The Pine Bark Beetle

A Solution for Your Consideration to Butt Up Against Current Strategies Being Employed

agenda

Understanding the Fundamental Issues at Hand
Are Pesticides Working?

- The reason the Pine Bark Beetle enters a tree is because it recognizes it as being unhealthy. Unhealthy trees release terpenes that signal to beetles their readiness to be infested;

- Once in the tree, it is the Blue Stain Fungus carried by the Pine Bark Beetle that begins the process of killing the tree;

- The Blue Stain Fungus blocks a tree's ability to take up water and soil nutrients;

- As the Pine Bark Beetle lays its larvae and eggs inside the tree, this blockage by the Blue Stain Fungus prevents the tree from flushing out larvae and eggs;

- When a tree is full of beetles, they seek another to infest.

Vita Products Plant Formulations Applied to Address This Problem is a Third-Party Documentation-Organic Product That Demonstrates:

1) there is nothing known to cure the Blue Stain Fungus disease carried by the Pine Bark Beetle;

2) saving thousands of Ponderosa Pines, Pinon Pines in NM, CO and AZ;

3) the product formulation is not a pesticide;

4) that it may be used as a foliar spray and/or soaking agent;

5) promoting health and growth of the trees which assists them in resisting insect and disease attacks;

6) Note: There are only three pesticides approved by EPA for use on the Pine Bark Beetle which may be detrimental to bees, fish, and birds. Pesticides kill;

7) Vita's Formulation is USDA National Organic Compliant. It restores the health of a tree without killing insects and neighboring forest plant growth.

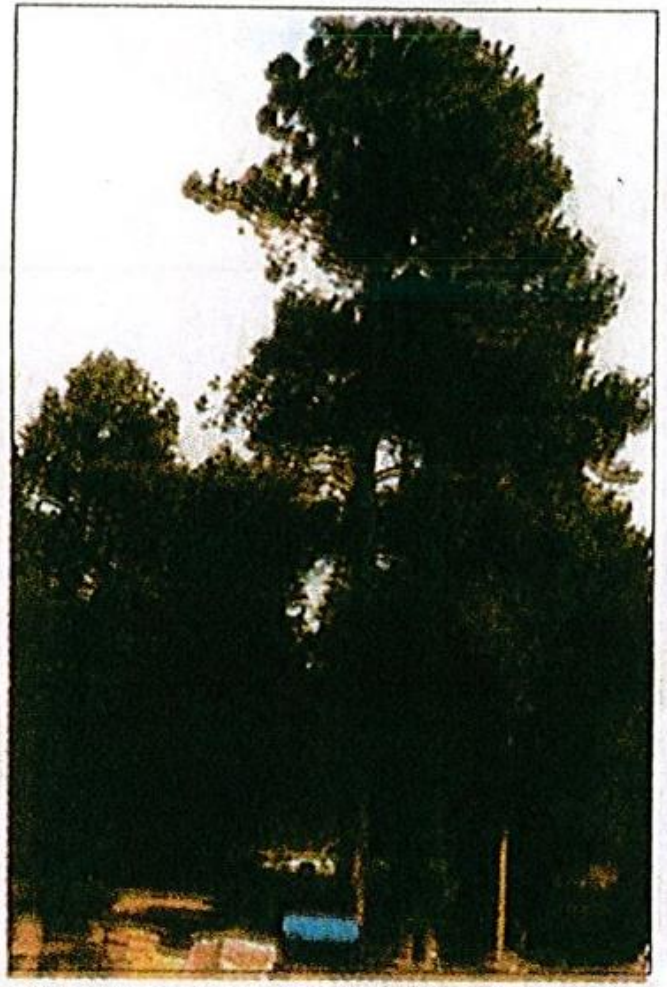
BARK BEETLE EPIDEMIC HITS WESTERN U.S.

BY PETER C. BENJAMIN, GROUP PUBLISHER

Pines throughout the Rocky Mountain and Sierra Nevada ranges of the United States and Canada are succumbing to one of the worst bark beetle infestation cases in history. Bark beetle is the common name for the IPS Engraver Beetle, the Mountain Pine Beetle and the Turpentine Beetle, all of which are affecting millions of acres of forest, stands of timber, landscape specimens and nursery stock.

While small numbers of bark beetle are always present in forests, severe and sustained drought conditions throughout the West have contributed to an explosion in the number of these pests with catastrophic results.

