

## APPENDIX – NEW TREATMENTS ARE NEEDED

**Focus vet. Market:** The vet markets and vet problems targeted, by CS MEDICA with their CANNASEN® CBD vet Product line are listed below:

| Vet. Category/disorders      | Vet. Problem             | Vet. Product solution               |
|------------------------------|--------------------------|-------------------------------------|
| 1. Skin disorders            | Wounds                   | CANNASEN®CBD Wound Gel              |
| 2. Musculoskeletal disorders | Pain in joints & muscles | CANNASEN®CBD PET Arthritis Pain Gel |
| 3. Musculoskeletal disorders | Pain in joints & muscles | CANNASEN®CBD PET Pain Patch         |

Both being two of the main animal treatment's areas in the veterinary global market.

**Veterinary wound Market:** CANNASEN ® CBD pet wound gel targets the following disorders:

| Animal species | Skin Disorder                 | Conventional treatment | Prevalence   |
|----------------|-------------------------------|------------------------|--|
| Cat            | Hot spot <sup>1</sup>         | Antibiotics            | Hot spots can affect both dogs and cats, but are more common in dogs |
| Dog            | Hot Spot <sup>2</sup>         | Antibiotics            | Hot spots are one of the most common skin conditions in dogs         |
| Horses         | Mud Rain scald <sup>2,3</sup> | Antibiotics            | 12.5% of the examined horses <sup>4</sup>                            |

Antibiotics– resistance: The condition Mud fever, hot spots and rain rot are all treated with antibiotics mainly topical but also systemically. Bacteria in general are gaining resistance towards conventional antibiotics – therefore new treatment in the anti-infective area is needed.

The above-mentioned disorder involves bacterial infection, inflammation and pain, which are some of the main functions/effects of CBD: antibacterial, Pain relief & anti inflammation<sup>5,6</sup>

As CBD is highly bactericidal, in studies, and with a very rapid killing effect (on bacteria) CBD demonstrate a good alternative to the conventional antibiotics.<sup>7</sup> Therefore we see a big potential with our natural alternative in the Medical CBD products – for cat, dog and horses with this skin condition – “infected wounds”.

**Veterinary Pain Market:** CANNASEN® CBD pet arthritis pain gel & pain patch(slow release) targets the following disorders:

<sup>1</sup> <https://veterinarianpartner.vin.com/default.aspx?pid=19239&catid=102903&id=4952729>

<sup>2</sup> <https://www.northvets.co.nz/news/mud-fever/>

<sup>3</sup> <https://www.sciencedirect.com/topics/pharmacology-toxicology-and-pharmaceutical-science/dermatophilosis>

<sup>4</sup> <https://journal.veterinaria-sarajevo.com/vfs/index.php/journal/article/view/67>

<sup>5</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7400265/>

<sup>6</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6222489/>

<sup>7</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7355595/>

| Animal species | Skin Disorder                     | Conventional treatment | Prevalence  |
|----------------|-----------------------------------|------------------------|---|
| Cat            | Osteoarthritis(OA)                | NSAID                  | Osteoarthritis (OA) in the cat is a very common condition with 40% of all cats  |
| Dog            | Osteoarthritis(OA)                | NSAID                  | 20% of all dogs (regardless of age) are affected by OA  |
| Horses         | Osteoarthritis(OA) & Joint injury | NSAID                  | 13.9% in a cross-sectional survey of horses in the UK, but at 97% (def. by loss of range of motion) in a group of horses over 30 years of age. <sup>8</sup> Joint injury for horses have rather high prevalence for racehorses 1,8% of the racehorses had a joint injury monthly <sup>9</sup> – making the yearly incident 12*1,8% = 21,6% of the racehorses. |

Osteoarthritis(OA) is a progressive disease that compromises the joint health and mobility of many animals. While osteoarthritis is the most common joint disorder for people in the United States, the condition is also prevalent in horses, dogs and cats.

Depending on the disease definition and target population, the reported prevalence of OA varies. It was reported at 13.9% in a cross-sectional survey of horses in the UK, but at 97% (defined by loss of range of motion) in a group of horses over 30 years of age.<sup>10</sup> Joint injury for horses have rather high prevalence for racehorses 1,8% of the racehorses had a joint injury monthly<sup>11</sup> – making the yearly incident 12\*1,8% = 21,6% of the racehorses.

By most estimates, 20% of all dogs (regardless of age) are affected by OA, making it the most common chronic disease they face.<sup>12</sup>

Osteoarthritis (OA) in the cat is a very common condition with 40% of all cats having clinical signs and >90% of cats older than 12 years' showing radiographic evidence of OA. The condition is not exclusive to older cats and clinical studies have shown that even cats as young as two years' can suffer from OA.<sup>13</sup>

NSAID – side effects: For controlling the pain and inflammation associated with arthritis, the most commonly used class of drugs for managing arthritic pain are non-steroidal anti-inflammatory drugs (NSAIDs). But NSAIDS come with side effects: Some Reported Side Effects of Veterinary NSAIDs – Serious side effects include bleeding ulcers and perforations (holes) in the stomach and intestines, kidney and liver problems, and even death in rare cases. Veterinarians and owners should discuss the benefits and risks of an NSAID before deciding to use it.<sup>14</sup>

With the main effects of CBD being highly effective in anti-inflammation and in pain relief together with WHO reports that naturally occurring CBD is safe and well tolerated in humans (and animals), and is not associated with any negative public health effects and unlike THC, people aren't getting high off of CBD, either. Medical CBD products are good natural alternatives to NSAID medication and therefore we see a big potential with our natural alternative in the Medical CBD products – for cat, dog and horses with Osteoarthritis and joint pain in general.

<sup>8</sup> <https://www.isvma.org/wp-content/uploads/2016/10/RecentAdvancesinEquineOsteoarthritis.pdf>

<sup>9</sup> <https://pubmed.ncbi.nlm.nih.gov/21496103/>

<sup>10</sup> <https://www.isvma.org/wp-content/uploads/2016/10/RecentAdvancesinEquineOsteoarthritis.pdf>

<sup>11</sup> <https://pubmed.ncbi.nlm.nih.gov/21496103/>

<sup>12</sup> <https://vcahospitals.com/know-your-pet/helping-your-dog-with-osteoarthritis>

<sup>13</sup> <https://www.veterinaryirelandjournal.com/focus/225-osteoarthritis-in-cats>

<sup>14</sup> <https://www.fda.gov/animal-veterinary/product-safety-information/veterinary-nonsteroidal-anti-inflammatory-drugs-nsaids>