THE WISCONSIN VEGETABLE GARDENER

QUARTERLY DIGITAL MAGAZINE SPRING 2016

CLIMATE CHANGE & HUMANS

Terms All Gardeners Need To Know

Simple Steps To Starting A Veggie Garden FIGHT FOR:
THE FRONT
YARD GARDEN
WHAT YOU
CAN GROW
AND NO ONE
WILL KNOW

Planting Tomatoes

Interview: Peter Bemis



Joey & Holly Baird are the founders of The Wisconsin Vegetable Gardener.

They are a married couple living in southeastern Wisconsin (just outside of Milwaukee). Joey & Holly make videos on youtube about how to grow your own food organically, reusing found items (or items you may just throw away), what to do with the food you grow, home canning and simple home living. Along with traditional ground gardening they also grow indoors year-round using up and coming methods along with winter growing in cold frames and low tunnels.

Their goal through their; videos, podcast, public lectures and online communities is to educate the average person how easy it is to grow food, store food, and reuse everyday items. Their motto is;

"For The Health Conscious Organic Gardener Worldwide"

Joey and Holly enjoy speaking at garden expo's throughout the midwest. Holly is also an award winning home canner with a handful of ribbons from the Wisconsin State Fair including a Best of Show award for her home canning talents.

If you find this interesting and have any questions or would like to talk further we can be emailed at thewiveggardener@gmail.com

TheWisconsinVegetableGardener.com



Joey Baird - Host, Co-Founder Holly Baird- Marketing Director, Co-Founder Norman Gaulin- Art Director









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24 CELL INSERT & WATERING TRAY













in it but you want to be aware of how much sun light you're getting too. You don't want to plant vegetables that are easily identified to passer byes. Some suggestions are rainbow Swiss chard. To many it looks like a colorful border plant. Leaf lettuce and spinach both are low growing plants. Strawberries will often look like ground cover. Also, thyme parsley and a numbers of other herbs are often used in flower beds so using them as an edible is no problem. You might want to look at root crops like potatoes, carrots, beets, or parsnips these have no visible fruit above the ground.

The good news is as more people want to know where their food comes from some cities are loosening the laws for front yard food production. Governor Jerry Brown of Californian signed in to law the Neighborhood Food Act which allows Californians to grow food on their property freely.

There are also popular gardeners like Shawna Coronado from shannacoranda.com of the suburbs of Chicago who was has a front yard garden and has been featured on the PBS show Growing a Greener World. Ron Finley is also a making a difference as he is turning Los Angles from a food dessert to a food oasis. There's many more that are not in the light of the media across the country that are bringing this issue to the forefront of the media and public eyes that we all should have the right to grow our own food.

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STEPS TO START A VEGGIE GARDEN

Starting a garden can be an intimidating process but if you break it down into steps starting a garden can be very manageable. If you want to start a garden but don't know where to start, follow the steps below and you will find the confidence and ease you need in the beginning of a lovely and productive vegetable garden

Location is key. Most people don't always think about this and can be bad if you choose a really bad location. You have to look at where the sun hit. If you decide to start a garden in too much shade your plants wont grow as much they can. It is ideal to have the most amount of sunlight possible for all plants. While there are some plants that grow in shade, the plants you want to grow all summer will need the most amount of sun. So before you figure out what grow method you will use, take a look at your yard and decide where the most sun lies the most of the day. This will help you choose your location. Also, be aware of your neighbors. Some municipalities require you be a certain amount away from adjacent properties.



