

# **Subject: Proposed PicoAg 25B To Replace Fungicides product for testing in house to evaluate.**

PicoAG of future products must have these characteristics

- 1). No Harm for Air (no GWC, ODC, VOHAP or VOC), Soils or Waters
- 2). Cannot be made of Organic Chemistry, Graphene or Nanotechnology, Just Picotechnology or Physical Chemistry
- 3). Goals are primary Distribution is as a OTC product.
- 4). Must be made of Atomic Elements and Not Molecules.
- 5). Must be able to kill all pests, Be it Bacteria, Fungi, Virus and Insects.
- 6). Must be able to Deep Clean and Grow Skin
- 7). Must be able to Penetrate the Shields of all pests.
- 8). Must be approved at the State and or Federal FDA or better be Exempt
- 9). Must be safe for Humans, Birds and Animals - Zero Side Effects

# Pico Technology LLC

805 Cottage Hill Way, Brandon, FL 33511

800 995-9203, 336 306-0193

Email: [donwilshe@biobased.us](mailto:donwilshe@biobased.us)

**"PicoAg 4n1 25B" is a biopesticide and Bacteria, Insects, Fungi, and Virus are controlled! Picotechnology is not taught in any college in the world, Why?**

We don't see these buys as Pico competition for last 20 years, The biologicals buying spree by agchem companies large and small swept the industry almost as fast as the spread of weed resistance. Bayer's trendsetting purchase of AgraQuest for nearly \$500 million to BASF's \$1.02 billion acquisition of Becker Underwood to Monsanto's \$300 million investment in Novozymes in their so-called BioAg Alliance.

**The US Gov EPA exempts "PicoAg 4n1 25B" pesticide registration under its 25B regulations that consists of Zinc, Carbon and Nitrogen! This product also qualifies as a Biopesticide, Biostimulant, Biofertilizer and Biologicals!**

As a biopesticide you need a multipurpose mode of action for each elimination of vital elements in Bacteria, Insects, Fungi, and Virus pests you want to control.

**Bacteria:** elimination of cell membrane and to puncture it and drain proteins and lipid, PH.

**Fungi:** elimination of the cellulose and chitin.

**Viruses:** elimination of strands of nucleic acid, either DNA or RNA, and protective protein coat (the capsid), Or a lipid envelope, surrounding the protein.

**Insects:** elimination or penetration and dissolve lipid cellular membranes, cells desiccation, cellular metabolism, dissolving cuticles, lubrication joints leading to paralysis, stripping the pests protective shields, exoskeleton structure, chitin and protein substances, hydrocarbon chains smothering.

**"PicoAg 4n1 25B"** immediately impacts the exoskeleton structure of the pest upon contact by disrupting the molecular structure of the chitin and other protein substances that protect the insect. This mechanism of action triggers the rapid and irreversible deterioration of the insect's spiracles and tracheal system, resulting in suffocation. **"PicoAg 4n1 25B"** kills insects with elimination of chitin is a polysaccharide, a carbohydrate that has a chain sugar molecules, Chitin is a structure like cellulose. In addition to being found in exoskeletons.

**"PicoAg 4n1 25B"** major benefit of this revolutionary method of insect control is the absence of undesirable side effects on human health and no harm to the ecosystem. Additionally, unlike standard insecticides in use today, no built-in resistance can be developed by the targeted insects, but rather on the respiratory apparatus."

**Science suggests that "PicoAg 4n1 25B" can be mechanical in primary sequential steps:**

The first step is a direct interaction between the surface and the pests outer membrane, causing the membrane to rupture and leak fluids, proteins and nutrients.

**Lastly a few more ways "PicoAg 4n1 25B" electromechanical can affect pests**

- There can be a second step related to the holes in the outer membrane, through which the pests lose vital nutrients, protein, water and components, causing a general weakening of the pests.
- Electromechanical in can affect pests by penetration and dissolve lipid cellular membranes.
- This causes cells desiccation to leak water, proteins and nutrients and collapse,
- By interfering with cellular metabolism during metamorphosis,
- By dissolving cuticles the lubrication in the insect's joints leading to paralysis
- By stripping the pests protective shields (wax, biofilm, etc), rendering it defenseless against subsequent treatment
- The extracts impact the exoskeleton structure of pests upon contact by disrupting the molecular structure of the chitin and other protein substances that protect the insect,
- The extracts have the ability to penetrate complex hydrocarbon chains and disintegrate them,
- The extracts emulsify pests thus stopping their reproduction cycle.
- The change the environment for growth with PH from acidophiles and neutrophiles to alkaliphiles .

**After punching holes, how does "PicoAg 4n1 25B" further damage the cell?**

Now that the cells main defense has been breached, there is an unopposed stream of **"PicoAg 4n1 25B"** entering the pest cell. This puts several vital processes inside the cell in danger. **"PicoAg 4n1 25B"** literally overwhelms the inside of the cell and obstructs cell metabolism (i.e., the biochemical reactions needed for life). These reactions are accomplished. When **"PicoAg 4n1 25B"** binds to these enzymes, their activity grinds to a halt. Pests can no longer "breathe", "eat", "digest", "reproduce" or "exist".

