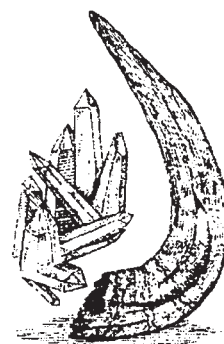


Applied BIODYNAMICS[®]



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Newsletter of the Josephine Porter Institute • Woolwine, Virginia

Issue No. 76

Dandelion, Messenger Of Heaven

Abigail Porter

The Dandelion's Pallid Tube

*The Dandelion's pallid tube
Astonishes the Grass,
And Winter instantly becomes
An infinite Alas –
The tube uplifts a signal Bud
And then a shouting Flower, –
The Proclamation of the Suns
That sepulture is o'er.*

–Emily Dickinson

What could be finer than a glorious field of glowing dandelions in full bloom on a beautiful, clear, spring day? Writing this in the middle of winter, I have to smile at the image of all of those happy little sunshines brightening the day. I always knew that dandelion blossom picking season was fast approaching when my mother brought that first bowl of dandelion greens, topped with the warm sweet and sour dressing to the table as a spring tonic to chase away the winter doldrums.

Dandelions, at one time, held a noble position in the world. Not only were they highly valued for their medicinal qualities and culinary uses, they were also valued for their beauty. Dandelions were deliberately planted in European flower gardens and were so dearly loved that poems were written to honor them. Children have loved to play with them, making chains, garlands and crowns and blowing the fluffy seed head to tell the time, make wishes or tell fortunes. In Japan, whole horticultural societies were formed to admire them and develop new varieties.¹ People used to pull the grass out of their yards to allow dandelion to grow. All parts of the dandelion, root, leaf and blossom are used as food and for medicine. It is a wonderful detoxifier in our bodies as well as in the soil where it is growing. A fertilizing



Illustration by Doris Clark. Reprinted with permission from Weeds and What They Tell, Ehrenfried Pfeiffer (Bio-Dynamic Farming and Gardening Association, 1970).

tea can be made from the whole plant. The roots or blossoms can be used to make dyes and the leaves and blossoms can be made into paper. The dandelion plant produces ethylene gas and can be placed in a bag with green fruit to promote

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Editor's Note

Dear Readers,

Biodynamic growers love dandelions. By the time you receive this newsletter, dandelions will be in full bloom across most of the country. Each spring, school groups, farmers and individuals spend hours collecting and drying blossoms to send to JPI so that the preparation makers have adequate amounts of flowers to make the dandelion compost preparation, BD #506.

Abby Porter has put together an interesting "biography" of this fascinating plant, along with an informative interview with Hugh Courtney on BD #506. That dandelion has become the "weed to kill" in lawn herbicide marketing shows how off-base we have become in our relationship with nature. It is counterintuitive that we go to such great extremes to eradicate a plant whose roots, leaves, and flowers are not only useful, but have a purpose and an important role to play in keeping nature balanced. But then again, so is growing food with fertilizers that destroy soil structure and pollute our food and water.

Applied Biodynamics has been in publication since 1992. Over the years, at least one issue (or issues) has been published which focused on each preparation. One of only two preparations that had not been covered in depth was

the dandelion preparation. The other is BD #500 (horn manure). I am not sure when we will be covering horn manure – surely an entire book could be written about this preparation – but we will plan that for a future issue.

I would like to close with a word of honor and respect for Maria Thun who passed away on February 9, 2012. She published her biodynamic planting calendar for fifty years, and quietly and patiently carried out meticulous research. Whether you agree with her findings or not, no one I know has carried out such broad, longterm research on both the qualitative and quantitative results of applying the preparations in conjunction with astronomical influences. Her planting calendar, translated into eighteen languages, will continue to be published by her son Mathias, who has been her co-editor for a number of years. In addition to her annual *North American Sowing and Planting Calendar*, two other titles by Ms. Thun are available from JPI – *Gardening for Life The Biodynamic Way* and *The Biodynamic Year – Increasing Yield, Quality and Flavour: 100 Helpful Tips for the Gardener or Smallholder*.

