2017-JULY IN THE VEGGIE GARDEN

WEATHER-MONSOON SEASON

As a new vegetable gardener, we need to be aware of the weather in the summer. In fact we need to be aware of the weather throughout ALL of the growing season. The monsoon in New Mexico historically starts around the second week of July and this year, the meteorologists are predicting that the monsoon weather pattern is setting up for next week which means more rain and cooling temperatures. Since the monsoon season is fast approaching, we need to be ready for it with our veggies in our gardens. What can we do? Let's talk about hail damage first.

HAIL DAMAGE

So what do we do when nature strikes hard with a devastating hailstorm? Unless you see it coming and can cover your plants, nothing. Sometimes the plants are beyond self-repair and sometimes they bounce back just fine. I leave everything alone for a couple of days before even going out and doing an inspection. Why not do it sooner? Because you will be very upset when you see the damage. You might have irreparable damage or you might not. When you do look at your plants, look closely at the center where the growth comes on many of the plants. Is it putting out new baby leaves? – if the center of the plant wasn't demolished, it will start growing new leaves. Trim back all the demolished leaves leaving the new growth and spray all the plants with some fish emulsion, an organic fertilizer, to help with more new growth and mix in an organic fungicide called 'Serenade' with the fish emulsion to help prevent any possible fungal diseases that might have resulted from the beating they all got leaving the plants weak and susceptible to fungal diseases. Big leaf plants take the worse beating but tomato plants get bruised on their stems too and area more prone to fungal disease after being damaged. Sometimes taking a wait and see versus yanking them out right away is a better approach and sometime they are beyond repair.

Protection-Use row cover-sometimes called Remay, it can help protect somewhat from hail. Use medium weight (.5) row cover in summer. Not lightweight (.4)-shreds too easily in wind and not heavy weight (.9-1.0) in the summer.

POLLINATION

Gardeners should learn about how their vegetable plants are pollinated. Plants require pollination. But there are 3 main ways for pollination to occur—some are pollinated by the wind, some need pollinators like bees, and some are self-pollinating. A fourth way would be human interaction, which isn't needed most of the time. We should also learn what factors might affect pollination like temperature.

We should know a little about flower parts. Not all flowers are created equal. There is a male flower part called the stamen and a female flower part called the pistil. Pollen transfers from the stamen (male flower part) to the pistil (female flower part). Most flowers contain two other parts, the sepals and petals, which may help attract insect pollinators. A complete flower contains all four parts.

If only one essential part is present in a flower, it is called an incomplete flower. The vegetable garden has plants with complete flowers and plants with incomplete flowers.

Vegetables are grouped into three main categories, depending on how they pollinate.

The first category of vegetables-**self-pollinating flowers**, have a complete flower and don't need insects or wind to pollinate them. They have both male and female parts on the same flower. This group includes beans, peas and tomatoes, eggplants and peppers. So we can keep row cover on them longer and they will still self-pollinate underneath them.

The second category of vegetables will be **incomplete flowers** that will either have all male flowers or all female flowers. Examples are winter squash, summer squash and melons. These vegetables need pollinators. The bees visit the male flowers and carry the pollen from the male flower over to the female flower and pollinate her.

The **last category** is the **cross-pollination** group. These vegetables make up the largest group and can be broken into two smaller groups.

The first group reproduces from **windblown pollen**. Vegetables in this subgroup are sweet corn, beets, carrots and onions.

The second group of vegetables are **pollinated by insects**. Some of these vegetables are self-pollinating, but the fruit set will be greater if pollinators visit the flower. The pollinators are some butterflies and moths, native bees, honeybees or bumblebees.

These vegetables include broccoli, collards, cauliflower, cucurbits (cucumber, cantaloupe, pumpkins and watermelon), okra, peppers and squash.

Peppers are self-pollinating, but they set more fruit when pollinated by bees. Cucurbits and squash require insect pollination so if you have the squash covered, uncover them when you see female flowers. These plants have both male and female blooms on the same plant. Male flowers generally appear several days before female flowers. The female flower is easily recognized by the presence of a miniature fruit below the flower petals. Pollen from the male flower must be transferred to the female flower for pollination to occur. Shriveled zucchini is a good example of an incomplete pollination.

Gardeners can encourage pollinators by **planting many varieties of flowering plants in the garden like sunflowers, cos**mos, zinnias, asslyum. These will attract pollinators and bugs.

BLOSSOM DROP-Temperatures are too high-no blossoms will set into fruit.
Tomatoes won't set fruit in 92°F or hotter. They drop their blossoms, which is called blossom drop. It is only when they are trying to set the fruit that the temperature is critical. Luckily it is getting cooler. Tomatoes are self-pollinating which is why I can cover them for so long because they will pollinate themselves. Just the slightest movement will pollinate them.

CONTAMINATED SOIL
There have been some problems with contaminated soil being sold here in Santa Fe area. If you have bought **ready made soil in bulk** last year or this year from a soil yard here in Santa Fe and your

plants seem struggling, it may not be you. The soil may have been accidentally contaminated with horse manure that was used in the compost that was added to the soil and the manure has weed killer in it. This was a problem last year and is reoccurring somewhat this year. The soil yard has changed their source of horse manure, but even the Master Gardeners got a bad load this year. This does not happen with bagged soil so if you bought that, you will be ok. Not all places that sell bulk soil have had this problem so you may be ok. Call your soil yard if tomato plant leaves are curling and look fernlike and wilted. Also affects potatoes, beans, peppers. They will look stressed. This does not look like Curly top Virus. Google 'Herbicide Damage-tomatoes-pics to see if that is what you have. Also if you got some horse manure to make your own compost, you could have the same problem. Know your source of horse manure and if you can contact the grower of the hay that the horses eat and see if they sprayed a weed killer (also known as a herbicide) on the hay they grew. I would not add horse manure to my compost pile any more if I'm not sure.

Things to plant for fall in July

- **Beets**
- **Carrots**
- **Kale**
- **Chard**