



Quality and Performance Creating Value

# GROWERS BULLETIN

ULTRA GRO PLANT FOOD COMPANY

## Foliar Crop Shield

### Purpose

Nearly all living organisms are designed to function most effectively within a moderate range of temperatures. Some plants have been adapted to prosper in extreme environments, but this capability does not extend to food crops. It has long been known that certain perennial crops, such as fruit and nut trees, may need extra attention at the beginning of and during the growing season because of the possibility of frost damage, sunburn, and heat stress. Over the past decade and a half, environmentalist pressures have been mounting to discourage the use of smudge fires to prevent frost damage. In some areas this has resulted in legislation to phase out smudging procedures.

One of the simplest solutions to this problem is to apply insulative coating to the sensitive bark and budding areas. However, some chemical companies have been working at cross purposes to nature in their efforts to sell more "hi-tech chemicals" to the growers. For insulative coatings, they are selling "polymers", which are derivatives of petroleum.

They form permanent films which are resistant to removal and are not compatible with biological tissues. Moreover, these films do not "breathe" (i.e. they have no porosity); therefore, there can be interference with transpiration.

Ultra Gro 3-4.5-2 Foliar Crop Shield is designed to give the necessary protection to crops in orchards, groves, vineyards, berries, peaches, and other crops. The primary mode of action is to provide a physical coating for protection against heat stress and burn. This

coating is not permanent and is gradually removed from weathering.

In tropical climates, particularly in irrigated arid regions, Ultra Gro 3-4.5-2 Foliar Crop Shield functions to insulate the plant from excessive atmospheric heat. Relief from heat stress is particularly important to row crops, such as tomatoes, beans, peas, celery, and also grapes, tree fruits, and specialty crops. A hidden benefit to growers in arid regions is the conservation of soil moisture due to lessened need for the cooling of the plant through leaf transpiration. Yield increases of 10% to 15% or more are not uncommon as a direct result of reduced stress on the plants.

### Description

Ultra Gro 3-4.5-2 Foliar Crop Shield is a specially formulated non-toxic, bio-degradable mixture of natural and biological ingredients which provides protection against heat stress, frost damage, and excessive loss of moisture. Our shield is designed exclusively for Ultra Gro Plant Food Company by a renowned chemist formerly employed by one of the world's leading corporations. It contains a small amount of titanium which serves as a visibility and during application. It is a viscous white emulsion which is stable at normal ambient temperatures. It contains no ingredients except those found in nature.

The nutrient complexes, combined with the crop shield create a synergistic effect. That is, the combined product is even more effective than either of its components if applied separately. Incidentally, our research of over 25 years has shown that properly

applied foliar alone are effective in helping plant systems withstand stress conditions.

## **Benefits**

With Ultra Gro 3-4.5-2 Foliar Crop Shield, we are providing a mixture of biological materials which produce a coating that has both insulative properties and porosity so that transpiration is not inhibited. Its lack of toxicity and its non-permanency have made the use of this product on food crops acceptable to food processors.

Ultra Gro 3-4.5-2 Foliar Crop Shield acts as a reservoir for foliar nutrients and micro-nutrients for prolonged absorption. Due to the above, the normally required amounts of foliar nutrients and other additives are reduced by 10% or more.

## **Recommended Applications**

For reduction of stress due to heat and loss of moisture, we recommend using 3 quarts to 1 gallon of Ultra Gro 3-4.5-2 Foliar Crop Shield per acre every three to four weeks for maximum results. By scheduling use of Ultra Gro 3-4.5-2 Foliar Crop Shield as part of your normal crop management program, stress due to heat and to water insufficiency can be greatly reduced.