Christy Korrow

Applied Biodynamics

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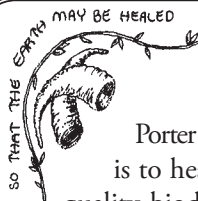
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Mission

The mission of the Josephine Porter Institute for Applied Biodynamics, Inc. is to heal the earth through production of quality biodynamic preparations based on the spiritual scientific discoveries of Rudolf Steiner and to advance education and research in biodynamic agriculture.

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Dandelion, Messenger of Heaven

ripening. During World War II, dandelion was even made into latex rubber. Dandelions provide food for the soil and for animals, birds, bees and butterflies. What an amazing and versatile plant for the healing of the earth!

History of Dandelion

The common dandelion or *Taraxacum officinale* is one of thirty-four macrospecies and seventy to two thousand microspecies (depending on who is counting) of the genus *Taraxacum* belonging to the *Asteraceae* (*Compositae*) family. It is related to both sunflowers and lettuce. *Taraxacum* is thought to have originated in Eurasia, maybe in the Himalayas and is widely dispersed throughout the world, being more prevalent in the Northern Hemisphere. *Taraxacum officinale* was repeatedly brought to the New World as early as the mid-1600s. Colonists are credited with introducing dandelion to the Native Americans, but it is much more likely that they were already using one of the three or four native species – perhaps the alpine or horned dandelion (*Taraxacum ceretophorum*), which grows in New England as well as on the west coast and most of Canada. Dandelion has a long history on this continent; in Alaska there are dandelion fossils over 100,000 years old.²

Botany

Dandelion is a perennial with a long taproot and leaves that are usually sharply toothed (in the wild variety) and shaped to funnel dew and rain down to the crown and root. It is one of the first greens to appear in early spring and the blossoms, being very sensitive to sunlight, open in the morning and close towards evening with the decreasing light. They will not even open on cloudy or rainy days. Being a *Compositae*,

what appears as a single flower is really many small flowers or florets, each one a valuable source of nectar and pollen for the beloved honeybee and other insects. Dandelions reproduce either by pollination or asexually or both. Dandelion can self-pollinate or wind and insects can spread the pollen, but sexual reproduction is rare. *Taraxacum officinale* reproduces primarily asexually through seeds by apomixis or agamospermy, generating clones of the mother plant without pollination. Pieces of the root will also grow new plants. Dandelion blooms all through the year with a major flush in the spring and a lesser one in the fall. Each blossom can produce fifty-four to 172 seeds and each plant can produce five thousand seeds during the course of the year. With the right wind currents, the seeds and their fluffy parachutes can be carried a hundred miles. It is no wonder that dandelion has been associated with Jupiter, the planet of fertility, abundance and expansion.

A Dynamic Weed

Dandelion proliferates where the earth has been “disturbed” or where humans have cultivated the soil. On this continent (North America), dandelions were still valued until the mid 1900s when the petro-chemical companies began their massive advertising campaigns for the eradication of dandelion. The quest for the perfect weed-free lawn, driveway and sidewalk began and dandelion became the enemy. The brain-washing was so pervasive that it became socially unacceptable to harbor the villain lest it invade the neighbor’s property. Some cities even passed laws making it illegal to cultivate dandelion within the city limits. Although not up there in the much maligned ranks of kudzu, Japanese knotweed, or wild rose, dandelion (*Taraxacum officinale*) is considered to be an invasive to the North American continent since it is not native and grows abundantly where it is not wanted. In his book, *Invasive Plant Medicine*, Timothy Lee Scott proposes that invasives proliferate where the native ecology has been compromised by pollution or by man. The invasives serve to heal the damage to the earth. Once the soil is brought back into balance, other plants flourish and the invasives move on. Dandelions can detoxify soil contaminated with heavy metals and are used in phytoremediation programs. They fertilize depleted soils with nitrogen, potassium, calcium and with trace minerals brought up by its deep taproot, bringing soils back to life. Dandelions can live for five years and their taproots can go down deep to break through hardpan, aerate the soil and reduce erosion. E.E. Pfeiffer lists dandelion as a “dynamic” weed (a plant which changes the soil or plants around it in a special way). Dandelion provides humus and minerals, restoring what has been lost or washed away. Pfeiffer writes that the dandelion is the plant equivalent of the earthworm.³ The benefits provided by dandelion are

