



# Ag & Vet Weekly

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

## 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 reasons 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 'whoopee' 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 (oclacitinib), 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 has been 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.***