

***Disclosure: Dr Boreham is not a qualified medical practitioner and does not possess a dogtorate of any sort. At the risk of starting a catfight, he prefers dogs.***

## FEDERAL GOVERNMENT

The Federal Government says it will provide \$35 million for an Australian Research Council research centre for “plant adaptive strategies and resilience”.

The Federal Education Minister Dan Tehan and Federal Agriculture Minister Bridget McKenzie said the Centre of Excellence for Plant Success in Nature and Agriculture would be based at the University of Queensland, led by Prof Christine Beveridge.

The joint media release said the University would collaborate with four Australian universities and 13 academic and industry partner organizations from Australia, Europe, Asia, America and Canada, who would provide an additional \$75.2 million to the Centre. Mr Tehan said the Centre would “investigate the adaptive strategies underpinning productivity and resilience in a range of diverse plants ... [to] deepen our knowledge of the genetic and physiological traits of plants, giving breeders’ unparalleled predictive capability to improve strain quality”.

Prof Beverage said that “by predicting the plant varieties that are best for particular environments we can help farmers choose which plants to grow in what areas for each season for the best yield.

“An important component of the centre is the focus on the regulatory requirements which will allow the new technologies to be scaled globally to future-proof agriculture around the world,” Prof Beveridge said.

## FEDERAL GOVERNMENT

The Federal Government says it will provide \$35 million to establish a synthetic biology research centre at Macquarie University.

A media release from the Federal Minister for Industry, Science and Technology Karen Andrews and the Federal Minister for Education Dan Tehan said that the Australian Research Council Centre of Excellence in Synthetic Biology would combine engineering with molecular biology to design and construct biological systems with commercial applications.

The Government said the centre would be led by Prof Ian Paulsen.

"This research centre will create systems that will convert biomass from agriculture and waste streams into biofuel, biodegradable pesticides, bioplastics and other high value biochemicals," Mr Tehan said.

"These products will have commercial applications, leading to job creation and business opportunities as well as new income streams for Australian farmers," Mr Tehan said.

"Our Government is investing in the emergence of an environmentally sustainable advanced biomanufacturing industry in Australia because it's good for jobs, good for the economy and good for the environment," Mr Tehan said.

Ms Andrews said that synthetic biology was “an exciting field and its discoveries can translate into industrial products and processes of global significance”.

"Funding research centres like this one is a proven way to take science from the [laboratory] and apply it in industry to create new opportunities," Ms Andrews said.

Macquarie University vice-chancellor Prof Bruce Dowton said that synthetic biology “will give us ways to better manage both agriculture and our environment”.

Prof Dowton said the Centre would be a collaboration with other Australian and overseas universities as well as industry partners.

The media release said that six Australian universities and 25 academic and industry partner organizations from Australia, New Zealand, Asia and America would provide an additional \$61.1 million in cash and in-kind support to the centre.

### WIDE OPEN AGRICULTURE

Wide Open Agriculture says the first full quarter of sales revenue for its grass-fed regenerative beef and lamb was \$200,000 for the three months to September 30, 2019. Wide Open Agriculture said sales revenue in September was more than \$70,000 and up 68 percent in comparison to the company's first full month of sales in June, 2019.

The company said more than 35 restaurants and food service partners in Perth and Margaret River received its regenerative beef and lamb.

Wide Open Agriculture said that during the quarter it had established a new retail distribution company, Dirty Clean Foods, for its regenerative products.

Wide Open Agriculture managing-director Dr Ben Cole said the "first quarter of sales have been greater than anticipated and have demonstrated the capacity of our brand to connect with leading chefs and engaged food consumers across Western Australia."

Wide Open Agriculture was untraded at 12.5 cents.

### ROOTS SUSTAINABLE AGRICULTURAL TECHNOLOGIES

Roots says the Copertino, Lecce, Italy-based Cairo & Doutcher will install its root zone temperature optimization technology and explore distribution of the technology in Italy.

