

# The Growing Zone

## Helena Area Master Gardeners

Volume 1, Issue 1

Spring 2011



# Welcome to the Newsletter!

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Welcome to the inaugural issue of The Growing Zone – a publication to assist and support gardening in the Helena area. The Growing Zone is produced by Helena area Master Gardeners and the Lewis and Clark County Extension Office. We want to hear from you – the gardening community. Ask questions, share gardening tips, contribute articles, send gardening blooper stories, suggest topics, and so on. Consider this publication a forum for "growing" in this "zone" – we can all learn from each other. With that, read on... and we look forward to hearing from you! Our e-mail is <u>HelenaMasterGardeneers@hotmail.com</u>.

### Master Gardener Program in Montana

The Master Gardener Program was first started by the Washington State Cooperative Extension Service in 1972. It grew out of a need to meet an enormous increase in requests from home gardeners for horticultural information. The Master Gardener Program in Montana is divided into three levels. Level I and Level II are taught in each county while Level III is taught on campus in Bozeman. In or-

der to be considered a Master Gardener, you must take the course and complete a certain about of volunteer work. For more information on the program, visit the web site <u>http://</u> gardenguide.montana.edu/ mgardener/mgardenerindex.asp.





"In all things of nature there is something of the marvelous." -- Aristotle

# **Share Your Bounty with Helena Food Share**



"Anything is helpful! A quantity is never too little or too much."

#### Kathy O'Hern

The "Hunger in America 2010" report is one of the largest and most comprehensive studies on domestic hunger. The report confirms that hunger is increasing at an alarming rate in the United States. How can gardeners help on a local level? Donate produce!

Two gardening circumstances might lead you to consider donating produce. The first is an overabundance – more crop than you can or want to handle. The second is when you make a conscientious decision to dedicate a portion of your garden plot to grow produce for the sole purpose of donating. I encourage all gardeners to do this.

Ann Waickman, Executive Director of Helena Food Share, is extremely inspiring and encouraging. First and foremost, Waickman says, "Anything is helpful! A quantity is never too little or too much." That makes it easy.

Waickman emphasized that they really need root crops, especially carrots and potatoes. The highly nutritious Brassica family, including Brussels sprouts, broccoli and cauliflower, is something they would like to see more of. Food Share will even take the pesky zucchini – no matter how large! Other specific vegetables mentioned by Waickman are tomatoes, summer and winter squash, and onions. Remember – any quantity is welcomed.

Donations can be brought to the Lewis St. Pantry located at 1616 Lewis St. in Helena. Hours are Monday 8:00 AM to 7:00 PM and Tuesday - Friday 8:00 AM to 4:00 PM. Continue past the front door, which will have a "closed" sign posted until afternoon, to the east-facing door or to the north-facing loading dock.

When the Helena Food Share has an excess they distribute to other community non-profit organizations. Nothing ever goes to waste.

When donating surplus produce, harvest when the crop is at its proper stage of growth. Don't delay the harvest until the vegetable is beyond its prime; if you won't eat it at that stage, others won't, either.



For more information:

http://www.helenafoodshare.org/

http://feedingamerica.org/

# **Spring Planting Primer**

#### Joy Lewis

The seed catalogs arrived back in January and dreams of succulent vegetables and colorful flowers filled the gray void of winter. Now that many of your seeds or transplants have come it's time to start thinking where and when you might plant them. March and April are excellent months to take a good look at your yard and determine where you get the most sun and where there is partial and full shade. Don't forget that many of your trees will have leaves in the summer, shading areas that have full sun now, and that the sun will be higher in the sky as well. If you do not have "prepared beds" then think about building raised beds. Fir, redwood, cedar or composite are the best choices for the bed walls. Google "raised beds" to find building instructions and designs or visit the Library. Next determine what you want and where, and draw up a plan. Start

small to keep things manageable.

As a rule of thumb; for plants that need a longer growing season, sow your vegetable or flower seeds indoors 6to-8 weeks prior to the



time they are moved outside. Grow seeds in egg cartons or plastic trays designed for transplant starts in a south facing window or with grow lights. Helena's estimated last frost day in the spring is May 18th, plus or minus two weeks. The first frost date is September 20th, plus or minus two weeks. These dates vary according to elevation and location.