### **How can "PicoAg 4n1 25B" punch holes in a pests?**

Every cell's outer membrane, including that of a single cell organism like a pest, is characterized by a stable electrical micro-current. This is often called "transmembrane potential", and is literally, a voltage difference between the inside and the outside of a cell. It is strongly suspected that when a pest comes in contact with a "PicoAg 4n1 25B" surface, a short circuiting of the current in the cell membrane can occur. This weakens the membrane and creates holes and leak water, proteins and nutrients.

### **How can "PicoAg 4n1 25B" effect be so fast, and affect such a wide range of pests?**

The experiences observed explain the speed with which pests and other pests perish on "PicoAg 4n1 25B" surfaces by the multi-targeted effects. After membrane perforation, can inhibit any given enzyme that "stands in its way," and stop the cell from transporting or digesting nutrients, from repairing its damaged membrane, from breathing or multiplying. Harmless to Environment Air, Water, Soil, Humans, Birds and Animals. This 80 year old science has no side effects or harm on human, birds and animal health. These solutions do not harm mammal cells nor do they attack neurological systems of humans, birds and animals.

### **How Does "PicoAg 4n1 25B" Puncture And Leak From Membranes?**

It is used on lyse cells to extract protein or organelles, or to permeabilize the membranes of living cells.

### **What is permeabilization of cells?**

The organic product dissolve lipids from cell membranes making them permeable to antibodies. Because the organic solvents also coagulate proteins, they can be used to fix and permeabilize cells at the same time. Saponin interacts with membrane cholesterol, selectively removing it and leaving holes in the membrane. Permeabilization is a the process of making something, such as a membrane or cell wall, permeable. Lyse is a verb referring to the process of lysis, the death of a cell. Lysis (*/ˈlaɪsɪs/ LY-sis*; Greek λύσις *lysis*, "a loosing" from λύειν *lyein*, "to unbind") refers to the breaking down of the membrane of a cell, often by viral, enzymic, or osmotic (that is, "lytic" */ˈlɪtɪk/ LIT-ək*) mechanisms that compromise its integrity. A fluid containing the contents of lysed cells is called a *lysate*. In molecular biology, biochemistry, and cell biology laboratories, cell cultures may be subjected to lysis in the process of purifying their components, as in protein purification, DNA extraction, RNA extraction, or in purifying organelles.

**Trophobiosis Cycle:** Pests shun healthy plants. Pesticides weaken plants. Weakened plants open the door to pests and disease. Hence pesticides precipitate pest attack and disease susceptibility, and thus they induce a cycle of further pesticide use.

Here is a suggested list to petri test. I would start since we are killing pesticide and its your lab and not field testing that we use 1 oz per gallon of water. But also have Nova best Bactericides and a control. PicoAg 25B or I might start just calling everything OMNI! Its your private label choice as I plan at least 100 labels for you to sell with the same product but just different dilutions. So 1 oz,  $\frac{3}{4}$  oz,  $\frac{1}{2}$  oz and  $\frac{1}{3}$  oz and  $\frac{1}{4}$  oz. You can fine tune what dilutions work best for each bacteria. Again we are talking 1 formula and different dilution not 50 different formulations. Just give me the worst Fungi you know of !.

Fungi Corn Blight Cochliobolus heterostrophus

Fungi Anthracnose

Fungi Anthracnose Leaf Blight

Fungi Anthracnose Stalk Rot

Fungi Powdery Mildew Erysiphales, Podosphaera xanthii

Fungi Downy Mildew a fungus-like (Oomycete) organism.

Fungi Phytophthora

Fungi Sooty molds

Fungi Sigatoka (black, brown, Yellow) fungus leaf-spot disease ascomycete

Fungi Black spot caused by the fungus Diplocarpon.

Fungi Damping off, a horticultural disease that kill seedlings before germinate.

Fungi Macrophomina phaseolina, a Botryosphaeriaceae fungus causes damp off.

Fungi Fusarium oxysporum.

Fungi Alternaria alternata

Fungi Rhizoctonia solani

Fungi Sclerotium rolfsii fungus family Atheliaceae

Fungi Rice blast fungus, aka, Magnaporthe grisea,

Fungi Rice sheath fungal disease caused by Rhizoctonia solani.

