

DAHLIA GALL BASICS & DAHLIA VIRUS

BY Cathrine Featherby

Dahlia Gall is definitely a disease you do not want to have in your garden.

Most gall is caused by **insects** which produce a protective gall around their nesting areas.

Dahlia Gall is caused by a **BACTERIA** which is easily passed to other plants and difficult to eradicate!

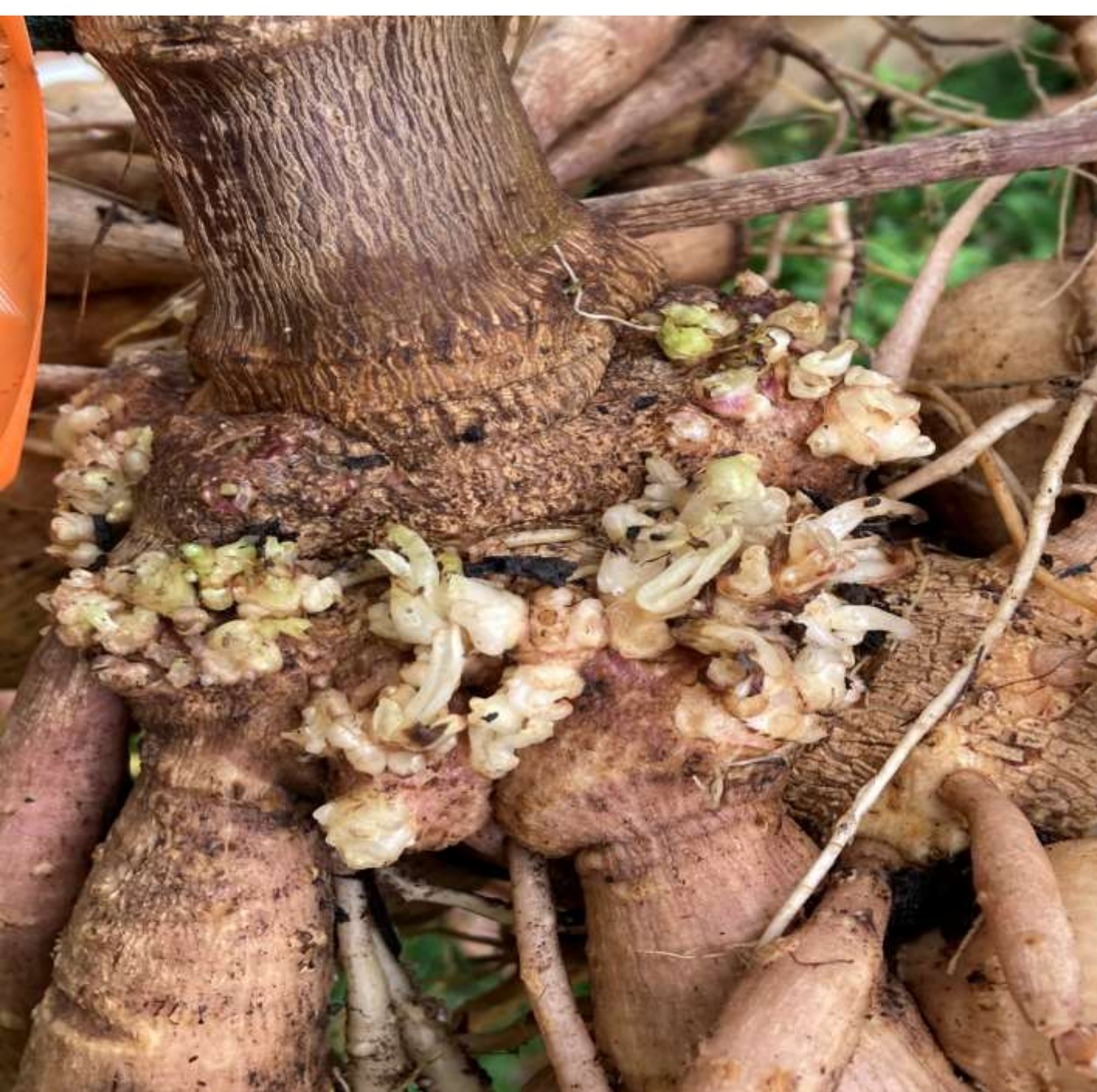
LEAFY GALL



Leafy Gall affects the growth of plant stems and leaves.

It causes many misshaped eyes and shoots, all bunched together.

Dahlia Gall can take up to 2 years to show symptoms on your dahlia.



This is typical **Leafy Gall** with a mass of shoots fused at their base.

There is no known cure that is effective in eradicating the bacteria.