Biodynamic Preparations Legend

BD #500 – Horn Manure

BD #501 – Horn Silica

BD #502 – Yarrow

BD #503 – Chamomile

BD #504 – Stinging Nettle

BD #505 – Oak Bark

BD #506 – Dandelion

BD #507 – Valerian

Compost
Preparations

BD #508 – Horsetail (*Equisetum arvense*)

analogous to those provided by earthworms, creating humus, aerating the soil and transporting nutrients. Earthworms favor the soil around dandelion and adding the plant to the compost pile will attract them to the pile.

Dandelion as Medicine

Timothy Scott relates the epidemic rise in diseases such as diabetes, cancer, heart disease, and Lyme disease to the spread of invasives, which are healers for these same diseases. Nature is providing what is needed. Dandelion has chelating capacity and detoxifies the human body of heavy metals and purifies the blood, liver and kidneys. It is antibacterial, antiviral, antiparasitic, anticarcinogenic and anti-inflammatory. It has been used for heart disease, cancer, diabetes, obesity, hepatitis and depression. Rich in antioxi-

Nicholas Culpeper, eighteenth-century English botanist, herbalist, physician, and astrologer might have been the last well-known physician to practice medical astrology (Iatromathematics). Culpeper places dandelion under the dominion of Jupiter for its opening and cleansing qualities. Combined with Alisanders (Alexander or wild parsley), it is a “wonderful help” for “...whoever is drawing towards a consumption, or an evil disposition of the whole body, called cachexia...”^{6,7}

Jupiter

In ancient times, astronomy, astrology and medicine were closely related to each other and it wasn't until the eighteenth century that they became distinct fields of study. Dandelion has a long history of being associated with Jupiter and epit-

“Dandelion...It is a plant with hundreds of secrets...you will not find anything more expressive of the workings of silica.” – Karl König, Earth and Man, p. 304

dants, vitamins and trace minerals, it helps to rebuild the body. Over fifty percent of the herbal blends on the market contain dandelion, attesting to its wide range of healing benefits. “We are fortunate to have the wisdom of nature...to counterbalance the foolishness of humans.”⁴ Over the centuries, dandelion has been prescribed to increase the milk flow in nursing mothers and dandelion has been fed to cows to increase cream and milk production, its effectiveness witnessed by Scott's neighboring farmer.

Dandelion has been used as medicine for thousands of years and has so many health benefits, that it has been called “the poor man's ginseng.” If it were as scarce as ginseng, it would most likely be as costly. One species or another has been used in Traditional Chinese Medicine, Graeco Arabic, Ayurvedic, homeopathic and western botanical medicine. In fact, the Arabic translation of the word *taraxacum* is “remedy for disorders.” The root is considered to be the most potent part of the plant and is used for conditions of “heat” and inflammation particularly of the liver, gall, kidney, digestive tract and skin. It is also recommended for tumors, abscesses and pustules. The leaves are diuretic and as effective as conventional drugs yet don't have the side effect of potassium depletion, as they are rich in this mineral. “Piss-in-Beds” is one of dandelion's many common names which reflect its properties. A tea from the leaves has also been used to treat bladder infections as well as depression. A tea from the blossoms is said to alleviate pain. And from the 1500s, *Dodens Herbal, the Historie of Plantes*, “...bruised and eaten with his leaves and rootes, is very good against the bitinges of venomous Serpentes.”⁵