As soon as the soil can be worked in March, April or May dig up or weed your beds. Your soil should form a loose, flakey ball, not one that's sticky and oozes water. Avoid working with wet soil. Getting out into your beds and weeding first thing in the spring will go a long way to preventing weeds from spreading. If it's not something you've been too consistent with, don't be surprised if they seem to pop right back up. Weed seeds stay viable for years in the soil.

It's also an excellent time to test your soil. You might be adding more compost than you need or you might not have the right NPK mixture (Nitrogen, Phosphorous, and Potassium). Please refer to sidebar for more information.

When it comes time to plant, read your seed packet instructions. Most seeds require a soil temperature of between 50 and 70 degrees Fahrenheit for germination. Plant leafy greens and tomatoes in an area that ideally receives morning sun and mid-afternoon shade. Most other veggies do well in full sun. Flower seed packets or transplants will have their own planting requirements for shade or sun.

### Soil Testing

Sample soils using a soil probe or auger. The Lewis & Clark County Extension office can lend you a sampling probe. Clean the soil probe thoroughly before use. Make sure you remove any garden debris or mulch first from the soil. Collect 10 or more samples from a six inch depth at various spots throughout your garden, mix them together and place in a ziplock bag. Call your county extension for a list of labs to send it to.

(406) 447-8350.

Prices range from \$20 - \$70.



#### Flower Planting Schedule

Most annual flower starts should be planted after the threat of frost. Perennial flower starts should be planted in the early spring before the temperatures begin to soar into the upper 80s and 90s.

#### Vegetable Planting Schedule

<u>Hardy vegetable</u> seeds can be sown as much as three weeks before the last frost. Examples include – arugula, beets, carrots, chard, kale, lettuce varieties, peas, spinach, and turnip.

<u>Half-Hardy vegetables</u> can withstand light frost. Set out transplants and plant seeds two weeks before last frost date. Examples include broccoli, Brussels sprout, cauliflower, and celery from transplants; potatoes from seed-pieces; and parsley and radish from seed. Sow bean seeds one week prior to last frost date and keep covered if a freeze is suspected.

<u>Tender vegetables</u> cannot withstand frosts and should be planted from transplants after the last frost date. Examples include – corn, cucumber, eggplant, muskmelon, peppers, summer and winter squash, tomato, and watermelon. If frost is predicted, have old sheets, plastic or buckets ready to cover your plants.



## **Spring Gardening Calendar**

Conditions during each spring in your location will determine the actual timing of your garden work. The last frost date will vary from year to year, and moisture and warm weather are unpredictable. The following recommendations are based on historical data for the Helena area and the experience of gardeners in the region. You will need to adjust the recommendations based on the season and your knowledge of your particular area. A Montana climate summary is available from the MSU Extension service at <a href="http://gardenguide.montana.edu/mtclimate.asp">http://gardenguide.montana.edu/mtclimate.asp</a>. If you have questions regarding the timing of garden activities in your area, please feel free to ask a Master Gardener at <a href="http://gardenguide.montana.edu/mtclimate.asp">HelenaMasterGardeners@hotmail.com</a>.

### March

- Prepare garden beds: weed, remove old growth
- ▲ Test garden soil for nutrient content (if the soil is dry)
- Prune apple and other fruit trees before sap starts flowing and before first buds become established
- Prune out suckers on lilacs, chokecherry and other suckering shrubs and trees
- Clean up overwintering plants such as geraniums, begonias, coleus etc...cut off all leggy growth
- Late month consider sowing sweet peas, snapdragons, pansies and violas, depending on your location

### <u>April</u>

#### Early April

- ▲ Start tomatoes, peppers, cabbage, eggplant and broccoli indoors for transplant
- Add compost, organic matter or fertilizers (based on soil test) to garden soil
- Clean up old debris from garden beds and weed
- ▲ Sow indoors warm season annual flowers
- Start plans for garden planting
- Direct seed cool weather seeds: sweet peas, snap peas, pansies, violas, spinach, arugula, lettuce, chard, radishes, kale

#### Mid April

- ▲ Direct seed carrots, beets, parsnips, kohlrabi, onion sets and seeds
- ▲ Start cauliflower seeds indoors
- Plant pansy and viola starts among waning spring flowering bulbs
- ▲ Start cucumbers, squash, pumpkins indoors for transplant