Decide on a growing method. There are 3 common ways you can grow vegetables. Some people grow all methods and some grow one. Whatever you choose, start small. A traditional ground garden is the most common way people think of growing vegetables. You turn the soil over, add some fertilizer if you choose, plants your seeds or plants, and go from there. But this method isn't always ideal. Perhaps you have bad soil or you don't like the idea of growing in the ground. Another option is raised bed gardening. Raised beds are versatile as you can build them short, tall or in between. Raised beds are garden beds built out of wood and filled in with compost. No matter what type of raised bed you are creating it is best to keep them no more than 4 feet across. This way you can reach halfway across on each side. Container gardening is ideal for anyone who wants to grow but perhaps is limited on space or wants to start small. Containers should be at least 12 inches tall and have drain holes at the bottom



What will you grow? Many people don't always think about this and just grow what their neighbors grow or what their grandparents grew. This can be good and bad. My simple rule is, grow what you know you will use, eat, can or freeze. If you hate okra but decide to grow it because your grandma grew it that's not ideal and if you are limited on space you are better off growing something else there. You also want to make sure it is something you can grow in your growing zone. Local nurseries will have starts and seeds that are friendly for your zone but if you are ordering online you may not know. Use your favorite search engine figure out your zone and what grows best.

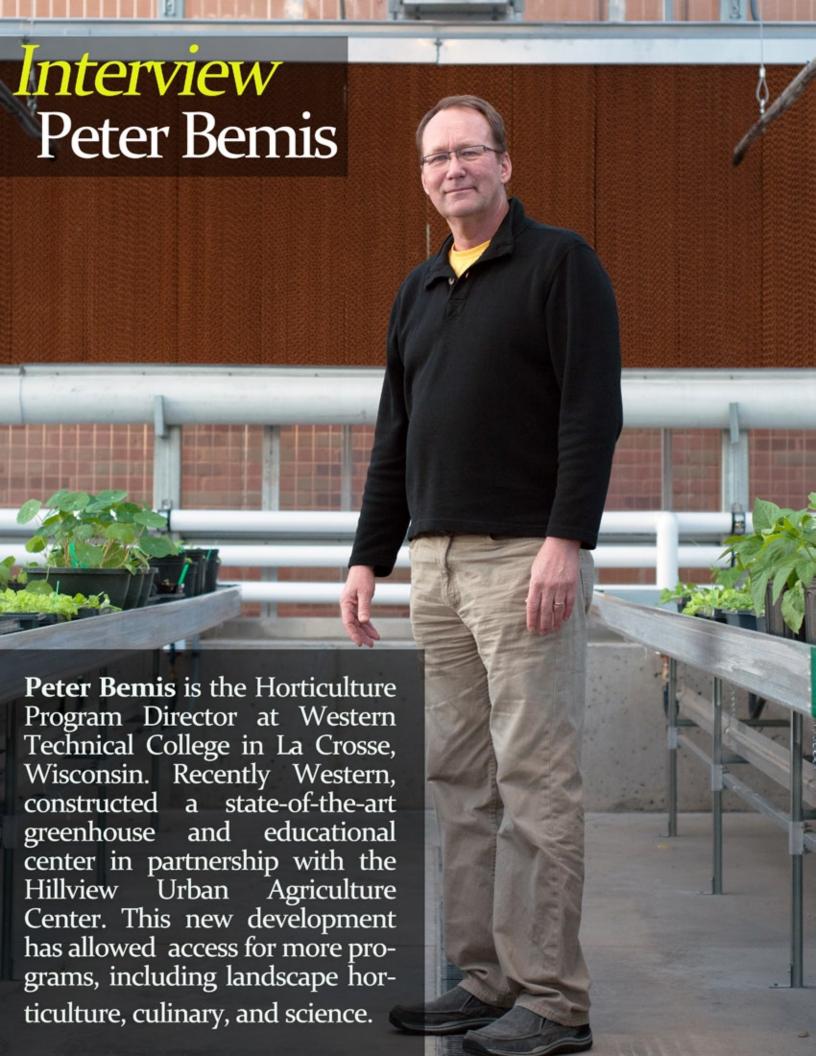
With these simple steps you'll have a garden started and will be growing fresh veggies before you know it.



A new garden season brings hope of what is to come a reflection of what has been

Lessons learned and the dreams of what will be A seed, water, soil, sunlight, and faith is all you need For the hope of tomorrow will grow more than today

-Joey Baird





This project was started in 2010, what was the original vision behind the Hillview Urban Agriculture Center? The vision for the Horticulture Education Center was to create a greenhouse and headhouse that would be centered on providing the best facilities for education. Most greenhouses are designed to maximize production, but our facility was designed to assist with education. The design and equipment were selected to provide a large array of greenhouse experiences for the students.