omizes the qualities for which Jupiter is known: abundance, growth, freedom, fertility, wisdom and jovial exuberance. Bitter herbs are healing for the liver and those especially with yellow blossoms are under Jupiter's domain. Jupiter is the largest planet and is associated with the liver, the largest internal organ, and with the blood. Jupiter's signs are Sagittarius (diurnal) and Pisces (nocturnal) which are opposed to Mercury with Gemini and Virgo. Tin is Jupiter's metal and the word tin comes from Etruscan god Tinia, who was equivalent to the Norse god Thor, the Greek god Zeus, and the Roman god Jupiter or Jove, god of the sky and lightning and king of the other gods. Jupiter's mass is 2.5 times that of all the other planets in our solar system combined. Its magnetic field is 20,000 times stronger than Earth's and its fast rotation creates electrical storms. A Jovial day is only about ten Earth hours but a Jovial year takes twelve Earth years. Jupiter spends one year in each constellation of the zodiac. Jupiter's composition, which is more like a star, is similar to the sun. It is composed of mostly hydrogen (approximately 90%) and helium (10%) by volume and like the sun, it has its own kind of solar system with many moons orbiting it. Unlike the sun, its surface temperature is very cold.

Dandelion in the Kitchen

An entire book could be written about the culinary uses of dandelion. It is one of the most nutritious plants that we can add to our menu. It is rich in antioxidants, trace minerals, calcium, potassium, protein, and vitamins B, C, D and K. It has more beta-carotene than carrots and is the third richest source of vitamin A following cod liver oil and beef liver.

“Gerasimova, the Russian chemist who analyzed the dandelion for, among other things, trace minerals, stated that ‘dandelion [is] an example of a harmonious combination of trace elements, vitamins and other biologically active substances in ratios optimal for a human organism.’ (Hobbs 1985).”⁸ Beyond the more common uses of the leaves in salads, the root as a coffee substitute and the blossoms for wine, the greens can be cooked and used in the same way as spinach. All parts of the plant can be stir-fried or used in soups. The crowns are considered a delicacy when sautéed in plenty of butter and a squeeze of lemon. The roots combined with burdock have been made into traditional therapeutic British beer and soda. The blossoms can be made into fritters, syrup and jelly. Dandelion is the perfect survival food and free health insurance.

I hope this inspires you to bring more dandelion into your life. With the increasing interest in using food as medicine and with the growth of biodynamics, maybe dandelion will again have its “Day(s) in the Sun.”

Notes

- 1) Sanchez, Anita, *The Teeth of the Lion: The Story of the Beloved and Despised Dandelion* (McDonald and Woodward, 2006)
- 2) watchingtheworldwakeup.blogspot.com/2008/04/dandelions-are-way-cool-part-3-where.html
- 3) Pfeiffer, Ehrenfried E, *Weeds and What They Tell* (Biodynamic Farming and Gardening Association. 1970, 2008), p. 72
- 4) Scott, Timothy Lee, *Invasive Plant Medicine: The Ecological Benefits and Healing Abilities of Invasives* (Healing Arts Press, 2010) p.100
- 5) Dodoens, D. Remberte, *Dodens Herbal, the Historie of Plantes*, 1554, English translation 1578 by Henry Lyte, p.565
- 6) www.complete-herbal.com/culpepper/dandelion.htm
- 7) Wasting of body mass that can not be reversed nutritionally en.wikipedia.org/wiki/Cachexia
- 8) Gail, Peter A, “Health Benefits of Dandelions,” www.leafalady.org/health_benefits_of_dandelions.htm

The Dandelion Compost Preparation: BD #506

Abigail Porter Interviews Hugh Courtney

The dandelion blossoms are an essential ingredient in the biodynamic compost preparations. In the following interview, Hugh Courtney explains the value of dandelion and the role that the dandelion preparation BD #506 plays in the compost pile, in the soil, and through plants.

