Can I patent my dinner? Protection of food technology innovations

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The food and natural products industries generate innovations in a number of technology areas. These include packaging, bulk production apparatus and methods, texture and taste modifier compounds, health supplements and nutraceuticals to name but a few. As patent attorneys working closely with innovators in these industries, we are often asked to advise on strategies for protection of innovative food and beverage products and recipes. Such strategies generally include leveraging a number of different forms of intellectual property (IP) in order to protect the investment in innovation as well as to successfully compete and increase market share.

Trade marks are regularly used by food manufacturers to build brand awareness and reputation, as well as to deliver a particular taste perception by visual means.

Registered designs are used to protect innovative and distinctive packaging of foods and drinks.

Trade secrets are particularly important in protecting novel formulations and recipes, a classic example being the Coca Cola™ recipe which has purportedly been a closely guarded secret since 1886.

Patents are appropriate in some situations to protect innovative foods and beverages, especially where the method of production or the product itself includes unexpected results. For example, foods which exhibit novel textures, visual effects or cooking properties may be patentable.

It is often preferable to rely on trade secrets over patents where a patent will be hard to obtain or where disclosure of the details of the recipe and ingredients is undesirable. Trade secrets also need no registration and, as long as the recipe can be kept a secret and cannot be reverse engineered, the term of protection is unlimited. Innovations involving the optimisation of parameters of a known process often fall into the category of innovations best protected by trade secret.

In reality, modern analytical methods make it likely that most products could be reverse engineered given enough time and resources. In addition, employee mobility and the ease of copying electronic documents mean that trade secrets can be easily compromised. Once a competitor can replicate the recipe, often nothing can be done to prevent its use.

Next we'll look at the requirements of patentability in more detail and how they apply to food and beverage products and recipes.

Novelty

The most fundamental criterion to obtain grant of a patent is that the invention being claimed has not been previously published or used, i.e. it is novel. The date on which novelty of the invention is judged is the filing date of the patent application. Its novelty is typically measured against all information that has been made available to the public in any form before that date; otherwise known as the *prior art*. Prior to the new Patents Act coming into force in New Zealand next year, prior publication or use outside of New Zealand does not compromise novelty of a New Zealand application. However, after it comes into force, prior publication or use of the invention anywhere in the world will compromise novelty for the New Zealand application.

Although confidential development and testing of a recipe is allowable, any previous publication by the inventor or any other person on the internet, in magazines, journals or by word of mouth will generally mean that the invention is not novel and a valid patent cannot be obtained. The test for whether a food or beverage is novel is fairly strict – has an identical product been previously published or used? If so, you will likely be out of luck in pursuing a patent for your product.

Inventive step (otherwise known as *obviousness*)

Obvious variations of known products or methods are not patentable. Therefore, even if your recipe contains ingredients that are not *identical* to a prior art recipe, if the ingredients are trivial variations that would routinely be used by a chef/product formulator, then the invention will be deemed to lack inventive step. For example, if a published recipe requires egg and you use a known egg substitute, then your recipe may meet the requirement for novelty (since it is not identical to the prior art) but it will likely be obvious and therefore unpatentable.

A combination of known components?

Recipes that merely combine known ingredients to yield a product whose characteristics would be expected are similarly unpatentable on the basis that they do not meet the definition of an *invention*. In order to be an invention in New Zealand, the combination of ingredients must result in some enhancement or improvement over what would have been expected by a person with skill and knowledge of the field. Alternatively, there must be some kind of surprising synergistic interaction between the ingredients to result in a new product.

Most recipes would fail the test for patentability on this criterion because the result would be expected. For example, adding an unusual flavouring compound to beaten egg whites and sugar then baking would be expected to create a meringue. Even though the meringue may be novel (if the flavouring hasn't been used in a meringue before) it would likely be unpatentable because the meringue produced would simply be a combination of known components with an expected result.

However, if the unusual flavouring compound had the unexpected result of adding stability to the resultant meringue, such a recipe could be classed as an invention and may be patentable assuming all other criteria are met. In this case there is something occurring between the egg whites and the flavouring compound which results in increased product stability.

Full disclosure of the invention

The patent system is fundamentally based on a bargain between the inventor and the State; the inventor makes a full and complete disclosure of the invention and how best to make it, and in exchange, the State provides a limited term (20 year) monopoly to exclude others from making, using, selling or importing the invention. The aim of the bargain is to encourage disclosure of information that others can use to further advance technology and to incentivise the research, development and commercialisation of new technologies.

In line with this bargain, the inventor must disclose all the details about how to make the new food/beverage product including ingredients, ratios, concentrations, methods of production/extraction etc. The disclosure must be sufficiently detailed that a skilled person in the industry can use the instructions in the patent document to replicate the food/beverage without extensive further experimentation. If a full disclosure is not given, the patent may be held invalid.

Where the invention is not sufficiently innovative to gain broad and commercially significant patent protection, the innovator may decide that giving away such sensitive information with scant reward is unpalatable. In these cases the innovator may prefer to rely on other methods to protect the innovation such as branding (trade marks) and trade secrets.

Innovating our way to success

It is generally agreed that innovation in the food and beverage sector will play a large part in the future fortunes of New Zealand. A key step in developing the sector will be for innovators to recognise and protect that innovation in appropriate ways. There is no one-size-fits-all strategy to protect an innovative food or beverage; the key is to pursue a multi-tiered IP strategy tailored to the product and market. Innovators can then look to provide innovative products to the public while protecting their investment in innovation and growing their domestic and overseas business.

If you have any queries regarding intellectual property related matters (including patents, trademarks, copyright or licensing), please contact:

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