



Medina[®]
Since 1962

**LAWN AND GARDEN
PRODUCT GUIDE**



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The idea for Medina started back in 1962 when Arthur Franke met James Martin at the Frontier Cafe in Hondo, Texas and they planned to make some of Mr. Martin's catalyst that stimulated microbes to use on Mr. Franke's farmland. His farmland had become so compacted that his Farmall H tractor could no longer plow his fields. After the harvest, and Arthur's farmland yields were larger, and his soil was soft under his feet, the Medina Company was created and incorporated. This catalyst or Medina Soil Activator would later expand into a whole line of organic products for farming and gardening.

Today we offer a complete line of products for both large scale and small home use in your very own backyard.

ABOUT OUR PRODUCTS

Plant productivity is directly related to the activity and level of the microorganisms in the soil. Without the army of microbes, the soil will soon become hard and compacted; water and oxygen will not be readily absorbed; the roots will be underdeveloped; the plant will be poorly fed; soon weeds and disease will take residence and rob the plant of its good health. Microbes, the invisible caretakers of all crops, are the key to healthy, profitable plant production.

Biological activity is the life of the soil. Microorganisms are like an army of workers in the soil, feeding the plant, protecting it from disease and maintaining the health and structure of the soil. The ability of soil to support and sustain plant life is in direct proportion to the abundance and vigor of microorganisms.

Over 150 years ago, Justus Von Liebig, known as the architect of chemical fertilizers, discovered that plant productivity increased when chemical compounds of nitrogen, phosphate and potassium were added to the soil. The original intent of chemical fertilizers was only to supplement the soil's basic organic matter.

Medina products increase the performance and the quantity of microbes that convert nutrients into food for the plant. It loosens and mellows compacted soils. And it allows more water and oxygen to penetrate the soil. Microbes are "nature's soil managers". Without an adequate level of microbes in the soil, disease and weeds can overtake otherwise healthy gardens and flower beds. Compaction and erosion will occur. Eventually the soil will lose its ability to support useful plant life, no matter how much fertilizer or organic matter is applied.

As microorganisms digest plant residues, they secrete polysaccharides. These compounds have the unique ability to both bind and release soil particles in order to maintain the proper soil structure. Polysaccharides help make soil more stable, better "balanced" – preventing soil particles from compacting and helping to reduce soil erosion.

Medina products will help reduce compaction, make nutrients more available to the soil, balance pH, increase water retention and help ward off weeds and plant diseases.





Medina Soil Activator The original biological activator for the soil, called “Yogurt for the Soil” by natural gardening experts since it stimulates beneficial organisms in the soil. You’ll notice a healthier, stronger root system because it actually loosens and balances the soil. It’s excellent for revitalizing tired, overworked lawns and gardens. Medina Soil Activator can be used with most fertilizers, herbicides or pesticides, or in conjunction with natural soil building practices. It is excellent for compost piles, and derived from a complex bio-catalyst process. It’s also fortified with essential micronutrients. It stimulates, strengthens and multiplies the soils indigenous microbes and bacteria, and also:

- Converts nutrients into usable food for the plant
- Balances the soil micro flora
- Balances soil pH
- Balances soil structure
- Reduces salt accumulations
- Reduces chemical buildups
- Promotes root growth
- Reduces soil compaction

APPLICATION RATES

YARDS AND LARGE AREAS:

Use a hose on sprayer. If the sprayer has an adjustment, set for 6 tablespoons or 3 ounces per gallon. Fill the container with undiluted Medina Soil Activator. One quart should cover 1,000 square feet. Continue spraying an area of 1000 square feet until 1 quart is used. Use 3 to 4 times a year.

GARDENS AND FLOWER POTS:

For small areas and flower pots, mix 6 tablespoons or 3 ounces in a gallon of water and apply with a sprinkling can. Use 3 to 4 times a year.

COMPOST PILES:

To speed up composting process, use 1 cup of Medina Soil Activator to each yard of compost. Mix this with enough water to keep the pile moist but not saturated. Repeat monthly.



YARDS AND LARGE AREAS:

Medina Plus is available in a Ready to Use form, simply connect hose to top and open valve. For use with a hose on sprayer with adjustment: set for 6 tablespoons or 3 ounces per gallon. Fill the container with undiluted Medina Plus. One quart should cover 1,000 square feet. Continue spraying an area of 1000 square feet until 1 quart is used. Do not water in; leave the spray on the foliage for one day.

GARDENS AND FLOWER POTS:

For small areas and flower pots, mix 6 tablespoons or 3 ounces in a gallon of water and apply to the foliage with a pump sprayer or a sprinkling can. Repeat every 2 weeks as needed during fruiting and flowering season.

TRANSPLANTING:

To increase the root growth and reduce transplant shock, new plants can be watered in with a mixture of diluted Medina Plus. Mix 1 ounce of Medina Plus per gallon of water and pour slowly to wet all of the loose soil around the new plant.

APPLICATION RATES



Medina Plus A few years after we developed the original Medina Soil Activator, our customers suggested we add other ingredients to the old formula. We never gave up the original product, but we did introduce Medina Plus. It's fortified with essential micro-nutrients and seaweed extract. You still get all of the natural soil building advantages, while extra ingredients make it an excellent foliar feed for plants, trees, shrubs and lawns. Seaweed extracts also help plants achieve their maximum growth and yield potential by enhancing natural processes that protect against abiotic stress and help improve nutrient uptake and use. Ideal for reducing transplanting shock and making foliar sprays to stimulate fruiting and blooming.

- Recommended for transplanting bedding plants, trees and shrubs.
- Recommended for foliar sprays to promote fruit set and increase flowering.



HastaGro Plant Food 6-12-6 Three products in one: Contains high-quality N-P-K plant food complexed with Humic and Fulvic acids, Medina Soil Activator to stimulate biological activity, and seaweed extracts and sugars to stimulate fruiting and blooming. It is ideal for foliar applications where nutrients are absorbed directly by the plant. Low-salt, low chemical formulation prevents leaf burn. Nitrogen is derived from clean urea sources and is complexed with humic acid.