Abigail Porter: *In lecture five of the Agriculture Course, Rudolf Steiner chooses very specific plant materials to vitalize the compost pile which in turn enlivens the soil and plants. What is the significance of Steiner’s choice of dandelion for one of the compost preparations?*

Hugh Courtney: Steiner chose plants which were readily available to the farmers attending the course and the ones that most strongly exemplified the qualities which he wanted to bring to the soil to enliven it. Steiner referred to dandelion as the “messenger of Heaven.” It has the ability to attract silicic acid* from the whole earthly and cosmic environment. And it is dandelion’s relationship to potassium and the silica process that is needed. It is hard to speak of one preparation without relating it to the others. To understand dandelion, one of the things you need to do is look at the preparations in terms of polarity. Dandelion preparation BD #506 is in polarity to chamomile preparation BD #503. Dandelion relates to Jupiter and the silica process and chamomile relates very much to

Mercury and the limestone process. These are processes and not elements or chemical substances. Silicic acid and the silica process are needed as a kind of cosmic catalyst for many processes in both the plant and animal kingdom. The dandelion plant attracts silicic acid and mediates between the silicic acid in the Cosmos and the silicic acid that is needed in the earthly realm. Dandelion stimulates this cosmic nutritional stream. By burying dandelion blossoms in the peritoneum through the winter, exposed to the winter Earth forces, these qualities are enhanced or potentized so they can be transferred to the compost pile, the soil and the plants. It gives the soil and the plants the ability to attract as much silicic acid from the atmosphere and the Cosmos as is needed. It allows the plant to become sentient, more sensitive and aware of its surroundings and it will draw to itself whatever it needs, both substances and forces, from near and far, earthly and cosmic.

AP: *Steiner uses both terms, mesentery and peritoneum, when referring to the sheath for the dandelion. Are they the same thing?*

HC: Yes and no. It is the same membrane but in a different place. I cover this question in depth in Issue No. 16 of *Applied Biodynamics*. The peritoneum is the membrane sack or pouch which holds everything in the abdominal cavity, the four stomachs, the intestines, liver, spleen



Entrails from a cow. Peritoneal tissue to the left lying on stomachs, and the "Isles of Mesenteria" holding the intestines together on the right.



Peritoneum tissue

and gall bladder, etc. If you follow the peritoneal tissue towards the spine, that same tissue folds into the cavity creating a sleeve of sorts, which holds all of the intestines together and supports them. This part of the peritoneal tissue is called the "isles of mesenteria" or mesentery. In another place the peritoneum folds into itself and creates a mesenterial pouch or sling to support the abomasum, the fourth and last stomach, also called the true stomach. It is also referred to as the "net" stomach, perhaps because of this peritoneal membrane supporting it. In the discussion after lecture five in the *Agriculture Course*, Steiner uses the term "Bauchfell," which translates to peritoneum. He also uses the word "Gekrose" which translates to the mesentery membrane that surrounds the intestines. At JPI we use both the peritoneum and the mesentery. We have found that a more humus-like preparation is obtained when we use the peritoneum as long as the inside of this tissue is used next to the dandelions, that is, the side facing the

interior organs not the side facing the outside or skin of the abdominal cavity. You have to make sure that the dandelion is in contact with the interior side of the peritoneal membrane. If one places the dandelions on the outside of this tissue, the result will not be as transformed and can be foul smelling and slimy with the structure and color of the original blossom still identifiable. At slaughter, we label one side to make sure we use the right side. It doesn't seem to matter which side of the mesentery or "isles of mesenteria" is used, but as I said before, a more humus-like preparation results from using the peritoneum.

AP: If one must obtain the peritoneal material from a slaughterhouse, and cannot be present during slaughter, how would one tell which is the inside, which needs to be placed next to the dandelions?

HC: It would be good to have the butcher mark the inside of the tissue for you at the time of slaughter. If the peritoneum has been handled carefully and is not dirty, one can observe that the inside is slightly smoother than the outside.

AP: And what is the importance of the peritoneum or mesentery in biodynamics?

