

**Casper Star Tribune, Sunday, July 5, 2015: “Legalize hemp for its many benefits”**

**Wyoming Tribune Eagle July 8, 2015: “Can hemp replace antibiotics?”**

When in its spring 2015 session Wyoming lawmakers enacted HB32, the Hemp Extract Bill, their constituents, this writer included, applauded the development. The new law allows seizure-prone individuals to obtain medical-marijuana treatment via hemp extract derived from a strain of marijuana that is high in cannabidiol (CBD) and low in the psycho-active ingredient tetrahydrocannabinol (THC). Incidentally, CBD is just one of the roughly 85 cannabinoids found naturally in marijuana.

While it is heartening to see lawmakers’ concern for the plight of patients with seizure disorders, the law excludes many patients who, though not seizure prone, also face life-threatening ailments that should be accorded the benefits of CBD.

Against all good judgment, even though CBD has shown promise as medicine, and notwithstanding its negligible THC content, in the U.S. it is still classified as a Schedule I drug. This, even though back in 2003, a patent was awarded to the U.S. Health and Human Services (US6630507) that covers the use of CBD for various neurodegenerative and inflammatory disorders.

The good news is that 21 states have introduced industrial hemp legislation to amend laws or introduce a new law. On Capitol Hill, The Industrial Hemp Farming Act (S. 134), introduced in January 2015, now has 9 cosponsors (5 Democrats, 4 Republicans). Its House companion, H.R. 525, also introduced in January, has 54 cosponsors. These legislative efforts have spurred research in CBD that produce promising results.

Recently the U.S. Food and Drug Administration approved a request for trial of a pharmaceutical version of CBD. The drug, made by GW Pharmaceuticals, is called Epidiolex. Even Big Pharma, after decades of rallying law enforcement to oppose medical cannabis, wants to get in on the act. According to the company, the drug consists of “more than 98 percent CBD, trace quantities of some other cannabinoids, and zero THC.” GW Pharmaceuticals makes another cannabis-based drug called Sativex, which has been approved in over 24 countries for treating multiple sclerosis.

A 2011 review published in “Current Drug Safety” concludes that CBD “does not interfere with several psychomotor and psychological functions.” The authors explain that several studies found that CBD is “well tolerated and safe” even at high doses.

In England a pharmaceutical version of CBD was recently developed by a drug company, GW Pharmaceuticals, which is funding clinical trials of CBD as treatment for schizophrenia and certain types of epilepsy.

Remarkably, recent research has found that hemp derivatives can be useful as well in the destruction of superbugs or antibiotics-resistant bacteria. Bacteria are becoming increasingly antibiotic resistant, giving rise to superbugs, writes Dr Nicola Davies, explaining that hemp and hemp derivatives (oil, milk, seeds) may be able to take over from the failing antibiotic industry.

Resistance develops from overexposure to antibiotics, which is largely due to misdiagnosis and overuse of common antibiotics. New studies demonstrate that hemp, or *Cannabis sativa*, can offset the danger of antibiotic resistance on many levels.

For example, methicillin-resistant *Staphylococcus aureus* (MRSA) is a strain of bacteria that has become non-responsive to most antibiotics. Often carried on the skin and in the nose, *Staphylococcus aureus* becomes a problem when it invades the bloodstream to cause “Staph” infections. When antibiotic-resistant strains infect someone with a weakened immune system, the infection quickly becomes life-threatening.

Recently, Simon Gibbons of the School of Pharmacy at the University of London and Giovanni Appendino of the Piemonte Orientale University in Italy, tested five different cannabinoids with regard to their ability to kill MRSA. The results are impressive.

During their study, Gibbons and Appendino also discovered that hemp extracts are as effective as many known antibiotics in treating infections. Other studies have shown that hemp extract is expedient against *Mycobacterium tuberculosis*, the bacterium responsible for tuberculosis.

Like flax seeds, hemp seeds have all of the essential amino acids that the body needs to resist illness. They also have the highest content of edestin in the entire plant family, which is a type of globulin. Globulins are one of the top three most abundant proteins in the human body. Globulins promote acquired and natural immunity against harmful outside organisms. Our ability to resist and recover from infections and illness is directly proportionate to how quickly the body can generate large quantities of antibodies to defend against antigens. If globulins are in low supply, antigens can overwhelm the body’s immune response. Inasmuch as 65 percent of hemp-seed protein is the globulin edestin, it obviously can be used in place of antibiotics in many cases of infection.

As evidence of CBD’s medical benefits continues to grow, we find that the Wyoming law that sprang from HB32, though a step in the right direction, is too limited a regulation. Other states have adjusted to the new information and we can, too. What Wyoming needs is a law that authorizes the uses of medical cannabis.