

HOLISTA COLLTECH

Holista Colltech Ltd – An Emerging Leader in Water Soluble Technology

Holista CollTech Ltd, filed a global patent for “platform technology” that will make fat-soluble molecules become fully “water soluble” via a unique water-soluble delivery system.

The patent is filed under the technical guidance of Dr Roscoe Moore Jr, Dr Moore - the retired Assistant Surgeon General of the United States. He is the Chairman of Scientific advisory board of the company.

The patent was lodged in December 2019 in the United (US Filing No: 16/694,197) ([the patent may be viewed on the Holista website](#)).

WaSAR (Water Suspended Active Release) Technology is a Platform technology that converts highly fat soluble molecules that will never dissolve in water to become fully water soluble molecules. More important, the process keeps its molecular structure intact without any change in the physical and biochemical properties.

Patent Pending Technology

- Based on the 5,000 year science of Ayurveda (Ancient Indian science Healing)
- Platform technology creates a “water delivery system”
- All ingredients are GRAS (Generally Regarded As Safe) certified by the FDA
- Fully environmentally friendly

Benefits of “Water Solubilizing”

- Superior water solubility increased absorption and bioavailability
- Lower doses needed for same or higher peak effects
- Easier formulation for liquid based dosage forms
- Stable over time
- May be delivered as solid and liquid formulations

WaSAR – Summary of Benefits

- No change in the original molecule
- Cost efficient
- Scalable
- Safe and environmentally friendly

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Products Developed using WaSAR Technology

AquaNEEM™ makes Neem Oil (*Azadirachtin indica*) fully water soluble

Water soluble neem pesticides find application in protecting several crops such as rice, red gram, coconut, cotton and grams from insect pest diseases.

Neem Oil has been used to manufacture insecticides because it contains Azadirachtin which effects over 600 species of pests including insects, nematodes, fungi and viruses and is completely safe to non-target organisms like beneficial predators, honey bees, pollinators, fish, birds, cattle and human beings.

Water soluble neem is better dispersed in the field and is better in terms of environmental effects. As lesser water soluble material is needed, there is huge cost saving and better margin for the company and middlemen.

While standard neem oil is a commodity that is sadly adulterated, AquaNEEM™ is uniquely differentiated and exclusive.

Target Pests: Bollworms, Aphids, Jersey, Thrips, Whitefly, Leaf folder, Pod borer, Fruit borer, Leaf hopper, Diamond back moth.

Target Crops: Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar Crops, Forage Crops, Plantation crops, Vegetables, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

Products:

Water Soluble Neem Oil

Water Soluble Azadirachtin

AquaCASO™ * makes Custard Apple Seed Oil *Annona Squamosa*

AquaCASO™ a biological insecticide based on botanical extract of *Annona Squamosa* (Custard Apple / Seetaphal), it contains squamocin (annonin) as active ingredient.

Chand and McLaughlin (1990) have described squamocin from the *Annona Squamosa* seed which was described as stereochemically undefined 15,24,28 – tri hydroxy-bis-tetrahydrofuran actogenins.

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Squamocin(Annonin) present in CASO+ revealed an inhibitory effect on the NADH-cytochrome c-reductase and complex I of insect mitochondria.

Annonaceous acetogenins present in CASO+ have pesticidal and/or insect antifeedant properties.

Target Pests Helicoverpa arimigera, Helicoverpa zea, Spodoptera litura, Spodoptera exigua, Earias spp., Achae janta, Nephotetix virescens, Periplaneta americana, Callosobruchus chinensis, Phyzopertha sominix, Musca domestica, Urentius echinus, Bunch caterpillar, Green Leaf Hopper, Leaf Folder, Army worm, Cut Worm Aphid, Brown Plant Hopper of Rice.

Target Crops CASO+ is suitable for application on Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar Crops, Forage Crops, Plantation crops, Vegetables, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

Products:

Water Soluble Custard Apple Seed Oil

Water Soluble Annonin

AquaKaranj™ from Pongamia Glabra / Pongamia Pinnata

AquaKaranj+ is a BioAcaricide / BioInsecticide based on botanical extract of Pongamia glabra / Pongamia pinnata (Karanj tree), it contains Karanjin as active ingredient and it is non phytotoxic.

Alkaloids present in Karanj+ work as an Insect Growth Regulator and act as an anti feedant on adult and nymphs of mites and other sucking pests like thrips, jassids, white flies

Target Pests effectively controls mites, scales, thrips and other sucking pests It controls mites like red spider mites, scarlet mites, yellow mites, purple mites and other types of mites.

Target Crops Karanj+ is suitable for application on Tea, Cardamom, Chillies, Cotton, Vegetables Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar Crops,

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Forage Crops, Plantation crops, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

Products:

Water Soluble Karanj Oil

Water Soluble Karnjin

AquaSan™ from Crustacean

Chitosan+ is a nontoxic, biodegradable and a high mass linear polymer (2-amino-2-deoxy- β -D-glucan). It is a deacetylated form of chitin and was first discovered by Rouget in 1859, Chitosan to be described as polycationic hetero polysaccharide contains two monosaccharides, GlcNAc and D-glucosamine (GlcN), linked together by β -(1 \rightarrow 4) glycosidic bonds.

Chitosan is very effective against virus, bacteria, fungi, fungi and oomycetes, insects, pest and plant diseases, the minimal growth-inhibiting concentrations vary between 10 and 5,000 ppm

Target Pests: *Helicoverpa armigera*, *Plutella xylostella*, *Rhopalosiphum padi*, *Sitobion avenae*, *Metopolophium dirhodum*, *Myzus persicae*, *Hyalopterus prun*, and *Aphis gossypii*, *Tuta absoluta*, *Galleria mellonella*, *Spodoptera litura*, *Spodoptera exigua*

Target fungi: *Rhizoctonia solani*, *Fusarium oxysporum* f. sp. *Cucumerinum* Owen, *Cladosporium cucumerinum* Ell. Et Arthur, *Botrytis cinerea* Pers. *Colletotrichum orbiculare* (Berk. & Mont.) Arx *Phomopsis asparagi* (sacc.a) Bubak *Alternaria Kikuchiana* Tanaka *Penicillium italicum* Wehmer *Rhizoctonia solani* Kuhn. *Fusarium oxysporum* Schl. F. Sp. *Ustilago* (Atk.) Snyd. & Hans. *Verticillium dahliae* Kleb. *Rhizoctonia solani* Kuhn. *Botryosphaeria berengeriana* de Not. f. Sp. *Piricola* (Nose) Koganezawa et Sakuma, *Sclerotinia sclerotiorum* (Lib.) de Bary, *Venturia nashicola* Tanaka et Yamamoto, *Gibberella zeae* (Schw.) Petch, *Phytophthora infestans* (Mont.) de Bary,

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Target Crops: Chitosan is suitable for application on Tea, Cardamom, Chillies, Cotton, Vegetables Cereals, Millets, Pulses, Oilseeds, Fibre Crops, Sugar Crops, Forage Crops, Plantation crops, Fruits, Spices, Flowers, Medicinal crops, Aromatic Crops, Orchards and Ornamentals.

Products:

Water Soluble Chitosan