Rose Rosette Disease:
How to Sample and Submit Samples to the OK-PDIDL

1. Identify the symptomatic plant(s) to be sampled. If plants are the same cultivar, you may collect a composite sample. If plants are different cultivars, it is recommended to sample each plant type individually. Review images of rose rosette disease (RRD) at the following web address if necessary.
   https://www.forestryimages.org/browse/subthumb.cfm?sub=4248

2. If desired, take images ***prior*** to sampling. Images may be emailed to sickplants@okstate.edu for examination.

3. Obtain one gallon size zip top bag for each sample you intend to collect. You will also need either one extra gallon size zip top bag or a trash bag. Also obtain a few sheets of newspaper or paper towels, and a set of hand pruners.

4. To collect one sample, remove symptomatic shoots (8-10 inches long), and place them on top of the open newspaper sheets or paper towels. If flowers are present on the shoots, collect a few partially to fully open blooms or spent blooms from the plant. The mite that transmits RRD is more likely to be found on the flowers rather than the leaves. A good sample consists of multiple symptomatic shoots since the virus is unevenly distributed in the plants.

5. Fold the newspaper or paper towels around the shoots to make a packet and put the packet in the first plastic bag. Seal the bag. DO NOT add any water to the bag.

6. Repeat steps 4-5 if you are submitting more than one sample for testing. Label bags so that you will be able to identify which plant(s) you have sampled from.

7. USDA requires that all samples from outside Oklahoma must be in double plastic bags. Insert the sample bag(s) into a second plastic bag of the same size or you can use a larger bag such as a trash bag. Seal or tie the second bag closed. Multiple samples can be placed in the same larger bag.

8. If you are not mailing right away, place the sample bag in the ***refrigerator*.**

9. Complete a diagnostic request form (also called sample submission form: https://agriculture.okstate.edu/departments-programs/entomol-plant-path/research-and-extension/plant-disease-insect-diag-lab/site-files/docs/pdidl-form-1-1.pdf. Whenever possible, include an email address so you will be notified when we receive the sample. Sample diagnoses will be sent by email in most cases. If email is not available, we will send the final diagnosis through regular US mail.

10. Oklahoma residents may submit up to 10 samples per year for no charge (fees apply over 10 samples). If you are outside Oklahoma, payment of $35 per sample is required. We consider one sample to be all the material that was placed in a single gallon sized zip top bag. Please include a check or money order made payable to Oklahoma State University. Payment may also be made by credit card by visiting the link below. If only one sample is being tested, select quantity "1". If you are submitting multiple samples, add the appropriate quantity to your cart. To pay by credit card, visit this link: https://secure.touchnet.com/C20271_ustores/web/product_detail.jsp?PRODUCTID=5302 If you are a commercial professional and would like to pay by PO, please contact the lab at 405-744-9961 or email sickplants@okstate.edu.

11. Place the rose sample(s), completed form, and payment (check, money order or credit card payment verification) into a sturdy box. Samples should be addressed to:

    PDIDL
    127 NRC
    Ento/PLP, OSU
    Stillwater, OK 74078

12. In most cases, sample testing takes three days following receipt of the package. In some cases, testing may be delayed due to high volume or if lab staff are traveling. Roses will be examined microscopically for the presence of eriophyid mites. For the rose rosette virus test, our lab routinely uses the methods of Dohbal et al. and Laney et al. (references below). We are working with researchers that have developed new methods, so your sample may also be tested with these newer techniques.

References

Dohbal, S., Olson, J.D., Arif, M., Garcia Suarez, J.A. and Ochoa-Corona, F.M. 2016. A simplified strategy for sensitive detection of Rose rosette virus compatible with three RT-PCR chemistries.

Laney, A.G., Keller, K.E., Martin, R.R. and Tzanetakis, I.E. 2011. A discovery 70 years in the making: characterization of the Rose rosette virus. J Gen Vir 92: 1727-32.