



ASK A MASTER GARDENER

PHYLLODY IN ROSES

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Q I planted a new rose this spring and it has produced many nice blooms since then. However, a bud opened recently revealing a flower that had a small branch growing out of the middle of the new bloom. I watched that little branch grow and develop leaves. This odd bloom did not drop all of its petals but it has no center, no flower “organs”. Is my rose diseased? Should I destroy it or share it with a university for study?

A From your description, it sounds like your plant has gifted you with phyllody, an odd flower formation in which flower parts are replaced by leaves and tiny branches. Phyllody can affect a flower’s bracts, sepals, petals, pistils, and stamens, either with a partial or complete replacement of those rose parts. This condition occurs in many plants and for some reason is fairly common in roses. Although you may not have seen or heard of this abnormality before, it was recognized in roses more than 200 years ago.



Is your rose a floribunda? Those varieties are more likely to exhibit phyllody indications, possibly due to genetic predisposition. Three researchers at UC Davis Department of Plant Pathology describe the creation of green roses, “... one floribunda ancestor is *Rosa chinensis*, from which came the Green Rose, a curious variety that has a stable mutation causing phyllody in all its flowers.”

Basically, the phyllody is the result of changes in the hormonal balance of plants. Yes, plants have hormones, too. These phytohormones are chemicals that regulate plant growth. Since plants don’t have glands, each cell is capable of producing hormones. They control everything that grows on the plant. Without them, plants would be masses of undifferentiated cells. Plant hormones affect the plant’s shape, seed growth, flowering time, sex, aging of leaves, type of fruit, etc., etc.

Hormone balance is impacted by environmental stress, insect damage, specific viruses and phytoplasmas. Heat and water stress are often the cause of phyllody in roses but according to the three researchers at UC Davis, “Phytoplasma infection of roses appears to be relatively rare....” A virus called rose rosette disease does reportedly cause phyllody in roses. And insects, most often leafhoppers, can not only induce phyllody itself – but also serve as disease vectors that can spread phyllody to other nearby plants.

In your case, it is likely that this summer’s prolonged heat produced the environmental stress that changed the rose’s growth pattern. If this is the cause, your rose may have normal and abnormal flowers simultaneously and otherwise look healthy. When the weather cools, the rose will resume producing only normal flowers. If not, bring photos of your plant to the Master Gardener office at 11477 E Ave in the DeWitt Center in Auburn.

You can read more about this at <http://fps.ucdavis.edu/websitepdfs/articles/rosephyllodyarticle081904.pdf>

UC Master Gardeners of Placer County are University of California Cooperative Extension (UCCE) ambassadors to the Placer County home gardening community. Master Gardeners promote environmental awareness and sustainable landscape practices, and extend research-based gardening and composting information to the public through educational outreach. UCCE is part of the Division of Agriculture and Natural Resources (ANR) of the University of California. UCCE Placer County: 11477 E Avenue, Auburn, CA 95603, (530) 889-7385

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