Understanding how this pest works is crucial in understanding how to form a combat strategy. The beetle operates by drilling through the bark of the tree, reaching the phlome layer. This layer is responsible for the transport of nutrients and hydration between needles and roots. On a healthy, unstressed tree the natural line of defense is the sap, which oozes from the hole thereby barring the entry of the beetle. Drought has caused a large reduction in the ability of trees to produce sap. U.S. Forest Service monitoring has shown that in many cases the moisture content in trees is below that of kiln-dried lumber so the natural defense has been lost.



This tree was damaged due to Bark Beetle infestation.

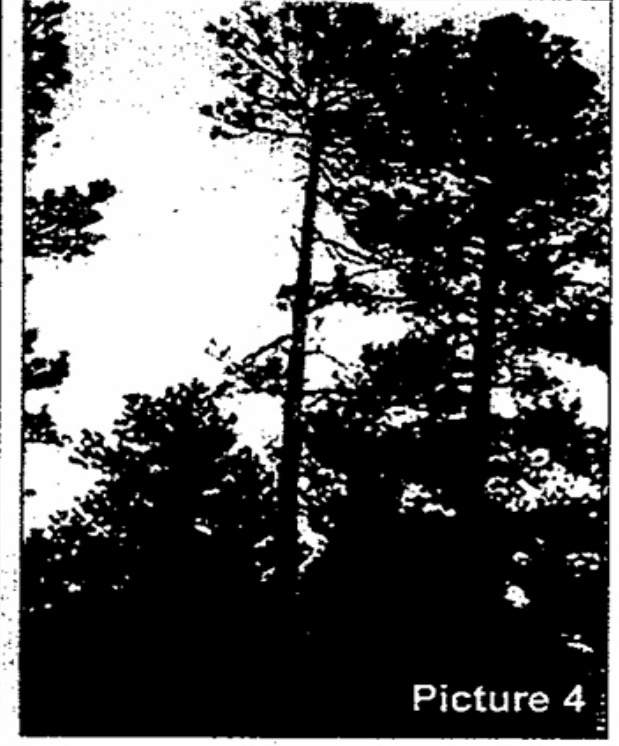
Trees use signals, called monoterpens, to indicate their condition. In order to increase defensive measures, some trees will actually alert other trees of the same species when they are under attack by a particular pest. In the case of the drought-stricken pines, the signal they are communicating is one of extreme stress. Bark beetles can read and react to these signals and then attack.

Once inside the tree, the bark beetles tunnel around — girdling the tree in the process — and go on to lay eggs. Some

See Beetle, page 8


Picture 2


Picture 3


Picture 4

The pictures were from Tom Lawson's home in Show Low, AZ. Picture #1 (front page) shows the damage of the Pine Bark Beetle in July, 1991. Picture #2 shows the same tree September, 1991. Lawson was told to cut down the trees as they would not survive.

In July of 1991, five Ponderosa Pine trees (In pictures 3 & 4) were infected with the Pine Bark Beetle. State Forester Tom Warfield examined the trees and determined all of the infected trees had to be removed due to beetle damage.The trees were treated with Vita Planta until October 25, 1991. All the trees were saved and remain healthy.

Beetle

Continued from page 1

trees can survive occupation by the engraver beetle in small populations if girdling is not too severe; however, the bark beetle also hosts the blue stain fungus which adds to the girdling and is ultimately responsible for the tree's death. Irrigation and precipitation are only effective in maintaining the overall health of the

Beetle

Continued from page 8

tree, yet these precautions do nothing to eradicate the pest if already occupied. Solutions are few and far between, but there is mounting evidence that insecticide products are not the answer, especially in large-scale applications. Carbaryl and Sevin have shown some success but must be applied only at certain times and in large amounts.

So what is there to do except let Mother Nature run her course? Enter Bill Ruth, Vita Products Inc., Chandler, AZ.

