## Identifying Strawberry Problems/ Potential Plant Physiological Problems

The ability to recognize and correct production problems early is essential for a successful strawberry operation. Shortcuts in preparing and maintaining a strawberry field will often result in serious pest problems later in the production cycle. Conduct frequent field inspections, perhaps daily, during the early portion of the production cycle. Weak stands of strawberries are more prone to insect and disease attack and therefore should be monitored more frequently.

## Problem Identification

Knowing the habits and damage characteristics of a disease or insect is the key to field problem diagnosis. For example, wilting of new leaves in the crown is a tell-tale sign of early cutworm damage. Quick action at this stage can minimize damage to the planting.

However, in some cases, corrective action must be taken before obvious signs of injury appear. For example, the tarnished plant bug can cause serious damage while the plant is still in the blossom stage, but injury does not become obvious until after the insect has left the blossom. Therefore, it is important to monitor the tarnished plant bug population with traps or frequent field inspections during the blossom stage. Tarnished plant bug levels of one to two nymphs per flower or higher warrants an insect control measure.

## Physiological Problems

Strawberry plants are affected by a number of problems that are not caused by insects or disease. These are physiological in nature.

## Tip Burn of Leaves

This condition is the result of a temporary calcium shortage. It occurs in young strawberry plants during periods with hot days and cool nights or after a frost to young unfolding leaves. The symptoms are slightly malformed leaves with dry leaf margins. This condition is usually not considered serious. Application of calcium chloride in a water solution at 1.12 kg/1123 L/ha (1 lb/100gals/acre) as a foliar spray is helpful.

## Yellowing or Chlorosis

Red Coat and certain other cultivars appear to be more sensitive to this condition, which produces a fading or yellowing of foliage (see color section). Chlorosis development is influenced by genetic makeup of the cultivar, soil alkalinity or salinity, topography and soil aeration. Temporary yellowing can occur on waterlogged soils after long periods of irrigation for frost control or excessive rainfall. Yellow strips of “mother plants” frequently occur during growth early in the season. These plants generally have suffered winter injury to the root system. In some severe cases the yellowing can be corrected by incorporating an iron chelate into the soil at the rate of 14.3 kg/ha (13 lb/acre) of actual iron.

## Wind Damage to Plants and Fruit

This condition can result from poorly sheltered strawberry plantings. Exposure to strong winds and wind borne soil particles will cause “tar spots” on the leaves and stems. This damage is caused by a chemical change in the cell contents when they are exposed to air. The reaction is similar to exposing the surface of a sliced apple to air. Wind damage can reduce plant vigor as well as quality and shelf life of fruit from young plantings.

## Sunscald of Fruit

When fruit receives too much exposure to the sun, the skin can break down or soften, causing sunscald (see color section). The symptom is a discoloration of the fruit surface ranging from pink to off-grey. Fruit not protected by a good foliage canopy is prone to this condition. Berries on the south or west sides of rows are especially vulnerable to damage.

## Stunting and Small Leaf Development

Winter injury is often the cause if these symptoms are exhibited over the whole field. Repeated freezing and thawing or low snowfall often precede this condition. The problem can be verified by cutting the plant crown vertically and examining the tissue for brown discoloured areas. Plantings that incur winter injury early in their life cycle rarely recover. Early plow down of the planting may have to be considered.

## 2,4-D Damaged Fruit

Deformed fruit showing “lines” or “folds” along the berries can be caused by 2 4-D drift at the time of fruit bud initiation. Even a minimal amount of herbicide drift can result in abnormal fruit. The period of sensitivity for June bearers is usually late fall. Day neutrals are susceptible any time during active plant growth.