HC: The value of the peritoneum or mesentery, which is filled with nerves, blood vessels and lymph vessels, is that it is the inner world. That inner world of the abdomen is totally connected to the cosmos and the cosmic nutrition stream. It has no connection to the outer world. This is in contrast to the intestines, which are connected to the outer or earthly realm through the mouth and the anus. The intestines and stomach are connected to the external world and the earthly nutrition stream. Whereas the other organs within the peritoneal sheath, the liver, kidneys, spleen including the mesentery are closed off from the external world. It is important to make sure that the dandelion is in contact with the interior surface of the peritoneal tissue so that both the dandelion and the peritoneum are all still an inner process, still connected to the inner world of the cosmos.

AP: What is the function of the dandelion preparation in the compost pile?

HC: It brings the silica process and the liver process to the organism of the compost pile and subsequently to the farm entity. With the compost preparations you create a living entity with its own organs. The preparations radiate throughout all the material in the pile and help organize the pile. You can relate this invisible radiation process to the rhythmic system, the blood and the breathing process.

If you look at what Steiner says early on in the *Agriculture* lectures, he talks about the agricultural individuality and that individuality, the farm, should be seen as an upside down human being with the head in the soil. Growing

above the soil is the plant and at the soil surface is the area that he relates to the human diaphragm. Both a bit above the soil and a bit below the soil you have a kind of digestive process going on. With the preparations, he gave us the keys to develop the organs of the farm individuality, so in essence one of the biodynamic farmer's goals is to establish the farm with an ego-being, as it were. That happens through the use of the preparations and each of them brings a certain organ process, related to the human being, to the compost pile and ultimately to the farm individuality. The skull and oak bark bring in the brain and consciousness, which is essentially a Moon process. The nettle relates to the heart and spleen and the Mars process and allows the compost and soil to be more feeling, more sensitive, sentient and intelligent. The yarrow and bladder relate to the lungs and kidneys and the Venus process while the chamomile and intestines relate to the full digestive process and as referenced earlier, the Mercury process. With valerian you have the Saturn process, the framework of an organism; the skeleton, the bones and skin. I can see why that might be the reason Pfeiffer put the valerian preparation in the pile as well as sprinkling it on the surface of the pile. The dandelion preparation, in particular, brings the liver process, that which cleanses and operates through silica. It brings in a very cosmic process to the compost pile, the earth and plants. In the farm organism, dandelion stimulates the cosmic nutritional stream through the silica processes while the chamomile preparation, through the limestone process, stimulates the earthly nutritional stream.

AP: *Throughout history, dandelion has been associated with both the liver and Jupiter. Would you elaborate on Steiner's insights regarding dandelion's relationship to Jupiter and the liver?*

HC: In the compost pile the dandelion compost preparation may help to cleanse or breakdown into basic elements some of the toxic substances which might be in the manure or plants much the same way the liver and dandelion cleanse the human body. Beyond that breakdown, there can also be a building up into humus compounds. It is much the way that food in our body is totally destroyed and then built up into substances compatible with our body. Another reason for choosing the dandelion flower is its yellow color and elsewhere in the *Agriculture* lectures, Steiner talks about how the various outer planets influence the color of flowers in the plant kingdom. In particular, yellow and white flowers are related to Jupiter.

AP: *For someone new to biodynamics, would you briefly describe how you make the dandelion preparation BD #506 at JPI?*

HC: One must first obtain the necessary materials, dandelion blossoms and the peritoneum. The dandelions

are harvested in the morning after the dew has evaporated and up to an hour before meridian noon (1:30 PM daylight savings time in our location). We usually start at about 9:30 AM and pick until as late as 12:30 PM. Flower (air) days are chosen when possible, but we need so many blossoms at JPI that we don't have that luxury, especially when considering the weather. It is more important to pick only the blossoms with a firm center core, usually about ¼ inch wide, resembling a "bull's eye." This is usually the first day that that blossom opens. If one picks blossoms that have fully opened with no center core, they are past their prime, less effective and will frequently turn to fluff in the drying process. If one has a peritoneum available, one would let them wilt for a few hours before stuffing them into the sheath. If you are stuffing the sheaths in the spring, one could hang them up in the summer sun much the same way one hangs up the deer bladders containing yarrow. I have done this in the past with excellent results as far as I can tell. Since we do not slaughter until fall, we dry the blossoms and store them in a cool, dark, dry place until then. The dandelions should be dried quickly in a warm place with air circulation but not in the sun. We dry the blossoms on fiberglass screen drying racks in the attic. Excessive heat or prolonged drying will cause the blossoms to ripen to fluff. They should be checked daily. If it is necessary to store the blossoms for a lengthy period before actually inserting them in the peritoneum or mesentery tissue, our preference is to vacuum seal them to prevent damage from insect pests.