- Gentle formulation for foliar application
- Prevents salt and chemical buildup
- Builds biological activity in the soil
- Promotes fruiting and blooming
- Excellent for transplanting

APPLICATION RATES

FOLIAR APPLICATION:

HastaGro is available in a Ready to use container, just connect hose to the top and open valve.

If using a hose on sprayer with adjustments, set for 1 tablespoon or ½ ounce per gallon. Fill the container with undiluted HastaGro. Spray until leaves start to drip. Best time of day is mornings or evenings when it's not hot. Do not wash the spray off the foliage. One quart should cover 10,000 square feet. You can repeat every 2 weeks during growing season. With a pump-up sprayer or sprinkling can, mix ½ ounce with 1 gallon of water; spray as above.

SOIL APPLICATION:

For flower beds and flower pots, mix 1 oz. per gallon of water and apply with a sprinkling can. Thoroughly water the soil around the plant. Repeat every 3-4 weeks during growing season.

TRANSPLANTING:

To increase root growth and reduce transplant shock, new plants can be watered in with a mixture of diluted HastaGro. Mix 1 ounce per gallon of water and pour slowly to wet all of the loose soil around new plant.



APPLICATION RATES

LAWNS:

Apply at a rate of 12 lbs. per 1000 sq. ft. A fertilizer spreader is the easiest to distribute in large areas and ensures even coverage. Growin Green feeds slow and steady for uniform growth, one application lasts 3 to 4 months. It can be applied during the spring, summer or fall.

Spreader settings- Rotary:

Ames Earthway	23
Red Devil	17
Scott's Easy Green	30
Scott's Accu Green	8
Sears	5
Lawn Crafter	30
Republic EZ	15
Scott's Speedy	8
Ortho	6

Drop:

Ames Earthway	21
Red Devil	11
Scott's Accu Green	10
Lawn Crafter	8
Republic EZ	8
Ortho	4

POTTED PLANTS:

If mixing Growin Green into potting mix before planting, use at a rate of 2 tablespoons per gallon of potting mix. Thereafter, use 1 tablespoon of Growin Green as maintenance every other month.

FLOWERBEDS AND VEGETABLE GARDENS:

Apply at a rate of 30 pounds per 1000 sq. feet every other month for maintenance.

WILDFLOWERS:

Apply at a rate of 15 pounds per 1000 sq. ft. at planting time and prior to budding out.

ROSES:

Apply at a rate of 2 ounces per bush.



Growin Green Natural Fertilizer 3-2-3 Medina Growin Green is an Organic Fertilizer for all of your gardening needs. It is derived from Pasteurized Poultry Manure. Growin Green will green up your lawn quickly and is pasteurized for stability and odor reduction. Growin Green is slowly released from natural sources for continuous feeding and continues the growth response through all the seasons. The Ammonium source is quickly available for noticeable results. Calcium helps improve the cell structure of plants. Growin Green also helps breakdown thatch biologically when grass clippings are not picked up. It produces three stages of activity including balanced nutrient supply, structure repair through soil supplementation and nutrient availability. Good for your lawn, flowers, trees, vegetable garden, ornamentals or potted plants.

- 40 Lb bag covers 3,000 square feet
- Neutral ph
- Trace minerals
- Low salt index
- Contains low amounts of silicate
- Apply any time of the year



HastaGro Lawn 12-4-8 HastaGro 12-4-8 Liquid Lawn Food is like getting a lawn care kit in a bottle. With this convenient ready-mix formulation, just attach a garden hose to the container to treat an average lawn in 10 minutes. HastaGro Lawn Food contains a blend of quality, natural lawn food supplements plus Medina Soil Activator and Humate Liquid Humus. It's great for a quick lawn green-up since the nutrients are absorbed by the leaves within minutes. Avoid the messes and chemical hazards of harsh fertilizers. Give your lawn a HastaGro Lawn Food treatment. Quart covers 4,000 sq ft of surface.

- Fast, efficient absorption
- More vigorous lawns from spring to fall
- Stimulates natural soil organisms
- Complete nutrient uptake for less fertilizer waste

APPLICATION RATES

ESTABLISHED LAWNS:
With grass clippings left on, treat 4 times per growing season.

With grass clippings removed, treat every month during growing season.

POOR LAWNS:
Treat every month during growing season.



Mix 1 teaspoon of Medina Beneficial Microbes with a quart of water agitate for at least 5 minutes. The diluted solution can be saved for up to 12 hours without aeration, but should be applied within that period. Spray one quart of solution to 1,000 sq ft of surface area. 4 ounce jar will treat 24,000 sq ft. For agriculture applications the 4 ounce jar can treat 10 acres.

APPLICATION RATES

Beneficial Microbes Medina Beneficial Microbes is a water soluble powder that contains a concentrated blend of more than 28 naturally occurring microbial cultures adapted to assist in soil improvement, nutrient release, organic decomposition and nutrient recycling. These cultures are grown separately and blended to maintain specific ratios for optimum results. For best results apply with a hose end sprayer or pump up sprayer to soils that are moist and aerated. Apply just before an irrigation event or rain. Applications can be made any time of year. Beneficial Microbes can be added to aerated compost teas halfway through brewing process.



- Blend of naturally occurring organisms in high concentrations that work together
- Increases the efficiency of added fertilizers
- Helps release plant nutrients tied up in the soil minerals and plant residue
- Aids in nutrient intake into plant roots
- Long stable shelf life (12 months)

MEDINA MICRONUTRIENTS



Medina Micronutrients Medina Micronutrients has a special blend of clays extracted from mines at the central part of Mexico which makes the product unique in the market. These clays plus the microelement content in the formula give the product a high Cationic Exchange Capacity (CEC). This mix of clays lets the microelements be gradually released and made highly available to the plants. Medina Micronutrients works fast by supplying essential Iron, Zinc, Sulfur and other micronutrients to stimulate color, vigor and promote maximum root depth. When added with NPK source it adds all the micronutrients necessary for an optimum fertility program.

