# Why Foliar Feed

FACT SHEET

A & L CANADA
LABORATORIES, INC.

2136 Jetstream Rd.
London, ON N5V 3P5

Phone: 519-457-2575
Fax: 519-457-2664
Aginfo@alcanada.com
www.alcanada.com

Fact Sheet No. 131
Revised 11/2013

During growth and development of any plant the plant will send out signals when the nutrient status changes. Symptoms of nutritional disorder, either excess or deficiency are no less important than signs of infestation by insects or disease. Each condition is characteristic of a specific nutritional disorder. Sometimes signals appear early enough so that corrective action can be taken in time to prevent serious loss or quality problems.

In cases with all crops, recognition of the beginning symptoms of certain nutritional deficiencies provides sufficient time for treatment. These particular symptoms are usually associated with reduced availability of elements readily translocated from older leaves to areas of new growth or development. Included are Nitrogen, Phosphorus, Potassium, Magnesium, and non-mobile Boron. When symptoms associated with deficiency of other elements, particularly micronutrients, are observed only on occasional plants, treatments can usually be made soon enough to benefit those plants that do not show symptoms. Foliar feeding treatments are usually effective if made when nutrient levels in leaves are at the incipient deficiency stage, as indicated by tissue analysis.

Waiting for a deficiency to occur and then treating the crop, it is usually too late to correct a problem. A proper tissue-monitoring program is pro-active. Tissue tests are taken to monitor the crop and will pick out any potential problems so that they can be corrected before they become critical.

Foliar feeding benefits are not confined to absorption of nutrients through leaves or other above-ground plant parts (bark, buds, flowers, fruits), but also by stimulation of root uptake. In addition to benefits from treatment when symptoms indicate the need, foliar feeding is a practical method of providing supplemental fertilization under conditions of natural stress. These extra demands occur during periods of change from vegetative growth to reproductive development.

In strawberries there are two such periods. During September, flower bud differentiation occurs. Phosphorus compounds accumulate in the bud; zinc activates the movement; nitrogen, particularly from urea, speeds penetration of the leaf cuticle.

The other period of change occurs in the spring when fruits develop from flowers. Foliar treatment with the same materials, applied before and during blossoming, influences size of berries produced, and earliness of ripening.

Foliar feeding a perennial crop such as Strawberries or orchards for example, in the fall with zinc and boron will help fortify the plant. This application will protect the bud and or the plant from desiccation over the winter months. In the case of other nutrients such as N, P, and K these will help build reserves in the roots and crowns so that the plant has a larger storage of nutrients to get it through a difficult spring if it occurs.

In specialty crops or high value crops, particularly a crop that shelf life and appearance are important the use of foliar sprays becomes a bigger factor. A foliar program usually will keep nutrients moving in the plant and in stressful conditions will

meet the nutrient demands and stimulate roots to take up nutrients that would otherwise be dormant.

Foliar programs have more potential when applied to a crop that is grown in excellent conditions. Foliar feeding programs will supplement a well-balanced management program to push the crop for the extra potential yield and quality that is achievable. It is difficult to achieve optimum production if we rely on only a foliar program to compensate for soil deficiencies.

Other treatments may also be beneficial. E.H. Emmert, University of Kentucky, working with tomatoes, used a combination of boron, sugar, and growth regulator (BNA) in foliar treatments, both yields and quality were improved.

Before planting any crops, soil tests provide a basis for adjustment of acidity, levels of available nutrients, base saturation, organic reserves, and salt concentration. Soil testing in the fall before planting a perennial crop is important so that if lime or sulfur is required, it can be applied in sufficient time to allow for stabilization with the soil, a process that may take up to about three months. Testing every two or three years provides a means of determining rates of change and adjustments required.