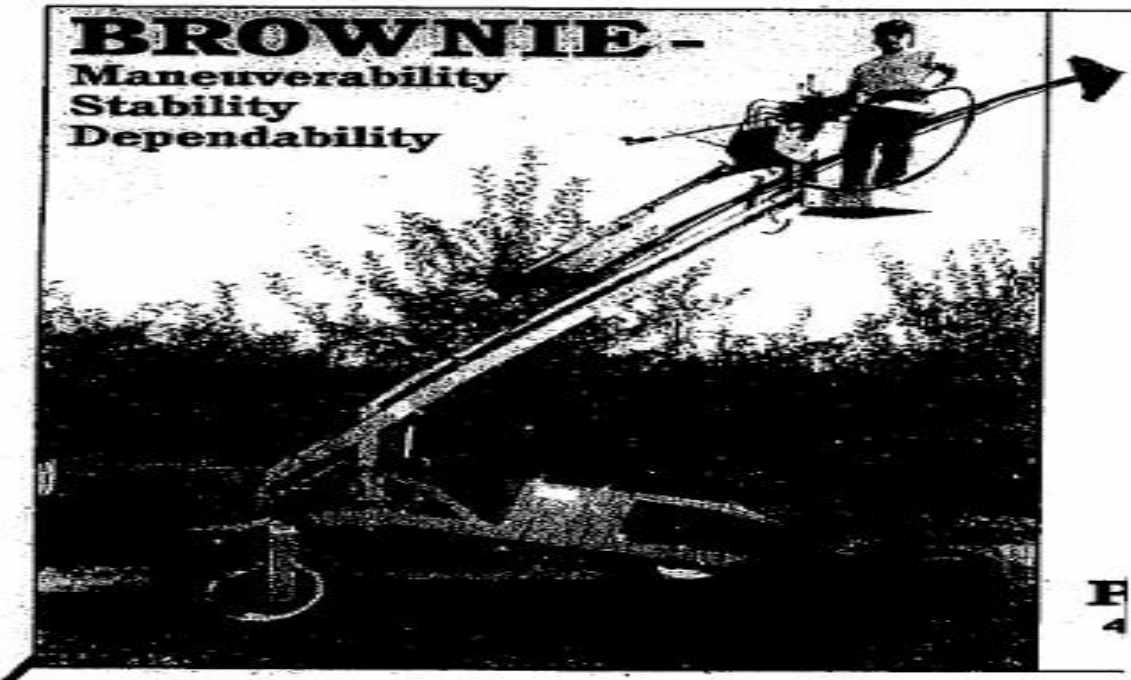
Ruth was the owner of a nursery in the Pinetop/Lakeside/Show Low, AZ, area for many years, selling plants and trees at retail. Knowing the beetle was ever-present in the area — and having extensive education and research in both plant science and hydroponics — he began to experiment with different combinations of plant minerals and extracts. The experimentation was Ruth's effort to boost the health of nursery stock and increase its natural ability to resist pest and disease. The products he developed were originally for use at his own nursery. After many years of trials and research Ruth found the perfect combination: Vita Planta, a product the company sells to nurseries and garden centers.

Enter the State Forester in charge of the Arizona State Land Department in Pinetop. The Forester had been receiving calls from local homeowners experiencing loss of ponderosa pines. He put the homeowners in touch with Bill Ruth who in turn applied Vita Planta to the trees, and received excellent results. Ruth then developed a complete preventative disease management program with Vita Planta playing the leading role. After some time and further research Ruth was able to deduce the pathology at work that allows the product to be effective against the beetle and the blue stain fungus.

Essentially, the product works through three separate avenues. First, it changes the scent of the monoterpens from that of stress to that of a healthy tree. Second, it makes the smell and taste of the tree intolerable to beetles, thus forcing them to vacate the premises. The larvae also die because they can't tolerate

the main points are as follows — The product is certified organic in the state of Colorado and is the only plant product ever to be approved by the National Park Service for use in the Grand Canyon. Bill Ruth has developed an earth-friendly product that will be the major force behind battling bark beetle and restoring health to not only trees but any plant. Research and development are also under way to trial the effectiveness against a host of other pests and disease including shoot beetle in spruce, Texas root rot and even mistletoe. It has also shown great promise in greenhouse production.

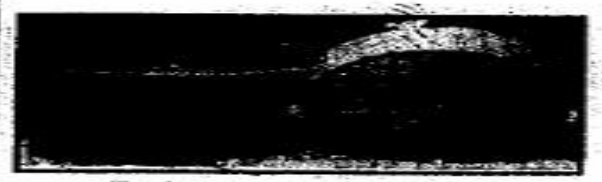
For more information contact the company at 1-800-874-1452; e-mail: info@vitaproducts.com; www.vitaproducts.com.



beetle and the blue stain fungus.