- Greens up yellow lawns
- Environmentally safe
- Nutrients are continually released
- Source of micronutrients

APPLICATION RATES

FLOWERS AND BUSHES:

Apply to large bushes 1 tablespoon per bush every 4 months.

Apply to houseplants ½ tablespoon per plant every 4 months.

TREES:

Apply 3-5 ounces to trees 1 yr or younger, 10 ounces for trees up to 2 yrs, 15 ounces to trees 3-5 yrs, and 20 ounces for trees greater than 5 yrs old. Application rates are per tree three times a year.

LAWNS:

Apply 1 lb/ 1000 sq feet. For easy application it can be mixed with dry fertilizer every season, or every 2 months for severe clorodic condition



Liquid Seaweed Medina Liquid Seaweed is a concentrated blend of seaweed with Humic and Fulvic acids added: it needs to be diluted with water before using. Shake container and mix only the amount that you will be using. Seaweed extracts also help plants achieve their maximum growth and yield potential by enhancing natural processes that protect against abiotic stress and help improve nutrient uptake and use. Ideal for reducing transplanting shock and making foliar sprays to stimulate fruiting and blooming. Gallon covers 64,000 sq. ft.

- Recommended for transplanting bedding plants, trees and shrubs.
- Recommended for foliar sprays to promote fruit set and increase flowering.

DIRECTIONS FOR USE

SEED, ROOT AND TRANSPLANT SOLUTION:

Lightly moisten seeds or soak roots with a solution of 1 ounce (2 tbs) of seaweed in 1 gallon of water.

After planting seeds or transplants, water in with the same diluted solution.

FOLIAGE SPRAYS:

Foliar sprays are best made during the morning or evening (cooler time of day) Use a solution of 1 ounce (2 tbs) per gallon and apply a fine mist until solution drips off the plants. The application can be repeated every 1 to 2 weeks during fruiting and blooming.

LAWNS, FLOWER BEDS AND VEGETABLE GARDENS:

Apply a solution of 2 ounces (4 tbs) per gallon of water on an area of 1000 square feet of area.



DIRECTIONS FOR USE

SEED, ROOT AND TRANSPLANT SOLUTION:

Lightly moisten seeds or soak roots with a solution of 1/2 ounce (1 tbs) of liquid fish in 1 gallon of water.

After planting seeds or transplants, soak the entire root zone with a solution of 1 oz (2 tbs) per gallon of water.

FOLIAR SPRAYS:

Foliar sprays are best made during the morning or evening (cooler time of day) Use a solution of 1 ounce (2 tbs) per gallon and apply a fine mist until solution drips off the plants. The application can be repeated every 1 to 2 weeks during the entire growing season.

LAWNS, FLOWER BEDS AND VEGETABLE GARDENS:

Apply a solution of 2 ounces (4 tbs) per gallon of water on an area of 500 square feet of area. Repeat every 2 to 4 weeks.



Liquid Fish Blend 2-3-2 Made from the same fish the Pilgrims used. Also has cane molasses, apple cider vinegar, seaweed extract, humic and fulvic acids added. Medina Liquid Fish Blend is a concentrate; it needs to be diluted with water before using. Shake container and mix only the amount that you will be using. Liquid Fish is filtered and can be applied with sprayers after diluting. Gallon covers 32,000 sq ft.



HuMate Humic Acid HuMate liquid humus is like concentrated compost in a bottle, it contains both humic and fulvic acids. Humic acid is a basic product for natural gardening enthusiasts who want to build the quality and structure of the soil without chemical fertilizers. Our humus comes from deep below the ground's surface, where plant matter has been "composted" for hundreds or thousands of years. HuMate liquid humus helps the natural plant-to-soil relationships, increases fertilizer uptake, and chelates trace minerals. It is a key product for high-production soils, and contains most of the biological compounds synthesized by plants and organisms. It also supplies essential humic material for improved soil structure formation.

- Improves moisture retention
- Enhances nitrogen and nutrient release
- Provides micro and macro nutrients
- Improves soil physical properties
- Holds exchangeable plant nutrients

DIRECTIONS FOR USE

VEGETABLES AND FLOWERS:

Mix 3 tablespoons per gallon of water. Pour around plants and water into soil. Repeat every 3-4 weeks during growing season.

INDOOR PLANTS:

Use 1 tablespoon per quart of water. Apply to soil each month.

LAWNS:

Use 1 pint per 1000 square feet. Apply with water to soak into soil.

TREES:

When planting, mix 2 tablespoons per gallon of water. Place root ball in hole and pour on solution. Replace soil, apply solution again, and water thoroughly. Use 2 tablespoons HuMate per 1 inch diameter of tree, mix with water, thoroughly soak root area.

SEEDS:

Soak planting seeds in 1 tablespoon per gallon of water or until seed skin is penetrated, plant immediately.



FOLIAR APPLICATION:

Mix 2 ounces per gallon of water. Apply during the cooler part of the day to prevent burning of plant foliage.

SOIL DRENCH:

Mix 4 ounces per gallon of water.

CLEANING SOLUTION:

Mix 2 ounces per gallon of water. Diluted solution may be used as a natural household cleaner. Test on small area before use. For cleaning tar, heavy grease, paint brushes, and sealants you can use higher concentrations.

APPLICATION RATES

Orange Oil Medina Orange Oil is 98% cold pressed orange peel and 2% emulsifier. It contains the raw oil collected from the citrus peel during juice extraction. No heat is applied during this “cold pressed” process thereby preserving the integrity of the oil. Orange oil has been discovered to be an important ingredient in a variety of household and gardening applications. It may be used to deter certain insects and is great for cleaning tar balls on the gulf coast.



COMPOST STARTER



Compost Starter Compost Starter is a natural biological activator for use with compost piles and solid organic wastes. Compost Starter contains specific bacterial and fungal cultures that are needed to inoculate a new compost pile. It ensures a faster startup time and a more complete digestion of organic waste.