What are some of the modern technologies are you using, in the greenhouse, to produce more food? We have many features in the greenhouse to maximize sustainability and to provide many learning opportunities. Some of the features include: automated shade cloth and energy curtains, irrigation by injectors-misting-flood tables-hand watering, smaller demonstration units for hydroponics-aeroponics-microgreens, grow lights and working lights that are programmed for automation, ebb and flow (flood) benches, multiple cooling options including a cooling wall, aspirator to automatically measure temperature and humidity, automated controls to program heating-cooling-lighting-irrigation, and below bench radiant heating

What has been the reaction been from students about the greenhouse? The students are very excited to gain more experience with a state of the art facility and to experience all the options that the facility offers.

Are the majority of students from one specific background (urban, rural, etc?) or do your students come from all types of backgrounds? Students in the program range in ages from 17 to 60, urban to rural, mainly western Wisconsin but we have enjoyed students from around the state of Wisconsin, and from the states of Minnesota and Nebraska.

What do the students then do once they are completed with the program? Students have gained full time employment in many different horticulture settings. While some students have been employed locally at the garden centers, greenhouses, and landscape companies we have also placed students with the Milwaukee Brewers, Black Wolf Run Golf Course, and the City of Milwaukee Parks Department.

How many square feet of space are you growing on with the entire project? The range includes three greenhouse that are each 35' wide by 60' long for a total square footage of 6300

You are turning garbage into gold through worm castings during the summer months and selling it to local businesses to support the greenhouse - approximately how many pounds of food scraps are you saving from going into the landfills and is this a project that in the future that would run year-round? The Hillview Urban Agriculture Center, who occupies one of the greenhouses and is in a partnership with Western Technical College operates a vermicomposting machine at another location. They have generously offered to share some of the vermicomposting for the students in the Landscape Horticulture program to use in the greenhouse and experiment with how best to incorporate it into the facility.

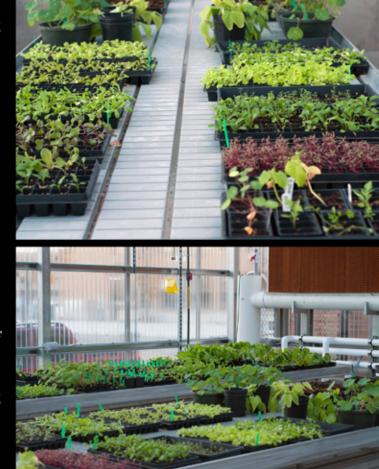
Are you able to grow year round? Yes, we will be able to grow year round, due to the heating systems and the cooling systems. Most greenhouse find it too hot in the middle of the summer, but this range has cooling walls in each house. How do you supplement the heat best? The heat is provided from two sources, as it typical of most greenhouses. The area near the plants are heating by radiant heat through a piping system while the air is heated by a furnace located nearer the higher section of the greenhouse. This spring our growing efforts will include providing 1500 transplants in vegetables for the community Kane Street Gardens, designing and growing plants for the campus planters, growing herbs for our Culinary Arts program, and growing plants for the Landscape Horticulture Club spring plant sale.

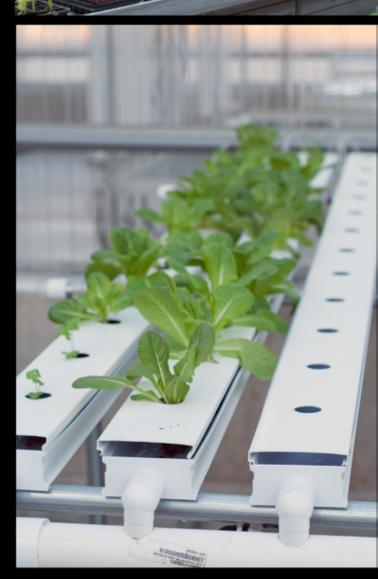
Are there any crops grown inside of the greenhouse that were difficult to grow outside before? All crops have unique challenges to growing in the greenhouse. Since this facility is new it will take us several years to determine the limitations and 'character'. The premise is that in the greenhouse we have greater control than growing outside, i.e. we control, the temperature, lighting levels, fertilizer, growing media, and watering.

