Introduction to Biodynamic Gardening

Cynthia Sandberg
Love Apple Farms
www.LoveAppleFarms.com
CLASS RULES

- Please no talking
- No questions until I ask for them
- Not a comprehensive course, just an introduction
What is Biodynamic Agriculture?

Biodynamic farming is a holistic and regenerative farming system that is focused on soil health, the integration of plants and animals, and biodiversity.
Rudolf Steiner
Father of Biodynamic Agriculture

- Founded Waldorf educational system for children
- Created philosophy of Anthroposophy
- Created the movement art known as Eurythmy
- Architect
- Social economist
Biodynamic Tenets

- Farm is a closed loop system
- Animals are key
- Seeds are saved
- Farm-made compost
- Biodiversity is maintained through adjacent preserves
- Homeopathic preparations applied to soil and compost
- Astrological planting calendar
Demeter is the Greek goddess of harvest and soil fertility. Depicted holding a bouquet of wheat.

- Over 5000 certified producers in 47 countries.
- Demeter is only world-wide certifying body of sustainable and organic farms.
Farm is a Closed Loop System

- Stresses low carbon footprint
- Farm produces own fertility
- Compost and green manures used
- Animals are fed from farm
- Seed is saved
- Love Apple Farms closes its loop with Manresa Restaurant
Creating Your Own Compost is Required
Layers of Brown & Green Carbon & Nitrogen

- Swale to direct rain water into compost pile
- Exterior of pile covered with straw to conserve moisture in the compost pile and prevent flies from laying eggs on compost materials
- Nitrogen layer
- Carbon layer
Animals are Required on a BD Farm

- Animals provide manure for compost piles
- Key difference between organic growing & BD
- Animals are fed from farm products
- Farmer usually expected to eat animals or their products
- Animals must be treated humanely
Special "Preparations" Are Used

- Applied to both soil and compost piles
- Steiner believed each prep maintains or enhances fertility or reduces pests and diseases
- Homeopathic quantities used
- Farm doesn't have to create them, but encouraged to do so
- Difficult preps created by groups of farms
Prep 500 - Horn Manure

- Cowhorns stuffed with manure
- Buried for 6 mos
- Stir for one hour
- Applied to soil each fall at dusk with brushes or switches
- Cow receives cosmic forces through horns and earthly forces through hooves
- Rumination of grass along with lactation concentrates heavens & earth into powerful elixir that increases soil fertility
Prep 501 - Horn Silica

- Cowhorns stuffed with ground quartz
- Buried for 6 mos
- Stirred for an hour into water to infuse astral forces
- Applied to air above soil and plants in spring as a fine mist through a garden sprayer
- Thought to increase photosynthesis to newly developing plants
- Thought to decrease fungal growth
Stirring Protocol

- Fresh water, no chlorine. If chlorinated, let sit for 24 hours.
- Use metal, crockery, or other natural receptacle
- Stir for one hour achieving on and off vortex.
- Be silent and contemplative as you're stirring.
Prep 502 - Yarrow

- Made from Yarrow flowers
- Flowers are stuffed into stag's bladder
- Hung in tree to absorb light energy for 6 mos and then buried for 6 mos to absorb earth's energy
- Applied to compost pile
- Increases potassium, sulphur, and helps plants process these as well
Prep 503 - Chamomile

- Made from Chamomile flowers stuffed into cow's intestines
- Buried for 6 mos
- Applied to compost pile
- Assimilates calcium and stabilizes nitrogen
Prep 504 - Stinging Nettle

- Stimulates soil health, releases iron, acclimates plants to their micro-climates
- Nettle is harvested in spring or early summer.
- Plant is dried whole and then buried underground for 12 mos in earthen ware container
Prep 505 - Oak Bark

- Shaved oak bark is stuffed into skull of domesticated horned animal, such as ram
- Buried in swampy/wet area for 6 mos
- Applied to compost pile
- Catalyst for calcium absorption, decreases fungal diseases
Prep 506 - Dandelion

- Dandelion flowers are stuffed into cow's mesentery and buried
- Applied to compost pile
- Aids in helping crop adapt to micro-climate, helps silica processes
Prep 507 - Valerian

- Tincture made from valerian flowers
- Sprinkled on compost pile
- "Fixes" humus in the pile
Break

We will have a short brunch break then meet outside to apply compost preps

Bathroom is downstairs

We will ring bell when we are ready to get back together

Extra brunch items for sale?
Continue the Basic Tenets

- Seed Saving
- Biodiversity
- Pest Control
- Astrological Planting Calendar
- Transitioning your Garden to Biodynamics
Seed Saving is a Must!