- 100% natural
- Environmentally safe
- Faster startup time of compost piles

APPLICATION RATES

Mix 1oz. Compost Starter with water (amount of water is not critical) and spray evenly over each 250 lbs. of material to be composted.

Mix or agitate material after application.



Compost Nutrients Medina Compost Nutrients is a combination of macro nutrients complexed with organic compounds for use in compost piles. It is designed to balance the carbon-nitrogen-phosphorous levels in compost. It also enhances microbial activity which is important to the compost process.

Proper use of Medina Compost Nutrients will help:

- Reduce odors
- Maintain pH level
- Balance Carbon and Nitrogen levels
- Shorten cycle time
- Provide rich, more nutritious compost

DIRECTIONS FOR USE

COMPOST HIGH IN NITROGEN:

(Green materials like fresh grass clippings, fresh leaves...):

Use one cup Medina Compost Nutrients per 250 lbs. of compost materials. Mix in five gallons water; pour slowly while mixing into pile. Use at beginning of compost cycle, repeat two weeks later, then use monthly as needed.

COMPOST HIGH IN CARBON:

(Brown materials like dried leaves, dried grass clippings...)

Use one quart Medina Compost Nutrients per 250 lbs. of compost materials. Mix in five gallons of water; pour slowly while mixing into pile. Use at beginning of compost cycle, repeat two weeks later, then use monthly as needed.



TURF:

Use 3 to 12 ounces per 1000 sq. feet. This application can be repeated every 2 weeks as needed.

GENERAL:

Shake well and mix 1 ounce (2 tablespoons) per gallon of water to use as a soil stimulant.

DIRECTIONS FOR USE



Horticulture Molasses Molasses provides a natural food source for the indigenous microbial populations in the soil. It is recommended for all types of plants, crops and turf. Molasses is compatible with most natural biological soil stimulators.

BOC - BIOLOGICAL ODOR CONTROL

SPECIALTY PRODUCTS



BOC (Biological Odor Control) Odors are caused when living organisms decay and rot, giving off gas and noxious fumes. The presence of odors usually means there is an imbalance in the natural decaying process. The best way to control odors is by controlling the microbial activity and balance. BOC quickly gets rid of odors by balancing the microbial activity and keeps the odors from returning. It contains safe biological activators that supercharge the naturally occurring biological reduction process. BOC changes foul smelling anaerobic decomposition conditions to odorless aerobic conditions. Use BOC to control or manage odors throughout the

house including the bathroom, kitchen, closets, garage, pet areas, trash pails, fireplace, carpets, sinks, automobiles and anywhere else odor is a problem.

- Natural biological stimulator
- Contains no perfumes or masking agents
- 100% environmentally safe
- No chemicals, toxic substances, or organisms

APPLICATION RATES

Ready to use, no mixing required. Just spray BOC on and around odor areas. Allow adequate time for noticeable odor reduction to occur. For stubborn odors, repeat application every 3-4 days as needed.

SEPTIC TANKS, CESSPOOLS AND DRAIN FIELDS:

For every 4 people using the system, flush one quart of Actina down any drain leading to the tank. Add one pint one week later, then one cup each month for preventative maintenance. This low cost preventative maintenance program may help to preserve the useful life of your septic system and reduce the need to pump out solids.

ODOR CONTROL:

Use ¼ cup of Actina to reduce odors in garbage disposals, drain pipes, or other odor releasing areas.

DOG RUNS, FEED LOTS, AND CHICKEN PENS:

Spray with one pint of Actina mixed with one gallon of water (covers 1,000 square feet)

APPLICATION RATES



Actina Septic Tank Activator Actina increases the natural biological activity of microbes present in sewage. It contains biological activators derived from a fermentation process. This increase in the activity and numbers of organisms can help speed up the digestion of wastes, and release enzymes that break down grease and other complex wastes. Because these wastes are more completely digested the need for cleaning and pumping are greatly reduced and so are the odors. Actina helps produce digestive organisms that liquefy grease and waste solids, so they flow easily through the pipes, all the way into drain fields.

- 100% natural
- Will not corrode pipes
- Will not cause pH problems
- Odors drastically reduced or eliminated

SEPTIC TANK STARTER



Septic Tank Starter Medina septic tank starter is made up of dry bacteria and fungi formulated to digest grease and wastes in the septic system. Septic tank starter is ideal for sluggish systems that are low in microbial activity and new or recently pumped systems. Septic tank starter contains specific bacteria and fungal cultures for degrading organic wastes.

- Non-corrosive
- Environmentally safe
- Will not harm pipes
- Will not contaminate soils
- Natural biological activator

APPLICATION RATES

SEPTIC TANKS:

Mix 1 oz. Septic tank starter in approximately ½ gallon of warm water. Pour into commode and sinks, flush commode once. Apply at end of day or during off-peak use times to allow solution ample working time. For faster results and maximum odor reduction, use with Actina Septic tank activator.

ROSES



- 1 **Roses have to be planted in full sun.** They can tolerate several hours of afternoon shade but even with protection, midsummer blooms will be inferior.
- 2 **They need good drainage and good soil.** A good way to do this is to make a raised bed 10 to 15 inches above soil level, using railroad ties, masonry, or landscape timbers. Then rototill to a depth of 10 inches and incorporate 6 inches of peat moss, 3 or 4 inches of shredded bark, 3 or 4 inches of compost, and 2 inches of washed brick sand. Rototill several times to mix all the amendments.
- 3 **Choose varieties that suit your climate conditions.** Rose varieties have different requirements for soil, fertilizer, and moisture. Choosing locally-grown varieties will add to your success.
- 4 **Space roses adequately to promote years of growth.** Three feet apart would be the absolute minimum and 4-5 feet would be better. Roses need plenty of air circulation to prevent fungal problems. Plant them at the same depth that they were growing in the container. If you plant them deeper, it could kill them.