#### <u>May</u>

#### Early May

- ▲ Start hardening off cold frame transplants exposing them to outside temperatures during the day
- Direct seed beans, seed potatoes
- ♠ Direct seed annual flowers
- ▲ Set out transplants of cabbage and broccoli

#### "Average" Last Frost: May 18th

Mid to Late May

- Plant corn, transplants of tomatoes, eggplant, peppers, squash, cucumbers
- Transplant warm season annuals
- Start checking for insects such as aphids, slugs, flea beetles, and cutworms



# **Master Gardener Volunteer**

#### Judy Halm

Volunteer service is at the heart of the Montana Master Gardener program. Those who have received the Master Gardener training through the Extension service often choose to volunteer with County Extension Agents to answer gardening questions, conduct educational programs about gardening, assist those who are unable to garden by themselves with gardening projects, and diagnose plant specimens and pests.

In August of 2010 Cathy Morris, Connie Geiger, Doug Booker and Judy Halm, recent graduates of the Lewis and Clark County Master Gardeners program, assisted Splashes of Joy, a local non-profit organization, in providing landscaping assistance to a Helena-area couple by designing and implementing a landscaping project for the couple's home. During the project we met numerous times with each other, the local organization representative and the homeowners to plan our action. We discussed various layouts for landscaping, types of plants suitable for the location, how we would get the work done and how the planting supplies would be financed. Valley Farms donated several hundred dollars worth of plants, shrubs and compost for the project, Valley Excavating donated decorative rock, the couple's church group donated workers and food and drink for lunch on the work day.

We visited the homeowners' property several times, discussing planting ideas with each other and the couple, planning flower bed placement, creating a raised bed and discussing plant placement.

On a warm, windy Saturday in September all the volunteers came together to put the plans into actions. Volunteers from the church dug holes for shrubs, hauled dirt and rocks, and did many other tasks that needed to be done. The Master Gardeners determined the layout of the beds, planted flowers and shrubs, and directed the activities of the other volunteers. At noon the church provided a great lunch for everyone, and we finished the raised bed near the house as evening approached.

The landscape rocks had not been delivered, so we were not able to place them over the beds at that time. The homeowner was able to get the landscape rocks in place over the next week, giving the project a more finished look. Later in September, as the weather cooled, we returned to the project to plant bulbs for spring flowers.

We learned later that the homeowners were very pleased with the way the project turned out, and were looking forward to spring when the perennials and shrubs would bloom and fill the flower beds with color.

The Master Gardeners thoroughly enjoyed working with Splashes of Joy organization, the challenge of designing the project, getting to know the homeowners and working side by side with the church volunteers to make the project happen.

"Volunteer service is at the heart of the Montana Master Gardener program."







### Book Review: "Winter Harvest Handbook" by Eliot Coleman

#### Marla Clark

While perusing one of my Mother Earth News magazines I noticed the book "Winter Harvest Handbook" by Eliot Coleman highlighted in a short article of the Green Gazette. Later, I discovered that the book was listed as a resource guide at the end of our Master Gardener 2 handouts on season extension. So I bought the book.

Coleman discusses the history of season extension, such as what was done in Paris, France, to provide fresh vegetables in the midst of a bustling city, even in winter. He also discusses how the light in winter affects the plants, and advises that plants do better in winter than we would typically think. Coleman provides many charts and graphs, and I found myself attaching paper clips to those areas I may need to use for future reference.

I have a greenhouse that is unheated, so I skimmed through the book looking for ideas on what to plant this year, and how to include vegetables that could be grown in winter. This book is a great narrative on the author's learning experiences with growing in a Zone 5 climate, utilizing inner covers in a greenhouse without heat. He also discusses quick hoops outside the greenhouse. David Baumbauer, manager of the Montana State University Plant Growth Center, stated in a Master Gardener class lecture that floating row covers used inside a greenhouse could raise the temperature by two zones. Many lettuces, carrots, chard, broccoli, spinach, onions, to name a few, can be grown for winter harvest as well as early

spring harvest. The author mentions that he plants overwintering onions during the last week of August and covers them with quick hoops in mid-October. The bulbs mature by the end of June.

"Winter Harvest Handbook" does not provide much information about watering plants in the winter. This left me with several questions, including how plants uptake water under very cool conditions, what types of watering systems can be used for winter watering, and how watering devices are kept from freezing.