LEAFY GALL



Leafy Gall interrupts normal plant hormone levels. It will impair the affected plant and if large enough may affect neighboring plants. It also retains water, encourages rot, and promotes botrytis fungus growth.

LEAFY GALL



Both Leafy Gall and Crown Gall have become quite prevalent since the start of Covid, with so many purchases being made in stores and online.

Online buying has created new business ventures with the growing and selling or buying and reselling of dahlia tubers.

LEAFY GALL



Most big stores and many nurseries are selling imported tubers which are a known carrier of Gall. Purchase your product from producers you know and trust.

LEAFY GALL



Both Leafy and Crown Gall bacteria are spread through open wounds and water. Any opening in the plant or tuber area can allow the bacteria an entrance to the plant.

Insects can transport Gall. Leaving bits of infected tuber in the ground, when digging, can spread Gall.

LEAFY GALL



Any plant maintenance or damage can cause on opening and spread Gall.

Your tools can spread Gall.

Clean your tools

The recommended methods for this are:

Bleach (10 per cent) + 4 tsp.

Dawn dish soap to 5c water.

Ethanol (70%)

Alcohol (98%) wipe tools after treating.



CROWN GALL

CROWN GALL

Crown Gall affects the tubers and root system of the dahlia plant.

It is also a bacteria and just as dangerous as Leafy Gall.

It produces plant abnormalities, but different than those of Leafy Gall. These appear as tumor growths on the tuber area.

CROWN GALL



Both Leafy and Crown gall look different on individual plants and in the different stages of gall development.

With Crown Gall it is important to note the addition of lumps in the tuber area that do not look like they belong. They are often misshapen. Also, often lighter in colour, similar to that of an immature tuber.



This dahlia tuber clump has **Leafy Gall** but the extra growths on the tuber are **not Crown Gall**. They are additional tubers which we call cling-ons. They will never produce an eye so are usually discarded.

CROWN GALL



This tuber clump with Crown Gall is typical of the imported tubers. The tubers do not look great and the necks are often broken. Many do not produce viable plants. However, there are some that do work out so, if you just have to purchase that special plant from an unknown source, follow the control measures in the next slides related to keeping your stock safe.

CROWN GALL



CONTROLLING GALL

Avoid purchasing dahlia tubers from mass market sellers.

Check new stock carefully and grow it in pots for the first 2 years.

Keep it separate from your regular dahlia bed.

Gall bacteria can stay in the ground for 2+ years.

CROWN GALL



IF YOU FIND GALL

For both Leafy and Crown Gall the whole plant will be infected. If it is on one tuber the whole clump is infected, even if some tuber areas look fine.

Destroy the whole plant and tuber clump.

Do not put it in the compost but use the garbage, and not the green garbage.

WASH AND DISINFECT YOUR TOOLS.

CLEANING YOUR TOOLS

The recommended methods for this are:
Bleach (10 per cent) + 4 tsp. Dawn dish
soap to 5c water.

Ethanol (70%)

Alcohol (98%) wipe tools after treating.

The bacteria that causes both Leafy Gall and Crown Gall can also affect other plants.

Some of these plants are:

Crown Gall: Familiar plants at risk are Leucanthemum, Viola, Veronica, Lavatera, Phlox, Petunia, Hosta, Campanula, Iberis and Aster.

Veggies are beet root, courgettes and runner beans.

Leafy Gall: Familiar plants at risk are Chrysanthemum, sweet peas and geranium.

A more complete list can be obtained from OSU.

If your soil becomes contaminated from **other infected plants** it can affect dahlias planted in the same spot. Remember it takes 2 years of no infected plants for soil to recover.

It is important to remember that both types of Dahlia Gall can take up to 2 years to show symptoms on your dahlias and it can stay in the ground for 2 years after the infected plant has been removed.

Gall can also infect plants in close proximity to the infected plant through water and can be transferred by insects.

Look at this information as just that, as **knowledge is KING**. It helps you to stay ahead of potential problems.

Wishing you much enjoyment with your dahlias and hope you never need to deal with Gall.

Credits for the great information I found and added to this program are from:

Oregon State University Is it Crown Gall or Leafy Gall? Melodie L. Putnam and Marilyn Miller.

Dahlias of Today 2022 - Martin Kral

Canadian Dahlia Growers Group

DAHLIA VIRUS INFORMATION IS BELOW

LOTS OF MIGNON SINGLE DAHLIAS CAN BE STUNNING AS BORDER PLANTS



REMBRANT

DAHLIAS IN A MIXED BED



DAHLIA VIRUS

by Cathrine Featherby

DAHLIA VIRUS PRESENTS IN MANY FORMS BUT THE MOST NOTED IS THE BREAKDOWN OF CHLOROPHYL AND INTERFERENCE WITH INTERNAL TRANSPORT OF PLANT METABOLITES.

