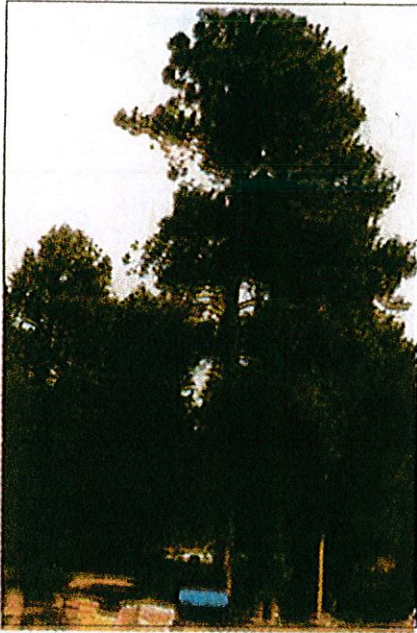


BARK BEETLE EPIDEMIC HITS WESTERN U.S.

BY PETER C. BENJAMIN,
GROUP PUBLISHER



This tree was damaged due to Bark Beetle infestation.

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.

Trees use signals, called monoterpenes, 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

**Green
Source 1
pages**



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Address correction requested

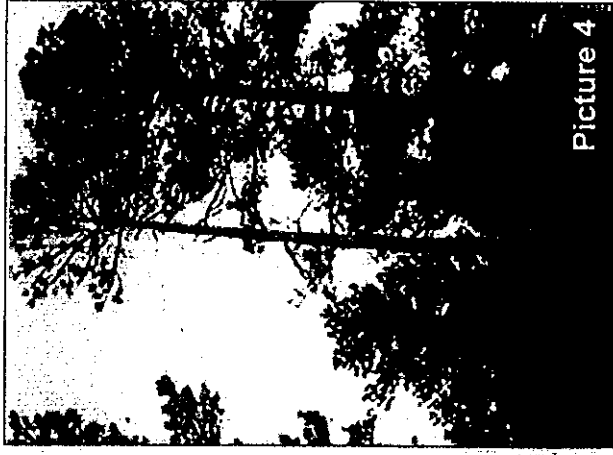
The pictures were from Tom Lawson's home in Show Low, AZ. Picture #1 (front page) shows the damage of the Pine Bark Beetle in July, 1991. Picture #2 shows the same tree September, 1991. Lawson was told to cut down the trees as they would not survive.

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



Picture 1



Picture 2



Picture 3



Picture 4

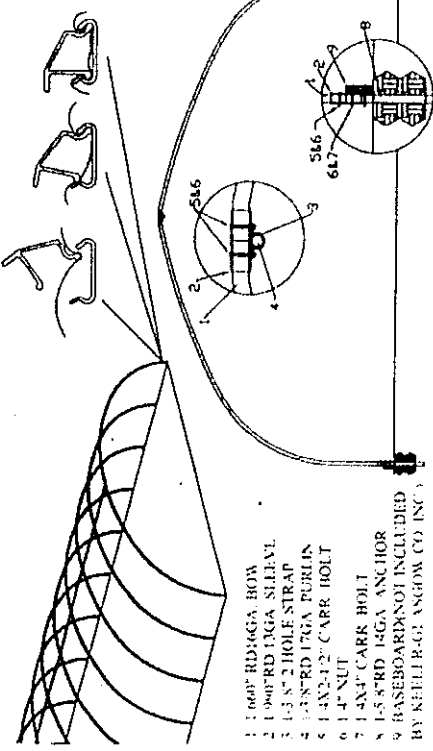
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Beetle

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 monoterpenes 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.

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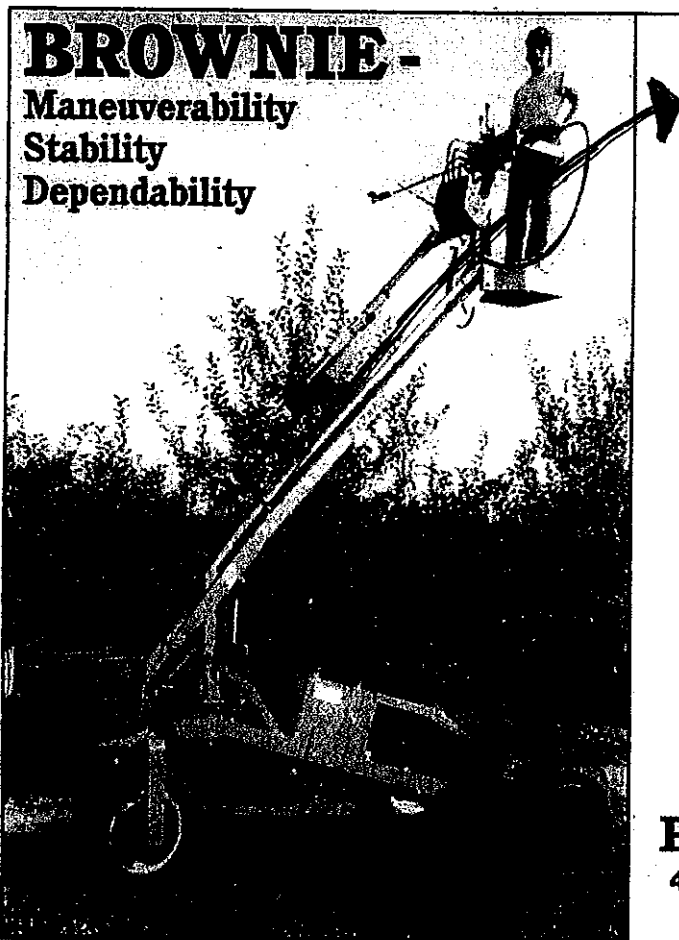
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beetle and the blue stain fungus

Essentially, the product works through three separate avenues. First, it changes the scent of the monoterpenes 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



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