

Question: What is causing my strawberry fruit to become so misshapen? It doesn't seem to affect the flavor too much, but customers don't buy many of them.

The causes of misshapen strawberry fruit, also known as “cat-faced” fruit or “changos” in Spanish, are several. The main causes of these fruit deformities are described below.

One cause of misshapen strawberry fruit which receives much blame on the Central Coast is that of plant bug feeding. There are several types of plant bugs, of which the most commonly found in the area is the lygus bug, *Lygus hesperus*. The bugs feed on the developing “seeds” (called achenes), and this damage leads to improper development of the fruit tissue underneath and subsequent fruit deformation. One sees more damage from lygus bugs on the Central Coast in the later part of the season when populations of these pests are largest.

Frost injury is another source of deformed and misshapen fruit. This type of damage is found in late frosts after the plant has started to form flowers and fruit. Some flowers may be killed, while other flowers have parts damaged. Flowers which are destroyed do not produce any fruit, whereas others that have had parts damaged will not fully pollinate, of which the result is a misshapen fruit. Immature fruit which suffer frost damage may show a seedy area on the berry, or the fruit may split open at the tip.

A third cause of misshapen fruit is poor pollination. Pollen germination and growth may be negatively affected by temperatures below 60°F. Conditions of low night temperatures and high humidity may inhibit the release of pollen from the male flower parts in certain strawberry varieties. Some fungicides and other chemicals can have a negative effect on pollen germination, resulting in poor pollination. In all of these cases, the result of poor and uneven pollination is misshapen fruit.

Plant pathogens such as viruses or phytoplasmas (formerly known as mycoplasmas, or MLO's) can be a source of unusually formed fruit. Infestation of strawberries by these pathogens will tend to show symptoms in the rest of the plant, however. Fortunately, viruses and phytoplasmas have not been common in strawberries grown in California.

Deficiencies in boron and calcium can result in fruit deformities in strawberries. A laboratory analysis of the plant tissue can indicate whether nutrient deficiencies are a possible cause of fruit misshaping.

The above has been a brief guide to potential sources of deformities and misshaping in strawberry fruit. Please contact Mark Bolda at UCCE Santa Cruz if you have more questions on this topic or any other topics concerning blackberry, raspberry or strawberry production.