Roots said under the 12-month letter of intent, it would install its heat exchange and heat pump system in Cairo & Doutcher's growing facilities to improve crop quality and increase yields of herbs and flowers.

The company said that Cairo & Doutcher would pay for the initial demonstration and if successful, the two parties would look to collaborate on a multi-year distribution agreement in Italy.

Roots' chief executive officer Dr Sharon Devir said the paid demonstration was "an important first step towards expanding our global footprint into the Italian market".

"Demonstrating the effectiveness of our root zone technology in local growing conditions is an essential part of the [agriculture technology] sales process," Dr Devir said.

"As most of Italy's producers are family run farms of around 10 hectares, our climate management technology is perfect for enabling these growers to increase yields and crop quality, increase the number of growing cycles and improve overall profitability year-round," Dr Devir said.

"Unlike traditional air heating and cooling systems which require high energy consumption, our ... technology cost-effectively maintains root temperatures at optimal ranges and is ideal for helping growers manage Italy's varying climate systems," Dr Devir said.

Roots was down 0.2 cents or 4.17 percent to 4.6 cents.

### PHARMAUST

Pharmaust says it expects to receive \$1,452,000 from the Australian Tax Office under the Federal Government Research and Development Tax Incentive program.

Pharmaust said it had been pre-approved for domestic and overseas research and development tax incentives for its research and development of monepantel as a treatment for dogs with cancer for the three years to June 30, 2021.

The company said it had an expected research and development expenditure of \$2,215,000 within Australia and \$1,123,000 in the US and Canada.

Pharmaust said part of its tax incentive would be provided by the Department of Industry, Innovation and Science for Advanced and Overseas Findings, due to overseas research

Pharmaust was down 1.0 cent or 7.41 percent to 12.5 cents with 1.8 million shares traded.



### NUFARM

Ellerston Capital and associates say they have decreased their shareholding in Nufarm from 52,734,476 shares (13.89%) to 44,418,007 shares (11.70%)

The Sydney-based Ellerston Capital said that between April 23 and October 9, 2019 it bought and sold shares, with the single largest sale 4,529,614 shares for \$30,014,546, or \$6.62 a share on October 3.

Nufarm fell 28 cents or 4.1 percent to \$6.48 with 2.98 million shares traded.

### NUFARM

Melbourne's United Super says it has ceased its substantial holding in Nufarm.

United Super said it had 19,236,201 Nufarm shares at June 18 and between June 20 and October 9 it bought and sold shares with the single largest sale 882,000 shares for \$5,829,206 or \$6.61 a share on October 9.

The company said it retained 18,883,062 shares or 4.97 percent of Nufarm.

### APIAM ANIMAL HEALTH

Regal Funds Management says it has reduced his holding in Apiam from 15,115,726 shares (14.27%) to 14,599,379 shares (13.04%).

The Sydney-based Regal Funds said that between June 27 and October 2, 2019 it bought and sold shares, with the single largest sale of 3,298,262 shares for \$1,715,096, or 52 cents a share, and was diluted in a share issue, related to the Animal Consulting Enterprises acquisition (AVW: Sep 6, 2019).

Apiam was down one cent or two percent to 48 cents.

### ROOTS SUSTAINABLE AGRICULTURAL TECHNOLOGIES

The Sydney-based James Schwarz and Jamber Investments says it has ceased its substantial shareholding in Roots.

On July 15, 2019, Jamber filed a substantial shareholder notice saying it held 10,714,286 shares or 12.75 percent of Roots.

Today, Jamber said that between August 21 and October 2, 2019 it sold 7,714,286 shares for \$392,506 or an average price of 5.1 cents a share.

Biotech Daily calculates Jamber retains 3,000,000 shares or 3.2 percent of Roots.

### FOOD REVOLUTION GROUP

Food Revolution chairman Norman Li says he has increased his substantial holding from 262,000,001 to 265,000,001 shares, or 36.6 percent of the company.