What are the different mediums that you grow in? We will always be experimenting with different growing media. We are currently growing hydroponically, with some commercial growing media, and with some growing media that include vermicomposting.

When the students come into the program, what is their biggest misconception when it comes to growing food? Many have very limited experience with growing or gardening so every experience is new, yet exciting.

If people want to donate, how do they do so? Contributions would go to the Western Technical College Foundation, 400 Seventh Street North, La Crosse, WI 54601.





Dealing With Powdery Mildew

Powdery mildew is a very common problem and almost all gardeners will face it. It typically shows up on cucumber and squash plants. However, it can show up on really any plant, hey overwinter in plant debris begin producing spores in the spring. These spores are carried to your plants by wind, insects and splashing water. Conditions that encourage powdery mildew are high humidity or dampness (if it is a hot or wet season the chances are less likely), poor air circulation around plants, and crowded plants.

There are some ways to prevent powdery mildew before it starts. One way is to plant disease resistant varieties. These are commonly available, and can make a difference. Spacing plants apart is best too. This allows for proper air circulation. Many people will crowd plants. In any case this is not good. You will get better production and have less chance for problems if you space plants properly. It is also important to prune plants when needed, and weed around them well for better circulation. When planning for planting, it is also ideal to ensure plants will receive at least 6 hours of sun in the peak of summer. This is so plants can receive proper time to photosynthesize, but also allow them to dry up enough and not mildew. Another way to prevent powdery mildew is by not over fertilizing. Powdery mildew prefers young growth. Applying a slow release fertilizer at the time of planting is ideal. Finally, water your plants at their base. This prevents diseases and anything else from splashing on the leaves. While you may think you are imitating rain, you are just causing more problems. It is best not to add to a potential problem and just water at the base. You ideally want to water in the early morning or evening



for best watering results, especially on the warmest days of the year. If you are concerned about a lot of rain, you can always mulch around the base of your plants. Using dried leaves, dried grass clippings or straw are good, natural mulch ideas. Once you have the problem, you will have to seek out a source to try to slow it down or stop it. If you have one plant out of several with the powdery mildew, it is best to just remove that plant get rid of it. Do not put it in your compost. If you have several plants with the problem, it is best to do something before it continues to spread. You can certainly buy commercial products to use, but you can also look in your kitchen for a solution. We had great success with milk (dairy, regular milk). While it didn't stop the powdery mildew completely, it did slow it down enough where we could get a decent harvest from those plants. We simply mixed 1 part milk to 2 parts water, and spray evenly weekly. No one knows exactly why it works, but it does. You can also do an online search for powdery mildew home remedies and you will find many options there.



AWARD-WINNING KNOWLEDGE

The complete first season of Joey and Holly Baird's groundbreaking gardening podcast is now available for free exclusively on TheWisconsinVegetableGardener.com