I would recommend this book to anyone interested in extending their growing season into the winter months.

## **Compost Zone**

#### Kathy O'Hern

Gardeners are well aware of the benefits of using compost in our vegetable gardens and flower beds. Compost has the unique ability to improve soil structure, porosity and density - which creates a better environment for plant roots. Compost supplies beneficial microorganisms to the soil, increases the soil's waterholding capacity, and binds heavy metals and other contaminants. Compost has many more positive attributes that could be discussed, but there are larger issues looming today that involve compost.

Nearly 30 percent of the material being discarded in landfills is organic matter that could be composted. When buried in a landfill the organic materials don't break down as they would in nature or a compost pile. The materials decompose anaerobically, without the benefit of oxygen, and in the process become the number one source of humancaused methane – a major player in climate change. Methane is over 20 times more effective in trapping heat in the atmosphere than carbon dioxide. As a society we need to work harder to keep that organic matter out of landfills and in compost piles where it belongs.

Next, soils in the United States, and in many other parts of the world, are in trouble. Intensive farming, overdevelopment and poor land management practices have had dismal impacts on soil. Carbon, phosphorus, and other essential nutrients are low in many soils today. This compromises the ability of those soils to grow food. Compost has the ability to produce topsoil at a faster pace than nature can. So all of those food scraps and organic materials that are going into landfills could - and should - be put to beneficial use replenishing our soils. In fact. John Jeavons, master gardener and author of the book How to Grow More *Vegetables*, recommends that gardeners devote a percentage of planting space to grow crops for the sole purpose of adding biomass, renewable plant material that can be added to their compost pile, which will ultimately improve soils.

So what's the answer? For now keep on composting, and promote compost at every opportunity. Remember what Margaret Meade said, "Never underestimate the power of a few committed people to change the world." Or in this case, the soil. "Compost has the unique ability to improve soil structure, porosity and density – which creates a better environment for plant roots. "



Sources: COOL 2012 http://www.cool2012.com

Ode Magazine <u>http://</u> www.odemagazine.com/doc/69/dirt/

US EPA: http://epa.gov/methane/

## **Damping Off Damage to Garden**

#### Judy Halm

#### What Causes Damping Off?

Damping off, a disease that affects seedlings above and below the ground, is caused by several species of soil– or seed-borne fungus, including *Rhizoctonia*, *Pythium*, *Fusarium*, *Phytophthora*, *Sclerotinia*, *Sclerotium*, *Botrytis* and others. It often occurs in cool, wet soil that is poorly drained, although it may occasionally occur in warmer, drier soil.

#### Symptoms of Damping Off

Seedlings may be affected by the fungus before they emerge from the ground, resulting in a reduced stand of plants. As the seedlings emerge from the ground, the fungus may cause the stem to rot at ground level and break or collapse. The roots of seedlings may also be affected by fungal root rot, and can appear to wilt even though they are kept watered.

#### Control

The best treatment for damping off is to prevent it. Use a sterile growing medium if you plan to grow transplants from seed; sterile growth medium may be purchased from local garden centers. You may sterilize your own growth medium by placing it in a large, flat pan in an oven at 180° F until a potato placed in the middle of the pan is completely cooked. The damp mix may also be placed in a microwave in a loosely-covered container and cooked on high for 8 to 10 minutes. Allow the mixture to cool before use.

Use thoroughly-cleaned or sterile pots in which to start seeds. Fungal spores will re-

main dormant on planting pots or tools until water is added, then will come to life and affect the next plants with which they come into contact.

Use a sterile soil mixture that is well drained. If you plant seeds in trays or peat pots, allow the surface of the soil to dry slightly between waterings, and water the containers from the bottom. Thick stands of seedlings that are not well-ventilated may also develop damping off. After the seedlings emerge from the ground, thin them to the specifications listed on the seed packet.

If you plant seeds directly into the garden, you can sterilize your soil before planting by placing clear or black plastic over the area to be planted for several weeks before planting time. Sunlight will heat the soil and kill fungus near the surface. Make sure that your planting plot is well drained by mixing compost or sphagnum peat in with the soil.

Seeds treated with fungicide may be helpful in preventing damping off. As a last resort, commercial fungicides may be purchased for controlling the disease. "The best treatment for damping off is to prevent it."