Food Revolution said Mr Li purchased three million shares through Careline Australia.

The company said that the upgraded Mill Park facility would "expand capacity by multiple times the current production rate" and allow it to "rapidly ramp up production and revenues towards the company's internal five-year target of \$500 million per annum".

In a subsequent announcement to the ASX, Food Revolution retracted the revenue target of \$500 million, saying it was a reference to the revenue target required to convert Careline Pty Ltd's fourth and final tranche of 30 million performance shares.

Food Revolution was up nine cents or 13.6 percent to 7.5 cents with 3.7 million shares traded.

### FOOD REVOLUTION GROUP

Fanucci and Domenal Enterprises say they have increased but been diluted in Food Revolution from 59,987,918 shares (13.82%) to 64,847,918 shares (9.95%).

In a substantial shareholder notice signed by director Sandra Martino, the Sydney-based Fanucci and Domenal Enterprises said that between December 21, 2018 and October 8, 2019 they bought and sold shares, with the single largest purchase of 7,000,000 shares for \$379,688, or 5.4 cents a share on October 3.

### AUSTRALIAN PRIMARY HEMP (FORMERLY ALCHEMIA)

CIA Mann Family Pty Ltd say it has become substantial shareholder in Australian Primary Hemp with 8,085,000 shares or 11.6 percent of the company.

The substantial shareholder notice signed by director Charles Mann, said the Camperdown, Victoria-based CIA Mann Family acquired the shares on October 2, 2019, in consideration for the acquisition of Australian Primary Hemp.

Australian Primary Hemp last traded as Alchemia at a post-consolidation 22 cents.

### AUSTRALIAN PRIMARY HEMP (FORMERLY ALCHEMIA)

James Hood says he has become a substantial shareholder in Australian Primary Hemp with 5,320,000 shares or 7.7 percent of the company.

The Camperdown, Victoria-based James Hood said he acquired the shares on October 2, 2019 in consideration for the acquisition of Australian Primary Hemp.

### AUSTRALIAN PRIMARY HEMP (FORMERLY ALCHEMIA)

TTOR Pty Ltd says it has become a substantial shareholder in Australian Primary Hemp with 4,999,999 shares or 7.2 percent of the company.

The substantial shareholder notice signed by Australian Primary Hemp chairman Cameron Petricevic, said the Melbourne-based Petricevic acquired the shares through TTOR Pty Ltd in consideration for the acquisition of Australian Primary Hemp.

### FONTERRA SHAREHOLDERS' FUND

Fonterra says it has appointed Fraser Whineray as its chief operating officer, "starting in early 2020".

Fonterra said Mr Whineray was currently Mercury New Zealand chief executive and previously worked for Credit Suisse, Puhoi Valley Cheese and Carter Holt Harvey.

Fonterra chief executive officer Miles Hurrell said Mr Whineray had shown "he can transform organizations to achieve growth in complex environments through a focus on innovation, customers and his team".

The company said Mr Whineray was the chair of the New Zealand Prime Minister's business advisory council.

Fonterra said Mr Whineray held a Bachelor of Chemical and Process Engineering from the Christchurch, New Zealand-based University of Canterbury, a Graduate Diploma in Dairy Science and Technology from the Auckland's Massey University and a Master of Business Administration from England's University of Cambridge.

Fonterra was up one cent or 0.27 percent to \$3.72.

## SYNLAIT MILK

Synlait says that chief financial officer Nigel Greenwood “will step down next year” once a suitable successor has been found and in place.

Synlait said Mr Greenwood had been Synlait’s chief financial officer since April 2010, oversaw Synlait’s initial capital raise in 2010 and its listing on the New Zealand and Australian stock exchanges.

Synlait chief executive officer Leon Clement said “I would like to thank Nigel for his contribution and commitment to the growth of Synlait over the last decade.”

“On behalf of our entire team we wish Nigel all the best for his next adventure.” Mr Clement said.

Synlait was down three cents or 0.35 percent to \$8.46.