Fungi Botrytis a necrotrophic fungus

Fungi Volutella Fungus, Volutella blight, Volutella canker

Fungi Black shank caused by fungus Phytophthora

Fungi Erwinia is Enterobacteriaceae bacteria

Fungi Cercospora is ascomycete fungi and in the genus

Fungi Rubber Tree Bark Necrosis  
Fungi Panama Disease  
Fungi Stripe rust is fungus *Puccinia striiformis*.  
Fungi Gummosis fungal  
Fungi Witch's Broom  
Fungi *Mycena Citricolor* or Coffee Rust  
Fungi *Dracaena Marginata*  
Fungi *Candida albicans* Candidiasis fungal *Candida*  
Fungi Athlete's foot (*tinea pedis*) ringworm fungus.  
Fungi South American Leaf Blight  
Fungi *Phomopsis* Fungus  
Fungi Sudden Death Syndrome (SDS) is fungus *Fusarium solani*  
Fungi White mold fungus *Sclerotinia sclerotiorum*  
Fungi Oats Crown rust caused by fungus *Puccinia*  
Fungi Stem Rust fungus *Puccinia graminis*  
Fungi Common Rust  
Fungi Common Smut  
Fungi Eyespot  
Fungi Gray Leaf Spot  
Fungi Northern Corn Leaf Blight  
Fungi Northern Corn Leaf Spot  
Fungi Mango Malformation Disease (MMD)  
Fungi *Absidia corymbifera*  
Fungi *Acremonium* spp.  
Fungi *Alternaria alternata*  
Fungi *Aspergillus* spp.  
Fungi *Aureobasidium pullulans*  
Fungi *Blastomyces dermatitidis*  
Fungi *Botrytis cinera*  
Fungi *Chaetomium globosum*

Fungi *Cladosporium* spp.  
Fungi *Coccidioides immitis*  
Fungi *Cryptococcus neoformans*  
Fungi *Emericella nidulans*  
Fungi *Epicoccum nigrum*  
Fungi *Eurotium* spp.  
Fungi *Exophiala jeanselmei*  
Fungi *Geomyces pannorum*  
Fungi *Helminthosporium*  
Fungi *Histoplasma capsulatum*  
Fungi *Mucor plumbeus*  
Fungi *Paecilomyces variotii*  
Fungi *Paracoccidioides brasiliensis*  
Fungi *Penicillium* spp.  
Fungi *Phialophora* spp.  
Fungi *Phoma* spp.  
Fungi *Rhizopus stolonifer*  
Fungi *Rhodoturula* spp.  
Fungi *Scopulariopsis* spp.  
Fungi *Sporothrix schenckii*  
Fungi *Stachybotrys* spp.  
Fungi *Trichoderma* spp.  
Fungi *Ulocium* spp.  
Fungi *Wallemia sebi*

I always thought that Sam understood from Univ of Madras the potential of PicoAg.

**Dr. Sam Gnanamanickam, India, University of Madras  
Professor of Plant Pathology, Comments on Treatment Fungi and Bacteria**

Subject: Biobased USA [www.picocides.com](http://www.picocides.com) Supporting Info Pico 1 Bactericide/Fungicide!

India, University of Madras, Professor of Plant Pathology, It's Einstein Energy Just Amazing!

I am basically a bacteriologist I work extensively also with *Xanthomonas oryzae* pv, *oryzae* on rice (bacterial blight) and also with sheath blight (*Rhizoctonia solani*) in rice. These two and blast are the most serious diseases of rice in Asia, Sheath blight getting to be the most important production constraint lately. Testimonial, I am beginning to understand how your product works! However, the fact that it works on many different insect pests, fungi, bacteria is simply amazing. And the fact that your product is made only of US GOV FDA EAFUS Edible Food Additives is what can i say!

I have read carefully all the testimonies from growers and scientists. The best kind of microbial inoculates we have produced so far through research in biocontrol are those which have more than a mode of action. This is where current research is and it is exciting to know that that induced resistance is the hot subject today,

Proteins/Enzymes which could target chitin on plant or insect cell wall was a very attractive hypothesis, but in the field it did not work well when transgenic plants made to express chitinase genes failed to protect plants against fungal pathogens.

In your case, I see that you create "QUINTENARY" which can penetrate hard or waxy surfaces and act on hydrocarbon molecules. These attributes, (1) picotechnology size and (2) Its ability to penetrate and (3) become systemic (4) PH modify bacteria environment (5) electromechanical assemble and disassemble in the insect pest/pathogen might explain its successful controlling effects. These attributes are hard to create and obviously you have had success in doing this. Based on my test it's its no wonder you control Rice Blast, Blight and Sheath are more!

Now I have a clearer picture. That is why you call your product, a nutrient. That is what happens in the right sense. I think then that it might not act on any particular organelle/site but just cleans and controls the body of insects, thallus of fungi and other prokaryotic cells (bacteria etc). It is just great! Only synthetic products used to be this kind but you have a non-biological like product (derived from biological materials).

You have provided me with an incredible amount of information of your Pico 1, I am really not familiar with EPA or its regulations as how they would classify this. Although there are no live organisms, the material obviously controls pests indirectly and perhaps induces resistance in the host plant (as an activator of resistance). As the material acts on fungi, bacteria, insects and viruses, the mode of action has to be a combination of these two and perhaps, more, it would qualify for the Darmstadt Conference as a bio-inoculant. It's Electromechanical!

So lets summarize the known benefits: Replace Fungicides/ Bactericide, Growth aspects of the products increasing brix levels by over 100%, and increasing production in less time just adds to the mystery! So lets summarize: Quintenary features, carbon bio-stimulant, no active ingredients, single element technology, PH, non-Toxic, harmless to environment water and soil remediation, non toxic edible, pests / pathogen control, plant activation, organic nitrogen, amino acids, systemic acquired resistance (SAR), crop production and soil remediation, translocation, non-resistant, low draves residuals reduced surface tensions, and Einstein energy!