© 2006 Publications International, Ltd. Damping off causes newly sprouted seedlings to fall over and die.

## **Victory Gardens for Veterans**

Healthy eating and gardens go together almost like deer and gardens do. Two dietitians at Fort Harrison would like to get gardens started at the VA Hospital at Fort Harrison. We are in the 'dream' phase at this time but would like to get into the actual planning stages. If you would like to be involved in this 'dream, plan and plant' project, please contact Kathy Rucker at 447-7370 or Wendy Brooke at 447-7365.



## Plant Profile: Calendula

#### **Connie Geiger**

A few years ago we discovered a bright cheerful flower blooming in our garden where we had spread seed from a packet of mixed annual flower. It has self-seeded every year since, and became our first introduction to *Calendula officinalis*. Since then we have found even more reasons to respect and appreciate this common "old fashioned" garden plant.\*

#### **Botanical information:**

- Botanical name Calendula officinalis
- Native to the region from Northern Africa to Iran and the Mediterranean; later a cultigens of Europe
- Asteraceae family
- There are more than 100 cultivars available
- T is an annual in colder climates, or a short lived perennial in milder climates
- Height is 20-50 cm; leaves are generally lance-shaped, with glandular-hair to spidery-cottony hair
- Tlowers are 4 to 7cm in diameter and may have single or multiple rows of ray flowers
- Flower petals can be all shades of yellow, orange, even some with touches of rusty-red. Centers can be yellow, brown, green and shades in between.
- Its scientific name derives from the plants ability (in certain climates) to bear flowers during most or all of the months of the year: from "calendae" (the first days of the month) or from "Kalendae" (the day of the new moon).
- The seed heads are rather unusual in that the outer fruits from the ray flowers are light colored, are incurved and beaked, and tend to look like they're the dried up bracts of the flower head. The inner fruits from the disc flowers are dark and boat shaped.

#### Mythology and Common Uses:

Historically, calendula flowers were thought to provide protection against evil influences and disease, and if carried in a pocket while in court would provide the wearer with triumph in legal matters, or provide victims of thievery with the ability to identify their robbers. From ancient Egypt to present day it has been used medicinally and as a culinary herb.

- Tulinary herb (petals), "poor man's saffron", used in soups, salads, cheeses, teas, puddings, and baked goods
- Beta-carotene and Lycopene, possibly as much as found in tomatoes, have been found in calendula (mostly in the flowers)
  Astringent and anti-inflammatory qualities, treating insect bites, sprains, cuts, burns, skin conditions, and internally for di-
- gestive inflammation
- Cosmetics, dietary supplements, and homeopathic remedies
- Calendic acid present in the seeds has been found to have antioxidant properties
- For culinary and medicinal uses, harvest flower heads in prime bloom, dry, and store away from light.

#### <u>Growing:</u>

This plant is well suited to the Montana growing season since they grow well in cooler temperate climates, grow well in almost any soil as long as it is well drained, and have a tolerance for light frost that allows them to bloom continuously from June through September.

- Easily grown by direct seeding in spring, or in fall for early Spring germination
  - Seeds should be planted shallowly since they need light to germinate
    - Flowers appear 40-50 days after germination.
      - Prolific self seeder, often germinating in early May, ensuring flowers through most of the summer months into the fall.

\*Calendula: An Herb Society of America Guide; 2007







# Ask the Experts

We all have questions about our gardens, lawns, trees, flowers or other landscape projects from time to time. Ever wish you could ask an expert in the field for answers to your questions? Here's your chance! In each issue of the newsletter we will answer one or more questions posed by our readers. Send in your questions to <u>HelenaMasterGardeners@hotmail.com</u> and we will pass the questions on to our expert panel for answers.



Brent Sarchet, Lewis & Clark County Agricultural Extension Agent

### Q. What is causing the dieback in my trees and the trees around town?

A. We had an early frost in the fall of 2009. The dramatic drop in temperatures caught our trees off guard. Most of our trees had not lost their leaves and were not shut down for the winter, so as a result, many of the trees (mostly deciduous trees) had areas of dieback. We had a relatively harsh winter in 2009 and 2010. Many trees and shrubs suffered from winter desiccation, so they showed it in the spring of 2010 with areas of dieback and split bark.

