

## Clearing the air on cannabis patents

### Understanding what patents can and cannot be used for is the start of an informed debate on a sensitive issue. By San Chaithiraphant

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The patent system has become an unlikely hot topic in light of reports that some overseas pharmaceutical companies have applied for Thai patents for cannabis. The revelations have added more fuel to the ongoing debate about the utility of cannabis, a Thai local plant.

The reports have led many to criticise the patent system, questioning whether patent rights may obstruct Thai researchers' studies on cannabis.

It is important not to oversimplify this issue. Dialogue is extremely important and must be encouraged, but as a patent attorney I find the broader context of the patent system very enlightening in understanding the arguments on both sides.

The most important context of course is the reasoning behind the patent system in the first place. An internationally accepted rationale for patent law is that a patent grants security to an inventor who, through his or her intellect and labour, has conceived an invention that benefits the society.

Granting that inventor patent rights prevents others from exploiting the fruit of that inventor's labour without consent. Simply put, patents prevent anyone from stealing an inventor's idea.

In exchange, the inventor has a duty to make the details (or the "secret trick") of his or her invention available to the public through the process of patent application. Importantly, a patent is in force for no more than 20 years, after which the knowledge in that patent will become public information for anyone's free use.

With that in mind, we can begin to look at the specific context of cannabis-based patents.

**Current state of cannabis patents:** The Department of Intellectual Property (DIP) database shows that 91 patent applications have been filed in Thailand relating to the chemicals found in cannabis. This search excludes any incidental uses such as traditional medicines and textile industry applications.

Among these, only one application has been registered as a Thai patent, and it was later revoked. Of the remaining 90 applications, 51 were abandoned without registration. The remaining 39 have been published and are pending substantial examination by the DIP.

It is important to clarify that a patent application is not the same as patent registration. Rights do not exist until an application is registered, and before registration the applicant has no right to sue anyone. Therefore, no one, Thai or foreign, is currently able to sue anyone for infringing a cannabis extract patent in Thailand.

**Natural substances:** One hotly debated point is whether people should be able to patent "natural substances". This is an odd argument from a legal point of view because the law already addresses it.

Section 9 (1) of the Thai Patent Act BE 2522 (1979) expressly prevents "animals, plants or extracts from animals or plants" from being patented. The next logical step is to dig deeper into what that actually means.

According to the DIP Patent Examination Guideline BE 2555 (2012), Section 1, Part 1, Page 28, unpatentable "animals, plants or extracts from animals or plants" includes "higher animals and higher plants that are available in nature" and "extracts from animals or plants that have not undergone any man-made substantial processing".

The underlying reason is that a protectable invention must owe its existence to human intelligence. The existence of plants, animals or other things that exist in nature may not be claimed by a human. In the case of cannabis, this means that the cannabis plant, including its stem, flower, leaf and crude extracts, is not patentable.

On the other hand, if a human brings a natural thing to be processed by technical means, and produces results and benefits that are not found in the natural state of that thing, then that processed natural thing may be patented.

For example, suppose that a certain plant contains Substance A, which, in its natural state, does not exhibit any therapeutic effects. Suppose that a researcher found a way to transform Substance A, or make a pharmaceutical formula containing Substance A, which enables it to perform as an active ingredient for effective treatment of hypertension. The method for transforming that substance, or the pharmaceutical formula, is an invention that may be lawfully patented.

Section 9 (1) must be interpreted with care, and in the proper context of the rationale for patent law, to avoid it leading to slippery slope arguments that negatively affect the patent system. This is because all human inventions ultimately can be traced back to products of nature.

For example, many polymers are derived from crude oil, which is found in nature. However, a new petroleum-based polymer that is stronger than steel should be patentable, despite being developed from a product of nature. If Section 9 (1) is interpreted to mean that anything related to nature in any way cannot be patented, then nothing would be patentable.

**Preventing obstruction of research:** Another hotly debated issue surrounding cannabis patents is a concern that Thai patent registration (which has yet to occur, as noted above) may obstruct medical cannabis research by Thai researchers. This is a rather unlikely scenario for two extremely important reasons.

First, patent protection has a limited scope. Using the Substance A example above, suppose that a patent has been issued for the use of Substance A as a treatment for hypertension. It will only cover the use of Substance A for the reasons, and by the means, specified in the patent.

The patentee has no right to prevent others from using Substance A for other purposes, for treating other illnesses, or for treating hypertension by a means that is substantially different from what is specified in the patent.

In addition, since the patent claims for the "use", not for Substance A itself (which cannot be patented, as noted above), the patentee is not entitled to prevent others from using or handling Substance A in any other way.

Second, research and study are not patent infringement. Section 36, Paragraph 2, Subsection 1 of the Patent Act provides that "any act for the purpose of study, research, experimentation or analysis" does not infringe upon any patent.

This means that any study or research that does not compete with the patentee's business, such as a research conducted by a professor in a medical school, will not expose the researcher to any liability.

**Usefulness of patents:** Finally, it is important to be aware of the general usefulness of the patent system in a broader sense for the modern economy. It incentivises research and development, and it allows for knowledge transfer for the public benefit.

Patent applications must disclose clear and detailed information about the invention that they relate to, from which new ideas and further developments may arise. Researchers are free to study the patents and then seek a technical improvement, which may be patentable in its own right.

In addition, when the patent has expired (no longer than 20 years), the once-patented invention will become public knowledge available for anyone's free use.

The case of cannabis patents is a great opportunity for the Thai public to discuss the benefits and shortcomings of the current patent law system, and hopefully to provide critiques for the betterment of our patent law.

However, it is important for any such critique to have a good understanding of the facts on both sides of the argument, before a thorough analysis can take place.

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