Essentially, the product works through three separate avenues. First, it changes the scent of the monoterpens from that of stress to that of a healthy tree. Second, it makes the smell and taste of the tree intolerable to beetles, thus forcing them to vacate the premises. The larvae also die because they can't tolerate feeding from the tree and starve. Thirdly, the product helps control the blue stain fungus and finally, the minerals and extracts return health and vigor to the tree.

There are numerous examples of non-insecticidal control using Vita Planta and its more concentrated version, Vita Agri, especially when combined with the anti-fungal VPX. It bears mentioning that Agri and VPX are only available to applicators certified by the company. What I can say without equivocation is that per my own research and testing Vita Planta is indeed a proven control of the bark beetle. Other attributes of this product are many, but



The Preceding Pine Bark Beetle Epidemic Article Can Be Found At The Link Displayed Below

73) Beetle Bark Epidemic Article Vita Planta.pdf

Vita Products website under the leadership of Plant Scientist, William L. Ruth

www.vitaproducts.com

INSECTICIDE OR ORGANIC?

In late summer of 2002, the Forest Service announced its plans to spray Carbaryl (Sevin) insecticide on "high value" Ponderosa pine trees in the Prescott area in the Spring of 2003. This same scenario happened in the White Mountains. Due to the negative public response and the lack of time, the spraying (at $65.00 a tree) did not occur. I hope the citizen's response again here in the White Mountains is the same.

Carbaryl can only kill the insect through its ingestion of the chemical, not just contact with the chemical. It does nothing to enhance the health of the tree. Carbaryl has a half-life of 2 months which means that half the substance is reduced by natural processes within 2 months for $65.00 a tree. According to Colorado State University, Carbaryl (Sevin) lasts only 10 to 14 days. The entire tree must be covered with Carbaryl. It cannot be applied on a windy day (5-7 m.p.h.) since residual may drift to non-target plants or contaminate water sources. Carbaryl is slightly to moderately toxic to birds, extremely toxic to bees, has shown teratogenic (causes of birth defects) effects in pregnant dogs and has been declared a POTENTIAL HUMAN CARCINOGEN (cancer causing) by the UK Government Committee on Carcinogenicity.

Usage has been restricted and some approvals revoked. Inert ingredients in Carbaryl formulations include formaldehyde (possible carcinogen), petroleum distillates (toxic if swallowed, may cause chemical pneumonitis (inflammation of the lung), and crystalline silica (may be a carcinogen). The above information on Carbaryl (Sevin) is from a U.S. Forest Service Publication. Need I say more?

Now back to the health of our trees. In the summer of 2002, The White Mountain Independent printed an article with a byline of, "Experimental Process Could Save Trees" It was NOT an experimental process then, nor is it now! It has been a proven process from the start.

This summer, we began our third year of saving trees in the White Mountains with Vita organic products, Vita Agri/VPX and Vita Planta Pro. These products are USDA National Organic Program Compliant and certified to be used for organic applications worldwide. We have saved literally thousands of trees, with and without beetle infestation.

Quite simply, these products feed and hydrate the trees bringing them to a state of health that enables them to resist insect infestations. The Natural Selective Removal of Trees (selective thinning) is our first step in helping the trees. We are the only company that addresses the health of the trees. Our business has been successful through word-of-mouth from our customers. This could not be happening if these products did not work. Yes, we cut down, remove and chip dead trees. However, we prefer to save trees rather than let the beetle dictate which trees must be removed. The property owner should have the right to make that decision.

It is time to put the word out that there is something that can be done to beat this beetle infestation besides standing by helplessly with a chain saw to see which tree will be the next to die.

Hydration of the trees is necessary due to the drought conditions. THIS IS EXACTLY WHAT THESE PRODUCTS DO! Thinning is not the complete answer, and spraying of insecticides does absolutely nothing for the health of the tree. I have spoken to the '"experts" and attended seminars concerning forestry, entomology, and agriculture; I will continue to do so. I hope you will print this letter in its entirety, not for the promotion of our business, but as a Public Service to inform people that there is an organic alternative to chain saws and insecticides.

Dave Nila - Show Low Resident and President of Nila-Cunningham, Inc

Video Displaying Pine Bark Beetle-Infested Tree Treated With a Vita Products Plant Formulation

Video Link:

Pine Bark Beetle infested Tree treated with Vita Products!

