



## Patents and *Ordre Public*

Article 27 (2) of GATT TRIPS says that countries may reject patents to "protect *ordre public* or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to the environment" Countries may wish to invoke this TRIPS article to invalidate these patents and others like them.

Species Involved:	Region:	Purpose:	European Union													Other Europe					Other North					South										
			United Kingdom	Germany	France	Italy	Belgium	Netherlands	Luxembourg	Austria	Ireland	Spain	Portugal	Greece	Denmark	Sweden	Norway	Finland	Switzerland	Poland	Hungary	Russia	Japan	New Zealand	Australia	Canada	United States	China	India	Rep. of Korea	South Africa	Brazil	Mexico			
J'oublie (Pentadiplandra brazzeana)	Africa	Sweetener	•	•	•	•	•	•	•	d	•	•	d	d	d	•			•				•				•				•					
Barbasco (Clibadium sylvestre)	Amazon	Multiple Pharma.	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•					•				•								
Greenheart (Ocotea rodiei)	S. America	Multiple Pharma.	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•					•				•								
Neem (Azadirachta indica)	Asia	Multiple Agricult.	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•				•					
Bitter Melon (Momordica charantia)	Asia	HIV/AIDS	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•									
Snakegourd (Trichosanthes kirilowii)	China	HIV/AIDS	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	d	•									
Mamala (Homolanthus acuminatus)	Pacific	HIV/AIDS	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•									
Sangre de Drago (Croton sp.)	Amazon	Multiple Pharma.	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•			d				•		
Kava (Piper methysticum)	Pacific	Multiple Pharma.	•	•	•	•													•	•			•	•	•	•	•	•							•	
Basmati Rice (Oryza sativa)	Asia	Agriculture																						•	d	•										
Quinoa (Chenopodium quinoa)	Andes	Agriculture																						•	d	ab										
Endod (Phytolacca dodecandra)	Africa	Molluscicide																								•										
Ayahuasca (Banisteriopsis caapi)	Amazon	Plant Patent																								•										
The Terminator	World	Seed Control	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	•	•	•	d		d	•	d	d				
The Verminator	World	Seed Control	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	•	d	d			d							
Animal Cloning	World	Cloning	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	
Human Cell Lines	World	Diagnostic Test	•	•	•	•	•	•	•	•	•	•	•	•	•	•	d	d	•	d	d	d	•	•	•	•	•	d		d					d	
Human Growth Hormone	World	Gene Patent	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				d	d	•	•	•	•		d						d
Human Umbilical Cord Cells	World	Disease Treat.	•	•	•	•	•	•	•	•	•	•	•	d	•		d	•						•	•	•	•			d						
Transgenic Soya	World	"Species Patent"	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				•	•	•	•	•		•							
Transgenic Cotton	World	"Species Patent"	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•				d				•	•	R					•		
Transgenic Brassica	World	"Genus Patent"	•	•	•	•	•	•	•	•	•	•	•	•	•	d	•	•				d	•			•										
			GB	DE	FR	IT	BE	NL	LU	AT	IE	ES	PT	GR	DK	SE	NO	FI	CH	PL	HU	RU	JP	NZ	AU	CA	US	CN	IN	KR	ZA	BR	MX			
<b>Patent Box Score **</b>			83	83	83	83	78	78	78	75	38	73	35	65	58	73	13	18	78	15	15	13	63	30	68	53	95	28	0	18	15	15	13			

\* Some claims are covered in "families" of several patents or other intellectual property claims. A "-" indicates at least one of the patent family has issued in this country. SOURCE: INPADOC Database For more details see: <http://www.rafi.org>  
d = Country designated by patent owner(s) in a Patent Cooperation Treaty (PCT) patent R= Revoked ab=Abandoned ap = Patent or PBR application pending

\*\* Scored 5 points for issued patent, 2.5 points for international designation, pending application, or voluntary abandonment

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# OUT OF CONTROL

Northern Patent Systems Threaten Food Security, Human Dignity, and are Predatory on the South's Resources and Knowledge

FOR MORE INFORMATION ON THE INTERNET, VISIT <http://www.rafi.org> OR WRITE [rafi@rafi.org](mailto:rafi@rafi.org)



R A F I

## Terminator *All plant species* US 5,723,765, AU 9532050, ZA 9506410

It's benign official title, "Control of plant gene expression" does not belie the serious attack on food security that this patent is. This genetic seed sterilizing technology has been called the "neutron bomb of agriculture" because it threatens to eliminate the right of farmers to save seed. Genetically-altered Terminator seed will not germinate if re-planted a second time. The Terminator is openly aimed at the South. The president of **Delta & Pine Land Co.** (the **Monsanto subsidiary** that owns the patent), told RAFI, "We expect [the terminator] to have global implications, especially in markets or countries where patent laws are weak or non-existent."