- 5 **If roses are bare-rooted,** remove sawdust or moss and any damaged roots and soak in water for an hour before planting. Make a large enough hole to prevent roots from crowding. After all space is filled in with soil, water it in with Medina Soil Activator to settle it but do not compact it.
- 6 **Practice preventative maintenance.** That is, don't wait until maintenance is required, do maintenance as a preventive measure. For example, mulch generously around the base of the plants. 2-3 inches is adequate. Keep the soil moist around the roses; not sloppy wet, but moist. Don't let grass and/or weeds grow up to the base of the plant

- 7 **The more you feed the more they bloom.** Using Growin Green and HastaGro 6-12-6 on a monthly basis provides the long-term nutrients needed to bloom.
- 8 **Pruning** – Established roses should be cut back to a third of their height and clear out the inner branches leaving a vase shaped plant. This process should be done the second week of



February for those of us in Texas, but late winter is the best and February may not be best for your area. Check with local nurseries. Climbing roses should be cut back in the last week of April or right after their main flush of spring bloom. Climbers bloom on last year's wood so if you prune too early you will be cutting off this season's blooms.

Treat soil with Medina Soil Activator 2 to 3 times each year and mulch the soil around the plants to keep the soil cooler and moister.

- 1 **Soil Application** – Start with 1 ounce of HastaGro Plant 6-12-6, mixed with 1 gallon of water and pour around the plant. Add ½ cup of Growin Green every other month.
- 2 **Foliar Application** – Mix ½ ounce of HastaGro Plant in one gallon of water and spray the foliage.
- 3 **Maintenance** – Repeat the soil application every 2-4 weeks during blooming season and repeat foliar spray every week



WILDFLOWERS

This is a functional total program for either spring or fall blooming wildflowers. For specific information on which varieties are best for specific seasons contact your local wild seed retailer. We recommend the Wild Seed Farm in Fredericksburg, Texas. They can be contacted on the web at www.wildseedfarms.com

When starting a wildflower area be sure to pick an area that currently supports growth already, and gets at least 8 hours of direct sunlight per day. Select a site that also gets good drainage. If your site is covered with non desirable vegetation, we suggest spraying with a post emergent herbicide, or for a natural alternative using 20 % vinegar or tilling deep enough to kill the plants in your area. Do this early enough in the season to have time to allow weed seeds at the surface to germinate. When new weed seeds have germinated, rake or lightly till the surface to a maximum depth of one inch just before planting your seeds.



If your site is not dominated with non desirable native vegetation, mow the vegetation as low as possible and pick up the clippings. Check on the right time to plant certain wildflower varieties according to the area that you are in. Rake or lightly till the surface soil to a

maximum depth of one inch. This shallow depth will not bring up as many dormant weed seeds in the ground. Apply Medina Growin Green Granular fertilizer at a rate of 30 lbs per 1,000 sq ft. and water in using Medina Soil Activator at 1 quart per 1,000 sq. ft. When you are ready to apply your wildflower seeds it is helpful to mix the seeds into potting soil for even distribution. Use 1 part seeds to 4 parts soil mix for the mixture. When applying your wildflower mix, broadcast half of your seed mix the length of your area, then broadcast the remaining mix going the width of your area. Lightly press your seeds into the ground by walking over the area or rolling it to press the seed down no further than about 1/16th of an inch. Some seeds may still be visible.

During establishment period of germination the area should be kept moist for 4 to 6 weeks. When your flowers begin to germinate apply a foliar application of HastaGro Plant Food 6-12-6 at the rate of 1 quart per 2,500 sq ft. or ½ ounce per gallon of water. After seedlings are 1 or 2 inches tall, watering can be gradually reduced unless plants look stressed.

Prior to blooming when the flowers start to bud out, apply another application of Medina Growin Green fertilizer at 15lbs per 1,000sq ft and water in using a foliar application of HastaGro Plant Food 6-12-6 at one quart per 2,500 square feet. This last application of Growin Green and HastaGro can be repeated each year and for help with mature wildflower sites.

The wild flowers need to drop their seeds in order for the plants to come back next year, so don't mow the browning plant stalks until the seeds drop off in the late spring.

During and after the blooming season, you may want to use a spot treatment of post emergent herbicide to areas that have large amounts of non desirable vegetation. This will keep them from taking over your wild flower area.

VEGETABLES



- 1 **Select a site:** The best site for your garden is in full sunlight, good drainage, and deep soil and away from buildings or trees. Note how large you want your garden to be. A small well maintained one might be better than a large one that may go neglected. Some vegetables are ornamental and can be grown in your flower bed and some entirely in containers. This might be preferable if full sunlight is not available because most vegetables need direct full sun. Leafy vegetables however can be grown in only partial shade.
- 2 **Protect your site:** Putting a fence around your garden is a good idea to keep out animals that can cause havoc on your vegetables as well as serve as a trellis for pole beans, peas, tomatoes, and other vegetables that need to be supported.
- 3 **Getting Started:** Start by plowing or spading the soil in your new garden area and treating with Soil Activator at the rate of 3 ounces per gallon. Completely saturate the soil two weeks prior to planting. Compost and topsoil may be added into existing ground if the soil is poor. Repeating the application of Soil Activator is a good idea every spring and fall to keep biological activity strong. Check with local nurseries or local Master Gardeners for the best time to start your garden depending on climate, season, and type of vegetable.

BERRIES

- 4 Germination:** If you are starting with seeds, instead of transplanting, you can start growing your seedlings in a box, pan, or flower pot in a window getting at least 6 hours of sunlight a day. If your seedlings start looking weak, they may need to be placed in a hotbed, cold frame, or other artificial means of achieving the correct temperature and ample light. For strong, vigorous seedlings start them under 40-watt fluorescent tube lights, which work best near the window to provide maximum light.

Don't let the seeds dry out or they won't germinate. Stick your finger in the soil to be sure it's moist. If not, water gently.