The Pine Bark Beetle Solution has been developed by Plant Scientist, William L. Ruth

---

His decades of solving problems benefiting the cut flowers industry, horticulture and farming, and the Christmas Tree industry (trees and wreaths) nationwide is testimony to American excellence, diligent and persistent work, ingenuity and innovation.

How Can Forestry Managers Get a Tree Healthy?

- Apply Vita Products VPX 75, 80 as a Basal Flair around the base of the tree, and/or that can coat the trees' needles.
- Engage the use of a helicopter to spray/apply Vita Products Vita Agri VPX-Booster.
- The two solutions above eliminate the need to use pesticides. Pesticides are non-selective as a carcinogen and have the keen ability to kill more than just beetles.

A Word About Patents v. Trade Secrets

With the understanding that a company's intellectual property is its number one asset, William L. Ruth of Vita Product's, Inc. decided at the outset of the creation of his plant and lotion formulations to treat them as trade secrets, thereby foregoing the process of having them patented. Mr. Ruth utilizes a non-disclosure agreement as an added measure to protect his company's trade secrets. The rationale behind this decision includes a number of factors:

- A trade secret enjoys protection under US law;
- The associated costs are significantly lower than that of securing a patent;
- Patents require companies to disclose inventive properties publicly. Their protection is also limited in time, usually lasting no more than 20 years, while trade secrets remain protected indefinitely. William L. Ruth has chosen to follow the path of Coco-Cola, which does not hold a patent on its secret cola-recipe. Consequently, Ruth has chosen to protect his secrets rather than disclose them in a patent application.
- Vita's formulations derive independent economic value by remaining unknown;
- Vita's trade secrets allow the benefit of an indefinite protection period, especially through its long-term interests;
- As long as these trade secrets are kept from public knowledge, Vita Products, Inc. continues to benefit from them without any reporting requirements, including any that require procedural compliance with a government agency.

While we can agree that trade secrets are unique and inventive enough to warrant patent protection, that would require disclosing the information publicly and spending considerable sums obtaining patent protection, i.e., filing and annuity fees, not to mention the time-consuming efforts involving searches and examination. William Ruth and his company Vita Products, Inc. chose the trade secret path as it offers a better return on investment and fits Vita's overall risk strategy.

Given William Ruth's position here as stated, we envision your organization to be in its own unique position to file a patent for these formulations providing extremely effective protection for the generally accepted 20-year period, thereby giving it the exclusive right to make, sell, and gain a monopoly on them independently. Your company can have exclusive use of these formulations and command the market for 20 years. It can build its own brand recognition and market leadership during that period to remain a top industry player even after the patent expires.

A Word About Clinical Trials

- As a research-based company, Vita Products, Inc.'s clinical trials designed expressly for development and evaluation of plant formulations applied to Floriculture, Horticulture, Christmas Trees & Wreaths have been conducted with the public and commercial entities – randomly - whose results are evaluated and published on the Vita Products, Inc. website (www.vitaproducts.com), not with test tubes or control groups.
- It must be noted here that these trials have been conducted in a manner where their efficacy is born out through testimonies, photographs and videos – true to life applications in the field driven by William Ruth's research and scientific efforts in plant science.

Can there be any better proof of their worth and value to the individuals, companies and organizations using them? So it stands with Vita Planta Pro™ and Vita Agri Plus™.

Trials/Testimonies in Other Industries Served by Vita Products:

Research (vitaproducts.com) Testimonies (vitaproducts.com)

CONSUMER USE (vitaproducts.com)

Vita Products, Inc - Floriculture, Florist, Gardener, Cut Flowers

VITA PRODUCTS, INC. CHANDLER, AZ 85244
E-MAIL: info@vitaproducts.com
WEB SITE: www.vitaproducts.com

WILLIAM L. RUTH – President and CEO

The Developer of Vita Products, Inc. was raised in Yuma, AZ and has an extensive background in the processing of fresh produce. He received his Bachelor of Science Degree in Agricultural Economics and Plant Science from Arizona State University in 1971 and his Masters of Science Degree in Agricultural Economics and Plant Science in 1973 (With Highest Distinction). His Master's Thesis was written on the science of Hydroponics.

He served as a Graduate Assistant at A.S.U. in the following courses: Range Management, Plant Genetics, Weeds & Weed Control, Soil Conservation and Lawns & Greens.

