

# Bernalillo County Extension Master Composters (BCEMC) Volunteer Training Schedule and Syllabus of Instruction – Spring 2017

**Course Goal:** Complete the Master Composter Training with the knowledge and skills to become an active participant in the BCE Master Composter community outreach efforts

**Course Objective:** Complete the training with 100% attendance

**Course Objective:** Complete the take-home final exam within the timeframe established by the Education Coordinator

**Course Objective:** Complete a project, pre-approved by the Education Coordinator, within the established timeframe

## Wednesday, April 12, 6:30 – 9 PM

### **Orientation (1 ½ hrs)**

**Goal:** Learn about BCEMC Association and the Volunteer Training Course

**Objective:** Understand the mission and goals of BCEMCA and how its members go about achieving them

**Objective:** Understand the make-up of the Volunteer Training Course and the students' requirements for completing certification

**Objective:** Understand BCEMCA outreach program and members' expectations upon completing training

**Objective:** Understand how to navigate BCEMCA website

**Instructors:** Rod Reay, Pat Barger, and John Zarola.

**Rod** is a gardener, beekeeper, Master Composter, and the BCEMCA Education Coordinator.

**Pat** is a Master Composter, Master Gardener, Climate Master, and past BCEMCA President. Her backyard is certified as a Monarch Butterfly Way Station by Monarch Watch and a Certified Wildlife Habitat by the National Wildlife Federation.

**John** is a Master Gardener and Master Composter, as well as the current BCEMCA President.

### **Module 1: Introduction to composting: rationale, selection, and methods (1 hr)**

**Assignment:** Read Training Manual, Chapter 1

**Goal:** Learn the history of composting, understand why composting is important, and be introduced to different methods of composting

**Objective:** Discuss three reasons to compost

**Objective:** Identify at least three methods of composting

**Objective:** Given a list of potential ingredients, identify which are or are not compostable

**Objective:** Name the five essential components of successful composting

**Instructor:** John Zarola.

## Saturday, April 15, 8AM – 2PM

### **Module 2: Soil and soil chemistry (2 hrs)**

**Assignment:** Read Training Manual, Chapter 2

**Goal:** Gain a general knowledge of the composition of soils and the interaction of the major components relevant to composting and soil amendment.

**Objective:** Understand the significance of cation exchange capacity (CEC) in soil composition

**Objective:** Explain the importance of Carbon and Nitrogen and what ratios are necessary for decomposers

**Objective:** Demonstrate an understanding of the importance of organic matter in the soil, by naming at least four of its benefits as a soil property

**Instructor:** Rudy Garcia. A 27-year employee of USDA-NRCS, Rudy is the Regional Soil Health specialist for UT, AZ, NM, and CO, where he facilitates the adoption of soil health management systems.

### **Module 3: Microbiology and soil food web (2 hrs)**

**Assignment:** Read Training Manual, Chapter 3

**Goal:** Develop an understanding of the role of decomposers in the composting process and the interdependence of the organisms which make up a soil food web

**Objective:** Identify at least three microorganisms that have a function in decomposition

**Objective:** Distinguish between physical and chemical decomposers and give examples of each

**Objective:** Describe consumers at various trophic levels

**Instructor:** Steve Glass. Retired from a local government career in environmental quality, Steve teaches biology and environmental science at CNM, instructs state Compost Operator Certification classes, and serves on the Advisory Committee for Bernalillo County Master Naturalists Program.

#### **Module 4: Hazards, Health & Safety Issues (1 hr)**

**Assignment:** Read Training Manual, Chapter 5

**Goal:** Develop a realistic awareness of potential composting health hazards

**Objective:** Delineate what potential hazards can and cannot be controlled in composting for the garden

**Instructor:** Judy Espinoza. Judy is a Master Composter, an Environmental and Public Health champion, and former BCEMC Education Coordinator.