### Q. How can I protect my pine trees from Mountain Pine Beetle (MPB)?

A. There are a few options for tree owners to consider. The first option to consider is to thin out existing Lodge-pole and Ponderosa Pine stands. The less competition each tree has the more likely that the tree will be healthy as it tries to defend itself. The second option to consider is using pheromone patches on the trees. It is recommended to apply at least 2 patches per tree on the north side of the tree. These patches have to be replaced every year. The third option is to use an insecticide. There are three insecticide chemicals labeled for MPB: carbaryl, permethrin and bifenthrin. Brand names for the respective chemicals include Sevin, Astro and Onyx; there are many others, so look at the label for the active ingredient. Trees are difficult to spray effectively. The applicator must read the labels carefully and pay attention to the environmental conditions prior to applying. It is recommended to use a licensed commercial applicator for spraying large trees.



Deciding upon a name for the newsletter was tough! Several of the names that the Master Gardener committee liked, or thought were appropriate for this area, were already being used by other publications. After careful deliberation over pizza, we selected "The Growing Zone".

Choosing a logo is the next task, and we would like to extend a call to artistic gardening enthusiasts to design an appropriate logo for *The Growing Zone*. Submit your design to <u>HelenaMasterGardeners@hotmail.com</u> or deliver it to the County Extension Office. Submittals are due by the end of April 2011 to give us time to choose one for the June issue. Please submit your design as a .jpg file or on a document that can be scanned. The winner of the Logo Challenge will receive a 1-year subscription to the "Big Sky Small Acres" magazine.



# **Event Schedule**

#### March 3 - April 28, 2011

Master Gardener Level I Thursdays from 5:30 to 8:00 pm Lecture auditorium at U of M-Helena Campus 447-8346 for info

#### March 19, 2011

**Growing Community Project**—*Free* Program **Successful Gardening in Helena 101** 2:30—4:30 pm YMCA

#### March 26, 2011

**Introduction to Beekeeping Class** Saturday, 8:40 – 4:30 Bill Hamilton 4-H Building

#### March 30, 2011

**Private and Commercial Pesticide Applicator Spring Workshop** Wednesday, 9 am – 4:30pm Fairgrounds Entry Hall 447-8346 for info

#### April 26, 2011

**Growing Community Project**—*Free* Program **Extending Your Season with Cold Frames and Greenhouses** 6:00 - 8:00 pm Helena Food Share, 1616 Lewis Street

#### April 30, 2011

First Farmers Market for 2011 Season

#### May 12, 2011

Spring Private Pesticide Applicator Workshop (Augusta and Helena) Thursday Augusta – Youth/Senior Center 1-5 pm Helena – Lewis & Clark County Bill Hamilton 4-H Building 6-8 pm

## **Contact Information**

Helena Master Gardeners: <u>HelenaMasterGardeners@hotmail.com</u>

Brent Sarchet, Lewis & Clark County Agricultural Extension Agent: (406) 447-8346 <u>bsarchet@co.lewis-clark.mt.us</u>

Lewis & Clark County Extension Office Web site: <u>http://www.co.lewis-clark.mt.us/index.php?id=75</u>

MSU Master Gardener Program: http://gardenguide.montana.edu/mgardener/mgardenerindex.asp

Growing Community Project: <u>http://helenagcp.wikidot.com/</u>

### Know of an upcoming event related to gardening?

Let us know at HelenaMasterGardeners@hotmail.com!

#### May 21, 2011

Growing Community Project—*Workshop* Building Your Own Rain Barrel 2:30-4:30pm Lewis & Clark County Fairgrounds Bill Hamilton Building -RSVP to this class, room for 25 people. Cost will be determined soon- (under \$30) Kendra Byrom WEEL-Working for Equality and Economic Liberation Growing Community Project Supervisor kbyrom@weelempowers.org 406-495-0497

#### June 26, 2011

Secret Garden Tour - organized by the Original Governors' Mansion Restoration Society

#### July 27-31, 2011

Lewis & Clark County Fair

August 18 and 25, 2011 Food Preservation Workshops

### Newsletter Committee

Brent Sarchet Judy Halm Kathy O'Hern Joy Lewis Connie Geiger Kathy Rucker Marla Clark Jim Clark Marga Lincoln Joanne George Michael Rose