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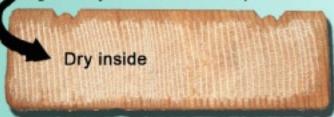
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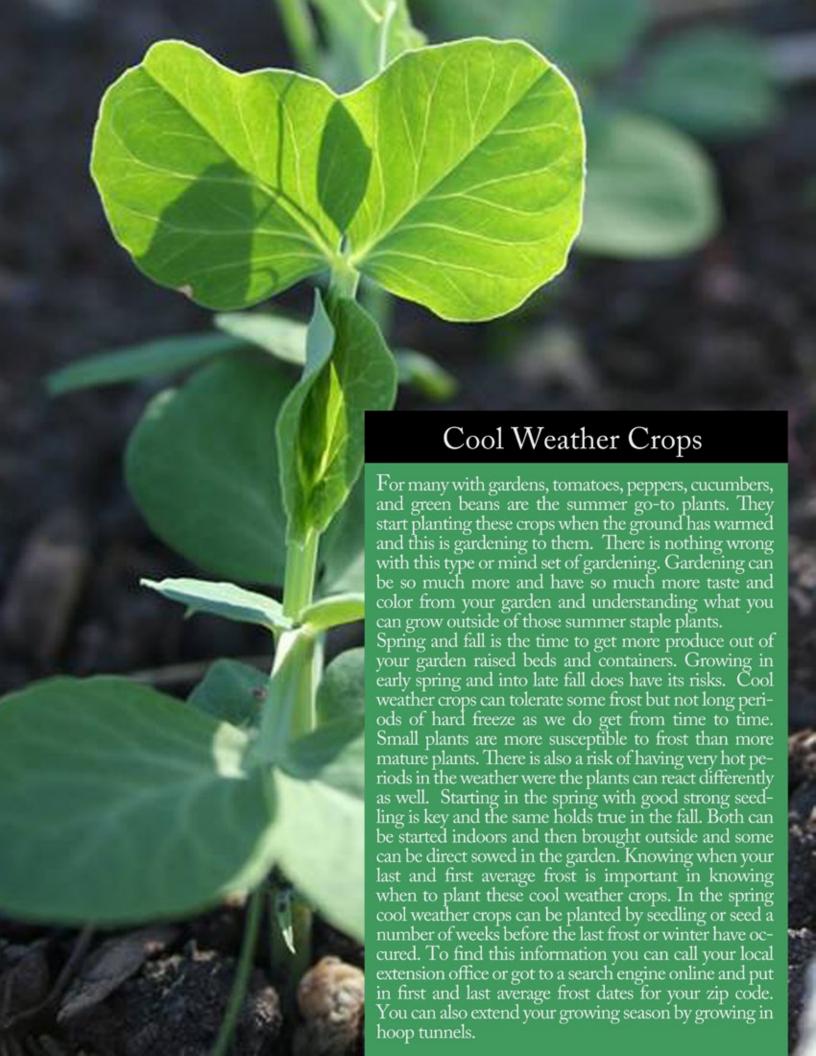


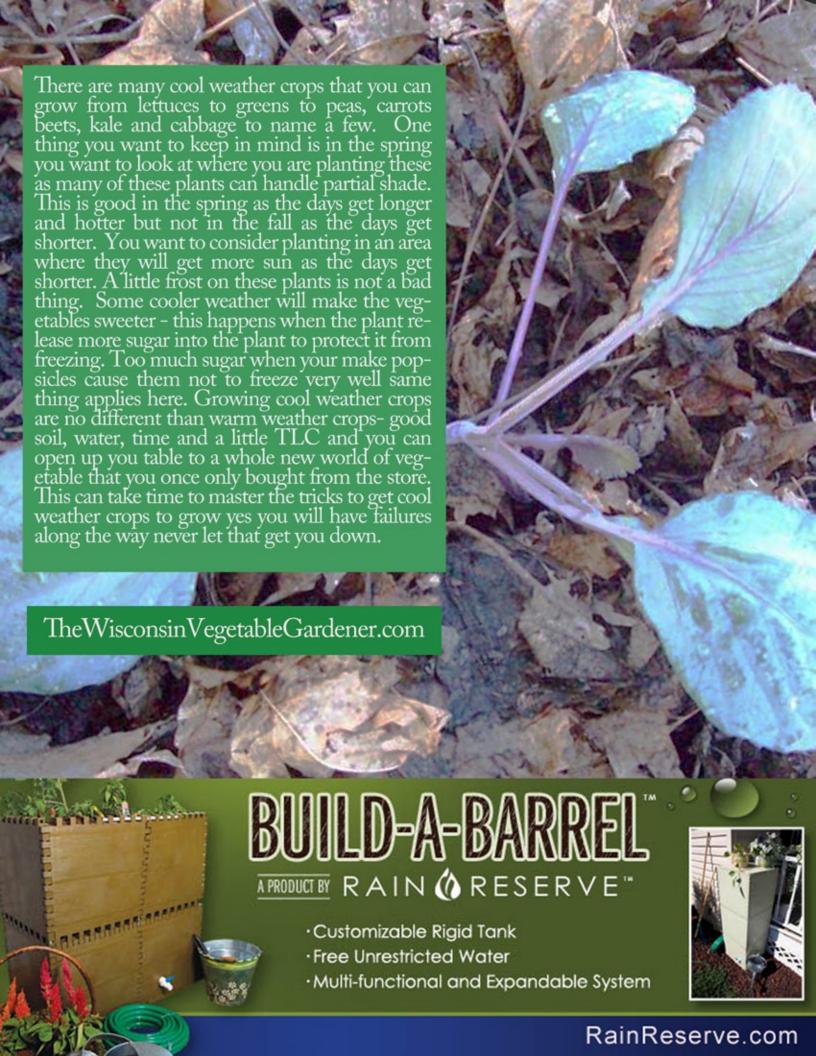
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GARDEN TERMS EVERY GARDENER SHOULD KNOW