#### **Saturday, April 22, 8AM – 2PM**

#### **Module 5: Composting in the Desert – Hot and Cold (2 hrs)**

**Assignment:** Read handouts on website

<http://bernalilloextension.nmsu.edu/mastercomposter/desert-composting.html>

**Goal:** Become conversant in the basics of hot and cold composting and understand how composting in our arid environment differs from composting under more humid conditions

**Objective:** Explain the challenges of composting in a desert environment

**Objective:** Delineate the differences between hot and cold compost piles

**Objective:** Explain the concept of air management in a compost pile

**Instructor:** John Zarola

#### **Module 6: Outdoor composting demonstration (2 hrs)**

**Assignment:** None

**Goal:** Appreciate the process of building a hot compost pile in the desert

**Objective:** Explain the rationale for the size of a hot compost pile

**Objective:** Describe how to achieve an acceptable C:N ratio in a hot compost pile

**Instructor:** Jana Hazelbaker. Jana is a Master Gardener and Master Composter, and coordinates the maintenance of compost operations at both the Albuquerque Garden Center and the Bernalillo County Extension Office.

#### **Module 7: Vermicomposting (2 hrs)**

**Assignment:** Read Training Manual, Chapter 7

**Goal:** Have a working knowledge of vermicomposting using Red Worms (*Eisenia fetida*, *Eisenia Lubricus*, *Eisenia Andrei*)

**Objective:** Describe the process by which Red Worms turn organic matter into castings

**Objective:** Be conversant with creating a suitable habitat for Red Worms, indoors or outdoors, providing bedding, food, and harvesting the castings.

**Instructor:** Mel Chavez. Mel is a Master Composter and also owns a Vermiculture company selling worms and worm castings to local gardening enthusiasts in the Albuquerque area.

#### **Saturday, April 29, 8AM – 2PM**

#### **Module 8: Anaerobic composting (2 hrs)**

**Assignment:** Read Training Manual, Chapter 6

**Goal:** Be conversant with anaerobic methods of decomposition as an alternative to aerobic composting

**Objective:** Describe the Bokashi method of composting as well as at least two other methods

**Objective:** Explain the advantages and disadvantages of anaerobic methods

**Instructor:** Rye Bailey. Rye is a retired teacher and a Master Composter. She and her husband have a small hobby farm in the South Valley.

### **Module 9: Compost curing, uses of compost, problem solving, and trouble shooting (2 hrs)**

**Assignment:** Read Training Manual, Chapters 4 & 10

**Goal:** Understand the importance and process of curing, as the finishing stage of composting and accurately respond to questions about composting problems

**Objective:** Identify at least three out of four crucial changes that compost undergoes during curing

**Objective:** As methods of testing finished compost, describe both the bag and seed sprout methods

**Objective:** Describe the four most common causes for composting difficulties, and offer supportive suggestions

**Instructor:** Pat Barger.

### **Module 10: Compost Teas/Extract (2hrs)**

**Assignment:** Read Training Manual, Chapter 8

**Goal:** Understand the differences between compost tea and extract and know the benefits of each for agricultural and horticultural applications

**Objective:** Identify three or more tea-making methods

**Objective:** Identify the different compost materials and ingredients needed to brew compost tea or extract safely

**Objective:** Demonstrate knowledge of the benefits and drawbacks of making and/or using compost teas

**Objective:** Identify the environmental impact of making and using compost teas

**Instructor:** Mel Chavez.

### **Saturday, May 6, 8AM – 2PM**

### **Module 11: Tips on Teaching, how to select a composting method, final questions, and roadmap to certification (2 hrs)**

**Assignment:** Read Training Manual, Chapters 11 & 12

**Goal:** When presented with specific concerns/problems, suggest composting methods tailored to the individual composting operation

**Goal:** Develop an increased comfort with the teaching aspect of BCEMC volunteer work

**Objective:** Name at least four circumstances which suggest a specific compost method choice

**Objective:** During the Teaching Tips instruction portion, actively participate, asking questions, sharing information and responding to questions from the instructor

**Objective:** Those participants who choose to work with mentors, agree to co-teach a class with an experienced Master Composter

**Instructor:** Rye Bailey

### **Module 12: Roles of the Municipal & Commercial Composting Facilities (Field Trip) (4 hrs)**

**Assignment:** Read Training Manual, Chapter 9

**Goal:** Be aware of the local composting operations

**Objective:** Specify at least two types of large composting facilities operating in the Albuquerque area

**Instructors:** Steve Glass and Joe Bailey. Joe is the director of ABCWUA's Soil Amendment Facility. As such, he is the largest compost producer in New Mexico, helping the smallest to the largest gardener achieve his/her dreams.