## Verminator *Crop species* WO 9403619, AU 687008

This European 'answer' to the Terminator - from the UK's **Zeneca Biosciences** - is another biotech way to kill (or mutilate) plants so that farmers are obligated to buy seed every year. The Verminator is a broad patent involving a 'killer gene', a promoter gene (the 'switch') and a chemical 'trigger' that causes the promoter to turn the killer gene on or off. In one example of the invention, the killer gene is taken from the fat tissue of rats, hence the name 'Verminator'.

## Umbilical Cord Cells *Homo sapiens* US 5,004,681, EP 343217, etc.

As unbelievable as it may seem, human umbilical cord cells have been patented by the US company **Biocyte**. Any doctor wishing to use umbilical cord blood cells in surgery or transfusions must pay royalties. The cells may be crucial in treating bone marrow diseases.

## Human Genes *Homo sapiens* US 5,597,709, WO 9520398, EP 741578, etc.

A human growth hormone gene is one of the latest patents granted to **Human Genome Sciences** (HGS), a US company patenting human genes as fast as it can. HGS has filed patent applications covering over 1 million partial human gene sequences. HGS has alliances with at least 10 major drug corporations to provide access to human genes and genetic information.

## Human Cell Lines *Homo sapiens* WO 9512814, EP 727046, etc.

Here's proof that the sometimes voiced perception that human patenting is an "American problem" is only partially right. True, it's a problem in the US; but also throughout the world. Australia's **Flinders Medical Centre** is seeking patent monopoly on human cell lines (part of a diagnostic test for autoimmune disease) on five continents.

## Cloning *All animal species, including humans* WO 9707668, WO 9707669, others pending

The UK's **Roslin Institute** is so sure it has an economic winner it is claiming its cloning patents in even the weakest of economies - North Korea and Liberia, for instance. The patents are licensed to **PPL Therapeutics**, a company which has agreements with major drug multinationals like Novo Nordisk, Boehringer Ingelheim, and American Home Products. More licenses may be granted. Unlike many bioengineering patents, which are specified for "non-humans", Roslin says its cloning patents cover all animals, including humans.

## Cotton *Gossypium hirsutum* US 5,159,135, EP 270355, CN 87107233, etc.

Challenged in the US and Europe, but so far still standing, **Monsanto's** patent on all genetically-engineered cotton should never have been granted. Even the US Government, which is seldom hesitant to help US companies, agrees that the patent should be revoked and has asked its own patent office to do so. Monsanto wants to keep the patent, meaning it will take years and millions of dollars before the case is closed.

## Soya *Glycine max* EP 270355, DE 3888040, CN 1030940, etc.

Action by RAFI prevented this species patent on transgenic soya from being issued in the US; but this patent, another in **Monsanto's** long list of sweeping monopoly claims, has been issued in Europe and many countries. Originally issued to the WR Grace Corp, the patent drew an almost 300 page opposition from Monsanto at the European Patent Office. In 1996, Monsanto did an abrupt turn around on the patent after buying WR Grace's agbiotech division. Now Monsanto says it will defend the patent that it previously opposed as "obvious".

## Sangre de Drago *Croton sp.* WO 9206695, EP 553253, US 5,211,944

**Shaman Pharmaceuticals** went to the Amazon to get sangre de drago ("dragon's blood"), an indigenous peoples' medicinal plant from which Shaman has isolated its patented pharmaceutical. The company talks about "reciprocity" in its relations with the indigenous peoples who it taps for resources and knowledge; but so far the indigenous people who are Shaman's sangre de drago sources have received a few thousand dollars while Shaman has raised millions in the US capital market.

## Neem *Azadirachta indica* US 5,411,736, US 5,409,708, EP 436257, etc.

A very widely known and long-cultivated tree with medicinal and agricultural uses in Asia, and especially, India. Today's sad truth is that neem is almost as well known in Northern patent offices, where multinationals have filed dozens of patent claims on neem. Most recently, **Monsanto** has taken out a pair of patents on neem wax and oil and claimed broad fungicidal and insecticidal uses.

## Snakegourd *Trichosanthes kirilowii* US 5,317,009, WO 9304085, EP 647272, etc.

Called "the powder from the flower of the Gods" in Chinese, the **National Institutes of Health** (US) and **New York University** have brought snakegourd firmly down to earth with a series of patents that stretch across the globe. The "inventors" claim a snakegourd-derived compound to treat HIV. As with the bitter melon patent, snakegourd's "inventor" is quite frank about how the plant "has been used in China for many, many years... and is well-known for its therapeutic effect."

## Kava *Piper methysticum* US 5,585,386, EP 672406, JP 8040894, etc.

The basis of the ceremonial beverage of the same name, Kava is grown in many Pacific countries, including Vanuatu, Samoa, Fiji, Papua New Guinea, Solomon Islands, Federated States of Micronesia, as well as Irian Jaya (Indonesia). Drug companies are racing to patent Kava's many beneficial uses. French cosmetics giant **L'Oreal** (Nestle is a major stockholder) has patented the use of Kava to reduce hair loss.