Most terms in gardening are universal and there are many common terms. Knowing these terms will become familiar to a new gardener over time. Its good to become familiar with these terms as they are used in most gardening books, articles, online publications, DVDs and online videos. Below is a list of commonly heard garden terms.

Pruning is to cut back dead growth or infected foliage or to modify shape of a plant. This can also mean to change the growth pattern of a plant.

Partial shade is restriction of sunlight – allowing sunlight to only reach plants for 6 hours or less.

Full sun is all day sun, about 8 to 12 hours depending on time of year. During the peak of summer this means that plants in full sun will have 12 hours of access to sunlight.

Frost dates. In the spring this is the last date your plants will face a danger of frost, and in the spring the first date your plants will face the danger of frost. These can vary based on region and last 10 years average frost date.

Soil pH is a measure of the acidity and alkalinity in soils. pH levels range from 0 to 14, with 7 being neutral, below 7 acidic and above 7 alkaline. The optimal pH range for most plants is between 5.5 and 7.0. However, some plants will adjust accordingly and some plants prefer a more acidic or alkaline soil. In general though, 5.5 to 7.0 pH is best.

NPK is the 3 numbers you see on any bag of fertilizer, often looks like this 16-0-10, but with different combination of numbers. N is for nitrogen, this aids your plants in having a nice green color, and aids in chlorophyll production. P is for phosphorus which aids in root and lower development. K stands for potassium or potash which aids in plant health overall and helps in disease resistance.

Compost tea or manure tea is a nutrient boost drink for you plants. Many gardeners will water or feed their plants with some type of "tea" on a regular basis throughout the growing season. We found using manure tea from manuretea.com is the easiest to brew and use. It just requires water and a vessel to brew it in, and unlike some other teas it cannot burn your plants or ruin your soil.

Vertical gardening is the process of growing plants up in some way. Many people achieve verticle gardening with the aid of trellises and tomatoe cages. Theres also concepts like living walls or pocket gardening. This process saves space when it comes to gardening, and many plants, like beans, peas, cucumber and even small squash prefer to grow up rather than sprawl out as it aids in air circulation, sunlight absorption and better fruit production. Living walls are just that, walls that have been planted to have growth on them.



UNDERSTANDING CLIMATE CHANGE AND HUMANS THE ROAD WE'RE ON

BY HOLLY BAIRD PHOTOGRAPHY: NORMAN GAULIN

Climate change is a complex issue. It does have a variety of effects. Climate change has an impact on humans, and we have an impact on climate change. In this paper I will discuss the greenhouse effect, why scientists think humans are causing global climate change, how climate change affects different portions of the world, and also how it affects my local area. Climate change is real and occurring.