- Reduces outside inputs to the farm
- Hybrids discouraged
- GMOs are strictly prohibited.
- Cultivars developed to adapt to micro-climate
Biodiversity Required

- Demeter requires 10% of farm be forests, wetlands, riparian corridors, or intentionally planted insectaries
- Crops must be rotated
- Monocultures discouraged
Steiner believed moon & stars influence plants

Plants categorized into 4 types:
- Leaf (like lettuce)
- Root (like carrot)
- Fruit (like tomato)
- Flower (like broccoli)

The 4 types of plants affected by planets, moon, stars:
- Leaves are water signs (like Pisces)
- Roots are earth signs (like Taurus)
- Fruits are fire signs (like Leo)
- Flowers are air signs (like Libra)
Plants are Treated According to Their Sign

- BD folks determine each year's best dates and times
- North American Sowing & Planting Guide
- Plants are sown, transplanted, harvested, according to their best "dates" and times.
- Studies have shown that fruit plants sown on fruit days have higher yields and less pests and disease
- Further studies have shown that root plants harvested on root days can store for longer periods.
Pest Control

- Ashing of insects
  - Collect problem insects
  - Burn them over a natural flame
  - Spread ashes over affected area.
- Vertebrate varmints skinned and hides ashed or posted around farm
Does Biodynamics Sound Too Crazy?

Bottom line is that biodynamic agriculture seeks to improve soil health, lower the farm's reliance on outside inputs, and serves to work with nature rather than against it.

WHAT'S SO CRAZY ABOUT THAT?
How to Transition to Biodynamic in Your Garden or Farm

- Start composting or ramp up your compost operation
- Order biodynamic preps from BDANC or Josephine Porter Institute (links on your links list). You will need: Compost preps 502 thru 507
  - Manure Prep 500
  - Silica Prep 501
- Add compost preps to your compost pile
- Apply either 500 or 501 depending on season
  - Manure Prep in fall
  - Silica Prep in spring
- Check your seed bank & throw out GMOs
  - Focus on heirlooms
  - Try to purchase organic or even biodynamically grown seeds (Turtle Tree or High Mowing Seeds)
- Transition Continued -

- Stop use of chemical/synthetic herbicides and pesticides
- Use only organic potting soils
- Use Malibu biodynamic compost if needed
- Reduce reliance on purchased fertilizers by making your own fertility with worm castings, compost and worm casting teas
- Plant diverse areas of perennial plants that will attract beneficial insects and birds
- Add an animal element: backyard hens, a goat, or a beehive.
- Start saving your seeds this year. Easiest ones are:
  - tomatoes, peppers, lettuce.
- Don't save: squash family, carrots (they too easily cross pollinate)
- Get a BD calendar and try to follow rule for planting and sowing
To Continue Your Education

- Enroll in year long course at Steiner College in Sacramento, can do so at any time: month by month
- Order and read BD Sowing & Planting Calendar
- Read Steiner's Agriculture Lectures
- Join BDANC and attend quarterly meetings
IF COWS INVENTED BIODYNAMICS...

Lucy,
How'd you get such
great dandelions?

Oh, it's easy, Bellatrix!
I just kill a human and poop in its skull,
then bury it for 6 months. Afterwards I mix
that in a bucket of water and dilute the hell
out of it, and spray it all over the place. All
you need to do is kill a human - and don't
throw the innards away, there's a use
for all of that stuff, too.........
Upcoming Classes at Love Apple

- **Non-Toxic Gopher Control**  March 3
- **Designing the Perfect Vegetable Garden**  March 3
- **Alternative Proteins**  $55 - Sunday, March 11
- **Growing Tomato Transplants from Seed**  March 13
- **Summer Vegetable Gardening**  March 18
- **Seasonal Cocktails with Jeff Bareilles**  March 27
- **Fruit Trees**  March 31

Lots of other classes as well.  
See your hand-out for info.
Annual Spring Tomato Plant Sale - Biggest in California!
March 10 to June 30, 2011
Mon thru Sat: 10am - 5pm
Sun: 11am - 4pm
New Location: Ivy's Porch
5311 Scotts Valley Drive, Scotts Valley
NOW GO DO IT!