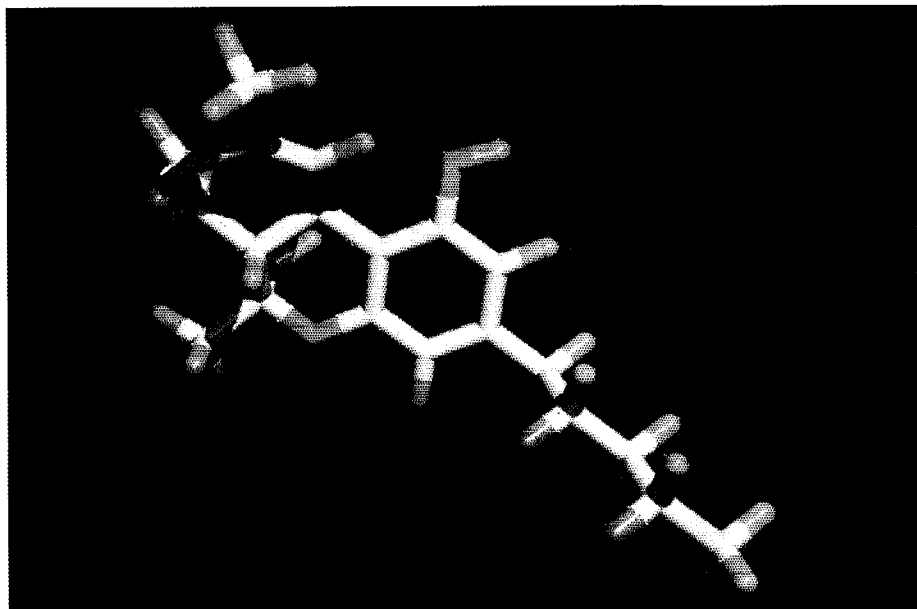


Cannabis — whether we like it or not

ROBERT MELAMEDE



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THC: the active ingredient in cannabis

Cannabis has always been around. In the past, it was used for recreation and in medicine, agriculture, and even religion. But during the past century, cannabis growth has been prohibited. This prohibition has stemmed from worries over potential abuses of cannabis as a drug, however this should not cloud the fact that the hemp plant can play a role as an important resource in farming, fuel production and medicine.

Farmers in the US use many thousands of tonnes of fertilisers and insecticides every year producing cotton fibre. The expense would not be necessary if they were to convert to hemp fibre. The hemp plant has a natural resistance to pests and can be grown without chemical pesticides.

Hemp also provides an alternative to fossil fuels, which pump huge amounts of carbon dioxide into the atmosphere when they are burned. These would be significantly reduced if biodiesel produced from hemp seeds was used instead. Clearly, movement in this direction would benefit farmers.

It should be noted, however, that although hemp oil contains tetrahydrocannabinol (THC), the main active ingredient in the cannabis plant, it does not produce a psychoactive high.

Good peer-reviewed science shows that

most of our body functions are controlled by endogenous cannabinoids (cannabis-type compounds that are produced in the body). Cannabinoids regulate appetite, sleep, learning and pain through the regulation of the circulatory, immune, reproductive, endocrine and neurological systems. Individuals with diseases that affect these systems would benefit from cannabis-based therapies.

Cannabinoids are with us from the beginning of life ... they are found in high levels in mothers' milk

Endogenous cannabinoids have also evolved to relieve the negative biological aspects of stress; Stress is often the result of disease, genetic defects, infections, injury or other environmental assaults. This stress can result in the production of free radicals, which are highly reactive chemical species, capable of damaging numerous essential cellular components such as DNA, proteins and lipids. Free radicals are also believed to be causative in most age-related diseases, such as cardiovascular disease, high blood pressure, heart attacks and stroke; as well as neu-

rological disorders including Alzheimer's and Parkinson's; autoimmune diseases, such as arthritis, diabetes, lupus, Crohn's disease and multiple sclerosis, and finally the aging process. Endogenous cannabinoids have evolved to relieve the negative biological consequences of stress by regulating the production and action of free radicals.

Cannabinoids are with us from the beginning of life. The uterus has high levels of endogenous cannabinoids that inhibit embryonic implantation. Therefore, they are naturally down-regulated at ovulation. In contrast, they are found in high levels in mothers' milk. If their action is inhibited, new-born mice fail to feed and die. Mice treated with THC live longer and have fewer tumours. THC has in fact been shown to inhibit the growth of breast and prostate cancer cells in the laboratory and to kill glioma. Interestingly, mice that lack the main cannabinoid receptor (CB1) die prematurely, and are afraid of 'newness' — they get stressed when moved to new places.

External cannabinoids have been used by many people suffering from epilepsy, multiple sclerosis, arthritis, lupus, various forms of chronic pain, glaucoma, pheochromocytoma, Crohn's Disease, anorexia, cachexia and migraines. The list goes on and on. Is it not time that we listen to these people, especially as the basic science fully supports their personal observations?

Cannabis prohibition should never have begun and it should not have lasted this long. Lets end it now.

Dr Robert Melamede is chairman of the biology department at the University of Colorado, Colorado Springs.

Recently, possessing cannabis for personal use in the UK was made one of the least serious criminal offences relating to illegal substances under UK law. Technically cannabis is now a Class C drug rather than a Class B drug, such as amphetamines.

C&J welcomes your views on this and on Dr Melamede's comment. Please send your letters to the usual address or e-mail to editor@soci.org. You should include contact telephone numbers in your e-mail.

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SOURCE: Chemistry & Industry no22 N 19 2001
WN: 0132303923001

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