## Barbasco *Clibadium sylvestre* EP 610059, GB 9301920, US application filed

A well-known plant cultivated by Amazonian indigenous people for hundreds of years and used in agriculture and medicine. It is best known as a highly effective poison that stuns and paralyzes fish. Conrad Gorinsky, president of the UK's **Foundation for Ethnobiology**, has patented a barbasco compound and is marketing it to pharmaceutical multinationals Zeneca and Glaxo. Gorinsky's patent claims many uses including, not surprisingly, regulation of muscular activity.

## Mamala *Homolanthus acuminatus / Omalanthus acuminatus* EP 531413, US 5,599,839, WO 9118595, etc.

Like Shaman Pharmaceuticals, the primary "inventor" behind this patent on a Pacific medicinal plant goes to great pains to say how important indigenous knowledge is to their research. They may even be providing some return to Samoan people; but the patent says the "prostratin" compound isolated from this Pacific medicinal plant - found from New Caledonia to Tahiti - belongs to the **US Department of Health and Human Services**, the **US Army**, and **Brigham Young University**.

## Ayahuasca *Yagé / Banisteriopsis caapi* US Plant Patent #5,751

A medicinal plant cultivated since pre-Columbian times across the Amazon basin. A small US company, the **International Plant Medicine Corporation** (IPMC) took out a US plant patent on a variety of ayahuasca collected from indigenous people in Ecuador. IPMC has ignored requests from indigenous people to give up the patent and is working to develop psychiatric drugs from the plant.

## J'oublie *Pentadiplandra brazzeana* US 5,527,555, EP 684995, WO 9531547, etc.

Called "I forget" in Gabon, a reference to the sweet bliss of its berries. The sweet compound in J'oublie has been patented by the **University of Wisconsin** (US), which has licensed it to industry. Dubbed "brazzein" by Wisconsin researchers, the extract of this African plant is 500 times sweeter than sucrose. Wisconsin thinks it may be a hit in the US \$100 billion a year global sweetener market. Researchers are trying to "grow" brazzein in transgenic microorganisms so that berries don't have to be obtained in Africa. The university says brazzein "is an invention of a University of Wisconsin researcher" and "Wisconsin has no connection to Gabon."

## Greenheart *Ocotea rodiei* EP 610060, US 5,569,456

from the Guyana Shield region, an extract of the nut of the greenheart tree has been patented by the director of the **Foundation for Ethnobiology**. The Greenheart patent claims broad medical uses and is being marketed to major pharmaceutical companies. The Foundation boasts that its ongoing studies in Guyana - which it calls "The Greenheart Project" - include "training and the examination of issues relating to sustainable development and intellectual property rights in anticipation of further development of biodiversity resources."

## Bitter Melon *Momordica charantia* US 5,484,889, JP 6501689, EP 552257, etc.

A fruit that has been used in Southeast Asia and China for centuries against tumors and infections, bitter melon has been patented by the **US National Institutes of Health**, the **US Army**, and **New York University** for its anti-human immunodeficiency virus (HIV) effects. Even the "inventor" of the bitter melon patent admits it is "very widely eaten in the Chinese community for health reasons" and that the fruit is widely thought to have anti-HIV properties.

## Endod *African Soapberry / Phytolacca dodecandra* CA 2034414, US 5,252,330

Patented by the **University of Toledo** (US), endod has been selected and cultivated by Africans for centuries, particularly in Ethiopia. It is used as a soap and shampoo as well as a poison to stun fish. Endod is lethal to snails - a fact discovered by Ethiopian scientists - and may be effective controlling schistosomiasis. After an Ethiopian scientist demonstrated endod's potency to Toledo scientists, they took out a patent, hoping to sell endod as a biological control for the Zebra mussel, a pest in the Great Lakes of the US and Canada.

## Brassica *rapeseed, broccoli, cauliflower, cabbage, etc.* US 5,188,958, EP 270615, JP 1500718, WO 8707299

One of the most sweeping of a number of extremely broad patents issued in the last decade, **Monsanto Corporation's** patent on transgenic brassica covers any plant in the entire brassica genus genetically-engineered using the agrobacterium method.

## Basmati Rice *Basmati rice* US 5,188,958, EP 270615, JP 1500718, WO 8707299

Leveraging its intellectual property on the backs of South Asian farmers and 'borrowing' heavily from the CGIAR, the US Company **Rice-Tec** has obtained an audacious patent that claims any South Asian basmati variety crossed with RiceTec's own CGIAR-derived varieties when grown in the Western Hemisphere. Rice-Tec has surprising royal connections. The US company is a subsidiary of Rice-Tec AG of Lichtenstein, headed by that country's Prince Hans-Adam II.

## Quinoa *Chenopodium quinoa* US 5,304,718, WO 9314624, AU 9222922

A staple food crops for millions in the Andes, particularly for Quechua and Aymara people in Chile, Bolivia, Peru, and Ecuador who have bred a multitude of quinoa varieties adapted to variable Andean conditions. One of these, **Apelawa**, has been patented by two professors at **Colorado State University** (US) because this farmers' variety has genes for male cytoplasmic sterility.