As a four-time recipient of the Western Growers Association Academic Scholarship, Mr. Ruth was elected to the Fraternity of Alpha Zeta, a National Honorary Agricultural Academic Fraternity in April 1972.

Mr. Ruth's experience in academic teaching, research and scholarship includes employment in Arizona State University's Experimental Farm from 1965 to 1969 in the Plant Science Department and lead instructor of Hydroponics at Phoenix College.

William L. Ruth Bio cont'd:

He was Manager of ABI Hydroponics in Scottsdale, Arizona and was subsequently employed by Hydroculture, Inc. in 1971 as a Researcher in the Research & Development Department.

His expertise includes plant tissue culture, water, and fruit analysis where his primary responsibility was Problem Solving for Hydroponic Growers. He assisted in the development of a hydroponic growing unit and researched poultry cannibalism, i.e., chuckers, pheasants, and chickens, adding certain proteins to their diet to research their cause and effect. Additional research included Hydroponic Shrimp and Insect Control in Hydroponic Greenhouses using various varieties of birds. In March 1974, he published an article on Hydroponics in the American Vegetable Grower Magazine.

As an educator in the public-school system for thirteen years, Mr. Ruth taught Science, Mathematics, and Economics. In 1987, he established a retail Plant Nursery and Floral Shop and was a Landscape and Irrigation Contractor for five years, landscaping Indian Gardens in the Grand Canyon in 1989. The development of his Vita Planta, Vita Christmas Tree & Wreath Preservative, and Vita Flora Cut Flower Preservative formulations began in 1988 with extensive research and trials on flowers, plant nursery stock and landscaping.

Vita Products, Inc. in Industry Publications

"Nursery News Magazine" published an article on the Vita Planta formulation in1995 comparing stressed plants before and after the use of Vita Planta.

"The American Christmas Tree Journal", April, 1999, pg. 48 displayed a picture of a Christmas Tree cut the last week of November, 1998 that was hydrated with Vita Christmas Tree & Wreath Preservative. The tree would not combust on February 6, 1999 in Chandler, AZ.

His "Vita Flora Cut Flower Preservative" has been written about in two books: Fresh Flowers : Selecting and Arranging Identifying, Selecting and Arranging by Charles Marden Fitch, Abbeville Press,1st edition, pgs. 33 & 34, and Flowers Are Almost Forever; The Care and Handling of Cut Flowers by Libbey Oliver, Brandylane Publishing. The former describes how Mr. Ruth's Vita Flora extended the life of Gerbera cut flowers seven days longer than three competitive products; the latter explains the advantages of using his Vita Flora Cut Flower Preservative on cut flowers. (As a footnote in her book, Ms. Oliver describes how effective Mr. Ruth's Vita Derma Lotion is in protecting hands from irritants and contact dermatitis).

Industry Publications cont'd:

The August, 2001, Vol. 16 No 8, issue of "Nursery News Magazine" features a front-page article written by Vahan Dinihanian, President of Dinihanian Floral Products, Beaverton, OR entitled, "Make Holiday Feelings Last; Preserve Your Christmas Greens". In this article, Mr. Dinihanian writes, "William Ruth is the only known scientist to develop a preservative that will allow the exchange of oxygen and liquids between the plant material it is applied to and the ambient air. The formulation through contact systemic action actually feeds the still living cut material with minerals and plant extracts that the plant material needs to continue living after it is cut. Plant material treated with Vita Christmas Tree & Wreath Preservative has been known to remain alive and green for up to seven months. These tests have extended through ten years of trials with the same consistent results."

The preceding article was also published in the Greens Issue of "Flower News" on October 13, 2001. Dr. Fran Gare, Nutrition Consultant for CBS, was to publish her latest book on healthy anti-aging nutrition that would have included growing food with Vita Planta. Sadly, her assistant passed away and she was unable to finish the book

Contact William L. Ruth

- Phone: 602-524-6008
- Email: billruthphone@gmail.com
- Website: www.vitaproducts.com

All of Plant Scientist, William L. Ruth's plant formulations with proven scientific efficacy across three decades in contributing to plant health in the fields of Agriculture, Horticulture & Farming, and in the Christmas Tree industry are for sale as he nears retirement. While there is international interest in all of William Ruth's formulations, his desire is to have this Proprietary Technology purchased and owned by a US entity.