A simple way to start seeds is to place a paper towel in a cookie sheet. Moisten the sheet and then place the seeds about 2 inches apart on the sheet. Place another sheet on top of the first one and moisten it also. Place the cookie sheet on top of the fridge for warmth. Keep the sheets moist. In a few days, the seeds will germinate and emerge through the top paper towel. Then you can cut out the new little plants in 2 inch squares and plant the squares in small pots

- 5 Maintenance:** Once your vegetable plants have been established, weekly foliar applications of HastaGro 6-12-6 and Medina Plus will keep your vegetables nourished and growing. You can alternate every other week between 3 ounces per gallon of Medina Plus, and ½ ounce per gallon of HastaGro. Continue weekly throughout the growing season. Medina's Growin Green granular fertilizer should be applied every 4 weeks at 2 pounds per 100 square feet. This program will keep your vegetables healthy and growing vigorously.

- 1 Plow or till soil;** add manure or compost and spray with Medina Soil Activator (1 gallon mixed with water according to directions will cover 4000 sq. ft.). Repeat tilling.
- 2 Plant berries,** watering in a solution of HastaGro 6-12-6 Plant Food on the root area and around the plant (1 oz per gallon of water and using about ½ gallon of solution per plant).
- 3 Drip with ½ oz HastaGro 6-12-6** per gallon of water every week. Make soil applications with 1 oz HastaGro 6-12-6 per gallon of water every 1 to 2 weeks. Use about ½ gallon of this solution per plant. HastaGro can be injected into drip irrigation. Use ¼ oz per plant per week during the growing season. For mature plants, use ½ oz per plant until the end of harvest. Then reduce to ¼ oz per plant per week. (Watch your plants; the needs will vary according to soil type and weather conditions).



- 4 Two or three times a year treat the soil** in the entire planting area with either Medina Soil Activator, or Medina Plus (has seaweed extract added). One gallon mixed with water according to directions on label will cover 4000 sq. feet. Add 1 lb of Growin Green around each vine about every other month for the great production and quality.
- 5 Mulch the area** immediately around each plant with compost. Your own compost can be made with leaves, grass and manure. Medina Soil Activator, Compost Starter, and Compost Nutrients will speed up the material breakdown process and increase the quality of the compost.

TREES



Transporting – New trees must be transported carefully, always carry by the burlap bag instead of the trunk. Protect the leaves from windburn while driving, by covering them with a sheet or nursery material and do not let the ball roll around.

Location – Make sure the site you choose is large enough to support the mature growth of the tree. Know where water and sewer lines are, so you can avoid them and do not plant near telephone or power lines. Treat the area with Medina Soil Activator about two weeks before planting at rate of one ounce per gallon.

Planting – Your hole should be twice as wide as the root ball, but not deeper. Cut any binding or ties but do not remove burlap bag. Fill the whole back up with the soil you removed.

Treating – Water the tree immediately after it is planted using one part Medina Plus to twenty parts water to settle soil, but do not compact. Unless the tree is in a particularly wet area, make a low berm from the left over soil around the planting hole to hold water long enough for it to soak in. The berm should be removed after one year. If water table is high in the area plant tree slightly above surrounding soil.

Stimulating root growth – To stimulate root growth of new transplant add 2 ounces of HastaGro 6-12-6 to one gallon of water and use whole gallon on tree.

Pruning – Prune balled and burlapped trees 30 to 40 percent, to compensate for

roots lost during the digging. Bare root trees should be pruned 40 to 60 percent

Maintenance – Start each spring with a soil application of Soil Activator. Foliar sprays should start at new leaf growth and consist of one ounce HastaGro 6-12-6 mixed with one gallon of water and spray the leaves until they start to drip. Repeat this foliar spray every two weeks through the growing season until 6 weeks before frost date.

Fertilizing – Apply Growin Green 4-2-3 at the rate of 1 lb per inch of diameter of the tree trunk, around the drip line of the tree. If you have thick grass growing around the tree, dig several small holes about 6 inches and place the Growin Green in the hole. This will allow more fertilizer to be used by the tree and not only the grass.



HOUSE PLANTS



Houseplants are the easiest plants to grow because there is such a wide selection to choose from. There is a houseplant to fit almost any area as long as you have some form of light. Remember that all house plants are outside plants in the area of the world that they originated. So when we try to grow them, if we can replicate a little of their environment we can make them happy.

The 2 most common reasons for failure are watering and light. Believe it or not too much watering kills more plants than does too little watering. Choose the pot carefully and it must have some kind of drainage holes so that when you water too much the water will not drown the roots. Use a saucer for the water to drain into and if the water stays for more than a day throw it out. If you want to use a pot that has no holes buy it big enough to fit a pot with holes inside it. Repotting is not really as necessary as

you might think. Plants can go many years in the same pot as long as you water and fertilize them. If you decide you want to repot always go up in pot size 1 or 2 sizes only. Never use top soil, use only potting soil as top soil will get hard and kill most plants.

Choosing the right light is very important. Most plants like as much light as possible. The problem is that most houses and offices have very poor lighting. If you cast a shadow then that is enough light to grow low light houseplants. If the new growth on your plant is weak and small or leggy this means it is not getting enough light. Remember that no plant will grow in a house with low or dark lighting like most hallways unless you are willing to leave the lights on for 10 to 12 hours.

Fertilizing is the key to healthy houseplants and since most are grown for their foliage choose a fertilizer that encourages strong leaf growth like HastaGro. The humate and seaweed in HastaGro feeds the plants and revitalizes the soil that they are in. Feed once a week March thru October and once a month in winter at the rate of ½ ounce per gallon of water. For best result soak the soil and spray the leaves with HastaGro and add 2 tablespoons of Growin Green for each gallon of soil every other month.

Here are a few houseplant choices by light requirements:

LOW LIGHT: Chinese evergreen, dracaena warnecki, pothos ivy, philodendron cordatum , closet plant (spathyphillium), janet craig dracaena

MEDIUM LIGHT: Ficus Lyrata (fiddle leaf fig), Corn plant, dwarf schefflera, African violets, kalanchoe, philodendron selloum, split leaf philodendron. All low light plants will do well in medium light.