The greenhouse effect is the process of the earth's atmosphere trapping in the heat from the sun. This allows the earth to stay warm and mild so humans other living things can live comfortably. Greenhouse gases are important as well. They include water vapor, methane, ozone, nitrous oxide, and carbon dioxide. Each greenhouse gas molecule is made of a handful of atoms that are bonded together. These molecules absorb heat and vibrate, eventually they release



And Greenhouse Gasses", n.d.) Climate change is the change in re- on earth is melting, causing gional and global climate patterns levels to rise. the increased burning of fossil fuels. The oceans such as coal, oil and gas, which is more releasing high amounts of carbon oceans to expand, rising the when burned, release high amounts "Environmental of carbon dioxide. ("National Wild-Wildlife dioxide into the carbon causes climate change.

release the heat energy and that is Climate change has an impact on absorbed by another greenhouse many things. One major impact is gas molecule. ("Greenhouse Affect the earth's water system is becoming off balance. The frozen water Polar ice caps and including the increase of the earth's glaciers are melting, as the water temperature over time. Scientists levels rise, this is causing the think that humans are causing cli- ocean to heat up more, and it bemate change. The major reason is comes a cycle of melting and rising. are also becoming acidic. This causes dioxide into the atmosphere. These levels more. ("Environmental Defossil fuels are high in carbon, and fense Fund", 2014).) According to Defense (2014), "the increased concentralife Federation" n.d.) According to tion of carbon dioxide in the ocean Federation" triggers a chemistry change that (n.d.), "A single gallon of gasoline, makes the water more acidic. The when burned, puts 19 pounds of ocean is almost 40% more acidic atmo- than it used to be." The rising sea sphere." The increase of these levels and melting of the earth's being released increases frozen water are causing more exthe temperature on the earth, which treme weather. Increased water evaporation makes storms severe, dry areas are more suscep-



to wildfires and drought, and coastal areas are more prone to flooding. ("Environmental Defense Fund' 2014) Another impact on the earth is the negative affect on natural habitats. This affects the wildlife in Shellfish cannot get the ocean. proper calcium because of high acid levels in the ocean have a negative impact on calcium, and calcium is needed for the shellfish to grow their shells. Coral reefs are affected also as they eat algae, the algae cannot thrive in the lower areas as the sea levels rise, so the algae moves away from the coral reefs to more shallow water. ests become prone to death also. Mild winters don't allow for the tree killing insects to properly die off, which weaken the trees, and then become prone to infestation. glaciers and ice caps melt, the wildlife that needs the colder temperatures loses their habitat as well. Walruses and polar bears struggle to survive. ("Environmental Defense Fund", 2014) Humans are also affected by climate change. One thing it affects humans is with agriculture. Farmers have a hard time growing crops with the increase extreme weather, unpredictable rains, and random infestations of weeds and pests that cannot properly die due to mild winters. Increase in warmer weather and air pollution affects human health, causing an increase in breathing problems from the increase of smog and if freshwater is affected a decrease in access to clean drinking water can lead to diseases and parasites. ("Environmental Detense 2014) Climate change is a Fund". global issue and has a different impact across the globe. Africa is already vulnerable because it does not adapt well to any climate or natural stress. There is already limited access to fresh drinking water as is, and it's projected by 2050 that around 350 to 600 billion people will experience increased clean water



of result climate stress as а change. ("Epa.gov", n.d.) Asia will also see an impact on freshwater, but also will see an impact because of their melting glaciers. This will increase floods and even rock avalanches. ("Epa.gov", n.d.) Australia will experience a rise in coastal waters which causes flooding but also a rise in extreme temperatures inland which can lead to droughts and fires. ("Epa.gov", n.d.) cording to "Epa.gov", n.d., "Wideranging impacts of climate change have already been documented in Europe. These impacts include retreating glaciers, longer growing seasons, species range shifts, and heat wave-related health impacts. Many economic sectors, such as agriculture and energy, could face challenges." In Latin America, the rainforests will experience drying of soil, turning the lush forests into Flooding more of a savannah. along the coasts will occur and an increase in drought in the dry areas inland ("Epa.gov", n.d.). Much like the rest of the world, North America