YOU MAY SEE LIGHT AND DARK, PATCHY LEAVES, YELLOWING OF THE VEINS AND OR LEAVES, OR OTHER ANOMOLIES.

THE FIRST THING TO DO IS FEED YOUR PLANT TO MAKE SURE IT IS NOT CAUSED BY NUTRITIONAL DEFICIENCIES. DAHLIAS ARE HEAVY FEEDERS AND SOME CULTIVARS DO REQUIRE EXTRA NUTRITION.

IF YOU DO HAVE A PLANT WITH VIRUS, THE WHOLE PLANT AND TUBER CLUMP WILL ALSO HAVE VIRUS. THE ONLY COURSE OF ACTION IS TO **DISCARD AND DESTROY**. THIS IS EXTREMELY DIFFICULT WITH FAVOURITE PLANTS BUT WILL BENEFIT US ALL IN THE LONG RUN.

Chlorosis and Stunting Caused by DV



DAHLIA VIRUS



DAHLIA VIRUS



DAHLIA VIRUS CAN BE SPREAD THROUGH ANY OPENING IN THE DAHLIA PLANT AND BY MANY DIFFERENT VECTORS. SOME ARE EARWIGS, APHIDS, ANTS, LEAFHOPPERS, AND SPIDER MITES ALONG WITH OTHERS.

SOME BENEFICIAL INSECTS THAT KEEP THESE ABOVE BUGS UNDER CONTROL ARE LADY BUGS, LACEWINGS, HOVER FLIES, BRACONID WASPS, YELLOW JACKETS, PAPER WASPS, PREDATORY SOLDIER BUG, FROGS, AND ORIUS WHICH IS THE ONLY BENEFICIAL THAT EATS ADULT THIPS.

PLANT DAMAGE - THRIPS



PIRATE BUG ORIUS

IN 2025 I FOUND AT LEAST 30 ADULT ORIUS HIBERNATING IN MY MASON BEE WOODEN TUBES. I PUT THEM IN MY GREENHOUSE TO KEEP THEM SAFE.



ADULT SIZE IS APPROX.

3mm LONG

**THIS IS AN
AGGRESSIVE
THRIPS KILLER OF
ALL MOBILE
STAGES. POSSIBLY
THE MOST
EFFECTIVE THRIPS
KILLER OF ALL THE
BENEFICIALS.**

BENEICIALS ARE WORTH PROTECTING IN OUR GARDENS.

THE LARVA AND ADULT STAGES OF THE BENEFICIAL INSECTS NOTED HERE ARE VORACIOUS CONSUMERS OF MANY DAMAGING INSECTS. SOME SPEND THEIR WHOLE LIFE CYCLE ON AND AROUND THE DAHLIA PLANT.

WHEN WORKING WITH YOUR DAHLIAS, LOOK FOR THEM AND TRY NOT TO DISTURB THEM.

THE MORE NATIVE BENEFICIALS WE CAN PROTECT THE BETTER THE ECO SYSTEM ON THE WHOLE.

MANY A TIME I HAVE PUT A PLANT WITH BUGS FROM THE GREENHOUSE OUTSIDE, AND A WEEK LATER IT'S CLEAN, YET I NEVER DID SEE BENEFICIALS EATING THE BUGS.

REMEMBER SOME OF OUR BENEFICIALS, LIKE THE LACEWINGS AND FROGS, ARE NOCTURNAL.

A MAJOR VECTOR OF DAHLIA VIRUS ARE THRIPS.

THRIP EGGS ARE INSERTED INTO THE SOFT PLANT TISSUE INCLUDING FLOWERS, LEAVES, AND STEMS. HATCHED EGGS PRODUCE A SPECKLED APPEARANCE ON THE PLANT. THIS INSECT HAS 5 STAGES OF DEVELOPMENT, ALL LIVING ON AND DESTROYING YOUR PLANT.

IF YOU SEE THRIPS ON AN EARLY BLOOMING FLOWER, OR DAMAGE ON LEAVES, REMOVE AND DESTROY IT AS YOU'LL ALSO REMOVE MANY OF THE THRIPS.

ADULT THRIPS LIVE 30 DAYS AND LAY UP TO 10 EGGS PER DAY. IF NECESSARY, TROUNCE WORKS, SPRAY AT NIGHT.

THRIPS ON A DAHLIA BLOOM



THRIPS LARVAL / PREPUPAL / PUPAL



ALL STAGES OF DEVELOPMENT ARE ON THE DAHLIA PLANT

THRIPS - ADULT & NYMPH



PLANT DAMAGE - THRIPS



DAHLIAS IN A SEGREGATED DAHLIA BED – ENJOY!