HIGH LIGHT: ficus benjamina, rubber plant, schefflera, crotons, coleus, begonias, orchids, cactus, sago palm, areca palm, majesty palm, jade plants.



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TRANSPLANTING

- 1 Plant at the Right Time** – In the past, early spring and early fall have been recommended as the ideal time for planting. Recent information suggests that this traditional advice may be limiting. Actually it is satisfactory to plant at any time, with these exceptions: Don't plant before the soil is workable. If you can't use a spade or cultivator easily, wait until the soil dries out somewhat before starting. Don't plant immediately preceding a period that will cause the shrub climate-related stress. Late spring and late fall are usually times when the approaching heat or cold will place newly established plants under stress. Two weeks prior to planting the soil should be treated with Medina Soil Activator to loosen and balance the soil. Soil Activator should be applied at the rate of 3 ounces per gallon. For large areas use 1 quart of Medina to 1000 sq feet. Molasses can be added to further feed the soil microbes at the rate of 2 quarts per thousand.



- 2 Dig the Hole** – Dig the planting hole approximately twice as wide and to the same depth as the root ball, or one inch shallower. Plants have a tendency to sink after they have been planted, so if the hole is dug deeper than the original root ball, the plant may suffer from crown and root rot in the future. The root ball should be sitting on firm, undisturbed soil.
- 3 Place the Plant in the Hole** – After removing from the container carefully as to not damage the root ball, check it for problem roots. Cut or pull away any of the circled, matted, or tangled roots so that they radiate out from

the root ball. Shorten the roots to the width of the planting hole so they will not be bent when planting. Plants with matted roots often stay that way, not venturing into the surrounding soil. To compensate for damaged or pulled roots, lightly trim the top. Now check the root ball depth in relation to the planting hole depth and in it goes.

- 4 Fill the Hole** – Fill the hole with backfill soil treated with the Soil Activator to the level of the surrounding soil.
- 5 Build a Basin** – Build a shallow basin around the plant so that irrigation water will be concentrated in the area where it is needed the most. Be sure to build it so that the water drains away from the stem of the plant. Thoroughly water the area around the root zone with HastaGro Plant Food 6-12-6. Mix 1 ounce of HastaGro Plant per gallon and pour slowly to wet all the soil around the new plant. Apply mixture until the soil is loose and muddy. Gently jiggle the plant until it is positioned exactly the way you want it. This action will eliminate any remaining air pockets. Check again to make sure water drains away from the stem of the plant. Use the basin for primary watering until some roots have had a chance to expand into the surrounding soil—usually around six weeks later. If dry weather conditions require continued irrigation, enlarge the basin at this time. However if you live in an area with sufficient summer rain or if you have installed another irrigation system you can break down the basin.
- 6 Mulch the Soil** – Add a 2-3 inch layer of mulch or compost to the surface of the soil around the newly planted plant. This will help keep the soil cooler and moister during the hot summer days. It will also keep the soil microbes more active. Sprinkle a thin layer of Growin Green organic fertilizer over the mulch to continually add nutrients to the plant.

COMPOSTING



Choose a spot at least 3'x 3', preferably in partial shade, near a water source and not in a low spot where water will puddle. You may want to construct a ventilated container or simply have an open pile. You may cover your compost to protect it from excessive rain or leave it uncovered. There is no right or wrong method. It simply depends on your preference.

Start with a 4" to 6" layer of wastes high in carbon, or "brown" materials (dead leaves, brush, wood shavings, paper, or dry hay). Layering is not necessary, but it helps to get the proportions right.

Moisten, without saturating, and add Medina Soil Activator at the rate given on the bottle.

Add a 4" to 6" layer of materials high in nitrogen, or fresh "green" materials (green grass clippings, manure, food scraps). Moisten pile again with water and Soil Activator.

Add a smaller amount of soil or compost (preferably native soil). Add Medina Compost Nutrients as instructed on bottle. Mix layers with a hoe or pitchfork. Continue layering until pile is large enough or bin is full. 3' is a good height to start with.

If pile is lacking in carbon or nitrogen materials, apply Medina Compost Nutrients at the rate listed on bottle.

Mix and turn the pile every 1 to 2 weeks, adding water as necessary to keep it moist. As it becomes mature, the compost will look and smell like dark, rich earth. The entire process takes anywhere from 2 months to a year depending on materials used and how often the pile is turned.

LAWN CARE

DO Compost:

- Grass Clippings
- Leaves
- Evergreen Needles
- Twigs
- Wood Chips
- Garden Wastes
- Breads & Grains
- Coffee Grounds & Filters
- Egg Shells
- Paper (without dyes)
- Cow, Horse, Poultry, & Pig Manures
- Fruit & Vegetable Wastes
- Tea Leaves & Bags

DON'T Compost:

- Diseased Plants
- Meat Scraps
- Dairy products
- Oil or Oily Foods

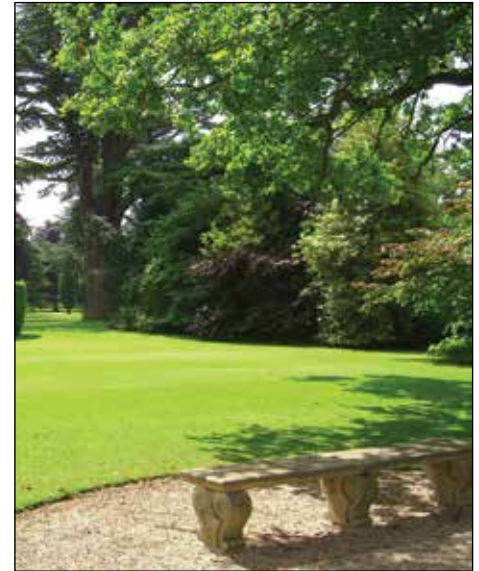
TROUBLESHOOTING:

- | | |
|-----------------|--|
| <u>Symptoms</u> | Pile is wet and smells rotten |
| <u>Problem</u> | Not enough air; too wet |
| <u>Solution</u> | Turn it, add dry materials
add Medina Soil Activator
add Compost Starter |
| <u>Symptoms</u> | Center is dry, tough
& woody |
| <u>Problem</u> | Not wet enough; too woody |
| <u>Solution</u> | Turn & moisten;
add fresh, green wastes |
| <u>Symptoms</u> | Pile is damp and warm
in center |
| <u>Problem</u> | Pile is too small or dry |
| <u>Solution</u> | Add more material;
mix and moisten |
| <u>Symptoms</u> | Pile is damp & earthy
but does not heat up |
| <u>Problem</u> | Lack of nitrogen
(OR it's done!) |
| <u>Solution</u> | Mix in fresh grass clippings
or Medina Compost
Nutrients |
| <u>Symptoms</u> | Ants in pile |
| <u>Problem</u> | Too dry |
| <u>Solution</u> | Add water |

In order to grow healthy lawns that will resist disease, withstand stress, and efficiently use nutrients, we must have a healthy soil that has a diverse population of soil life. This soil life will have a balance of bacteria, fungi, protozoa and beneficial nematodes. A healthy soil will suppress plant diseases by filling the available sites with beneficial organisms and reducing the locations that disease organisms can be established. Beneficial organisms will balance the nutrients in the soil and help recycle nutrients so they are available to plants over longer periods of time. When nutrients are available in larger amounts, some organisms will be eating them and releasing the nutrients and making them available to plants. A healthy soil will be able to degrade plant residues, degrade toxic materials and build a good soil structure that will allow oxygen to penetrate deeper into the soil. This healthy soil will develop larger root systems and have a larger ability to hold water and nutrients.

Healthy Lawns

The best program for the fall and the spring is an application of dry granular fertilizer Medina Growin Green and Micronutrient. Growin Green is used at 12 to 18 pounds per 1000 sq. ft. and the Micronutrient is 1 lb per 1000 sq. ft. It works best if you can mix the two together to get even application of the Micronutrient. Both of these products are organic and will mix well together. The dry fertilizer should be followed by an application of Medina Soil Activator at 1 quart per thousand square feet. This can be applied with a hose end sprayer and watered in. Humate Humic Acid can also be applied to prevent salt accumulation and helps keep fertilizers



more available. Humate can be applied at the same time as the Soil Activator but they should not be mixed in the same container. Humate should be applied at a rate of 1 pint per 1000 square feet. The remainder of the year only the HastaGro lawn 12-4-8 is needed for maintenance either monthly or 4 times a year depending on whether you pick up your grass clippings. The best mowing setting for Bermuda and Zoysia grass is the lowest one. St Augustine grass should be mowed 1" high.

New or Troubled Lawns

For new or troubled lawns, the healthy lawn program should be used and add Molasses to it. Soil Activator should be used as a soil treatment before planting seed or laying down sod. The Molasses can be used at the rate of 3 to 12 ounces per 1000 square feet, as needed to supply your new or troubled lawn with sufficient nutrients.



BUILDING RAISED BEDS

*Courtesy of Tom Harris
The Hill Country Gardener*

Building raised beds can be as simple or as complicated as you want to make it. If you have the tools and skills, you can make them pretty fancy, but it really doesn't make much difference what they look like. You're the only one who will see them 90 percent of the time. First chose a site that is reasonably level and close to the house.



The simplest type of raised bed would be **rocks dug out of the garden** or beds previously and stacked up. The bed only has to be about 6" deep to grow just about anything you might want to grow because plant roots go OUT and not DOWN as most people think.



From this level we can move up to the next level which would be **concrete or cinder blocks**. These blocks are 8" deep and 16" long. Just drive two stakes into the ground and tie a string between them to give yourself a straight line to work toward. If the soil is not reasonably level at the site, use a square-nosed flat shovel to level it just a little. It doesn't have to be perfectly level, just flat enough so that it looks good to the naked eye. Now start laying the

blocks along the line to get the length you want or need. Since each block is 16" long, 3 of them makes a 4'-wide bed which is just the right size that you can reach in half way from either side. These beds can be as long as you want, but 12-16 feet is about the maximum you'll need for most garden beds—veggies included.



Landscape timbers are relatively easy to build raised bed with. If you'll be building a 4' x 8' bed, all you need is six 4' x 8' landscape timbers. Cut two of them into two 4' pieces for the ends. Drill a 3/8" hole about a foot from the end and one in the middle of each of two of the 8' pieces. Lay one of these pieces on the ground and drive a 12" piece of 3/8" rebar through the hole into the ground to anchor it. Add a 4' piece of timber to each end of the 8' piece. Make sure these end pieces are 90° to the side piece.

Each 4' piece should have one 3/8" hole drilled in each end about a foot in. Fasten these pieces with 3/8" rebar also. Stack the next level of timbers on top and nail the pieces together with 6" timber nails available where you bought the timbers. You might want to drill a 1/4" hole before you drive the nails to keep from splitting the timber.

If you have the skills and the tools, you can even build beds like the one on the upper right. Keep in mind, however, that this



type of cedar bed won't produce any more or any better than the rock bed.

The next step is to fill the bed with soil. For this type and size of bed, you may want to consider going to your favorite landscape supplier and ask for their "garden mix" which will be mostly compost along with some washed sand, and a little topsoil. This mix is light weight and easy to grow in.



Add a trellis of some type and you're ready to plant. The pictures above show the addition of 1/2" rebar driven 2" into the ground leaving 2" above the ground. The trellis is made of 1/2" conduit pipe because it is galvanized inside and out with fence-wire added. Slip the trellis over the rebar and the trellis will hold any vines you want to plant there.

You could also use railroad ties for a raised bed, but be careful. They're HEAVY.

On the other hand, you can just stack up some tires and grow all the tomatoes/flowers/herbs you want.



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