will be susceptible to increases in extreme weather, coastal flooding, and droughts and wildfires inland. ("Epa.gov", n.d.) Polar Regions experience melting of ice caps, glaciers and habitat loss for many species. The melting of the Polar Regions has an impact all over the earth as sea levels rise. ("Epa.gov", n.d.) In Wisconsin, climate change has an impact everywhere. In the larger cities, there is an increase in Trout are cool water fish, smog. and many fishers have noticed a decrease in them as stream water temperatures rise. Ice fishing has seen a decrease as well, as everyone has to wait longer into winter for the ice to freeze properly in order to fish. Climate change is having an impact on Wisconsin agthe riculture as short growing season is become more unpredictable with variations in weather pat-An increase in pests and terns. weeds because of mild winters are a negative impact on the having ("Climatewisconsin.org", crops. n.d.).



Climate change has an impact on everyone and everything no matter where you are in the world. From the deep parts of the rain forests to the polar ice caps, there is impact. humans We have an impact on climate change, and we are also impacted by it. Knowing how what we are doing to the earth will make a difference in how we live. It is a cycle. We can be part of the problem, but we can also be part of the solution.

References

Environmental defense fund. (2014). Retrieved from https://www.edf.org/climate/climate-change-impacts

Epa.gov. (n.d.). Retrieved from http://www.epa.gov/climatechange/impactsadaptation/international.html

Climatewisconsin.org. (n.d.). Retrieved from http://climatewisconsin.org/

Greenhouse affect and greenhouse gasses. (n.d.).
Retrieved from

https://eo.ucar.edu/kids/green/warming4.htm National wildlife federation. (n.d.). Retrieved from https://www.nwf.org/Wildlife/Threats-to-Wildlife/Global-Warm-

ing/Global-Warming-is-Human-Caused.aspx

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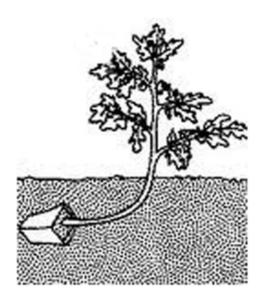


common ways to plant tomatoes

When it comes to gardening the one must have plant in your garden is tomatoes, well for most of us that is. For years gardeners have tried to master the sure fire way to plant them to have a bumper crop. Is there a sure fire way? It all depends on who you talk to and what part of the country you live in. We have seen many different ways to plant tomatoes and have tried several. We have planted them deep, we have use the trench method, and have grown them in containers.

In all forms of planting tomatoes you want to plant them deep the only exception to this is if you buy a grafted tomato. If you buy a grafted tomato you're only to plant them at the depth they are in the container when you get them. For all other tomatoes plant them deep. For example, if your tomato start is 8 inches tall you will want to plant it 5 to 6 inches deep. As you look at the stem you will see little hairs. Those will become roots when they touch soil. What you decide to put in the hole in the form of fertilizer is your choice. We use an organic fertilizer and compost. You want to have good loose soil so the plants' root can get as much nutrients as possible. Tomatoes are heavy feeders. To have good tomatoes your plants need good soil and nutrition.





Another method is the trench method. This is a good way to plant tomatoes that have become very tall and lanky in their starter cups. If you have a tomato start that is 12 or even 14 inches tall that is too deep of a hole for most of us to dig. The way this works is where you're going to plant instead of digging down dig across like you would do if you were laying pipe in the garden. Depth can depend but you need to get the plant under the soil by a good 2 to 3 inches. Lay the plant in the trench all but the top 2 to 3 inches of the plant. Allow that to lay on the soil, but bury the rest. The top of the plant will in a day turn its self-sky wards. At the time of planting you can put mulch under the top of the plant to avoid soil contact as this can lead to problems down the road. A tip- if you're going to plant some of your tomatoes in the trench method take these that are going to be planting this way and lay on their side a day or two before you plant them the will turn skyward by themselves and make your job a little easier. If all works well one tomato plant can produce 20 to 40 pounds in a season