Considering dandelion's relationship to Jupiter and knowing that tin is associated with Jupiter, the best surface on which to dry dandelion may prove to be made of tin to more fully utilize the Jupiter influence. I don't know where you would find pure tin screening or perforated tin. Tin, as we usually know it, is alloyed with other metals and those would most likely be detrimental to the process. In anthroposophical medicine, remedies using dandelion will often have the dandelions grown in soil to which metallic tin has been deliberately added.

When we are ready to stuff the peritoneum or mesentery, we moisten the blossoms with a warm, not scalding, tea made from dandelion leaf. The blossoms should be thoroughly moistened but not so much that you can wring water out of them. We then make pouches for the blossoms by cutting the peritoneal tissue into rectangles, folding in half, always keeping the interior of the tissue on the inside of the pouch. We stitch up the two sides and part of the top. The blossoms are packed in tightly, creating an irregular pillow approximately six inches across and about three or four inches thick. This seems to be a manageable size, especially for the workshops.



Twenty-four pounds of dried dandelion were moistened and sewn into "pillows."

We bury the pillows in a pit that is no deeper than eighteen inches, in the fertile layer of the soil, not the subsoil. The pit is lined with hardware cloth to keep animals out and to prevent shovel damage when digging them up. A layer of fiberglass screening is placed between the hardware cloth and the pillows creating an envelope or package of sorts, which prevents the loss of valuable material when we retrieve them in the following year. We also try to place a two-inch layer of peat moss between the hardware cloth and the top and bottom of the fiberglass screen envelope. About eight inches of earth is shoveled on top of the contents of the pit. The dandelion preparation needs to spend the winter in the earth to be enlivened by the winter process during that period when the Earth is most inwardly alive.



Hugh Courtney sits at the edge of the pit where the dandelion-stuffed "pillows" will be buried. The pit is approximately 18 inches deep.

At JPI we keep the dandelion preparation in the ground until the following fall so that students at the fall workshop can experience both the burial and the retrieval. By making the preparation, they can observe the original materials and when we dig them up they can experience the transformation. In ordinary biodynamic practice, the

time for unearthing the dandelion preparation would be in the spring, definitely after Easter, with our preference being around Ascension Day (see also the *North American Biodynamic Sowing and Planting Calendar 2012*).

After the preparation is dug up, the sheath is removed and the transformed material is rubbed over a ¼ inch screen and broken up into more consistent particles. Sometimes, it may be too wet to screen right away so we let it dry for a day or so. The preparations are then stored in a lidded, glazed clay crock surrounded by peat moss in a wooden box in the root cellar.

AP: *In her book, The Biodynamic Year, Maria Thun recommends using all of the BD plants in blossom and plant teas to enhance health, yield and taste. There is no mention of using the compost preparations individually. Have you experimented with using the dandelion preparation BD #506 by itself?*

HC: We have used it as a seed bath and as a spray to increase yield. These are seat-of-the-pants experiments and wouldn't qualify as scientific. One experiment was written up several years ago in Issue No. 34 of *Applied Biodynamics*. We grew snow peas and sprayed half of the row with the dandelion preparation. We used one unit of BD #506 with two quarts of water which we stirred/potentized for ten minutes in a one-gallon jug using a lemniscate motion. We sprayed two times on fruit days. The yield per plant was much greater from the dandelion-treated plants.

This year, we did an experiment with green beans using seed baths on a fruit day. Dandelion was used as one of the seed baths. The seed baths were potentized for twenty minutes using a half-gallon apple juice jar and using a back and forth and side-to-side motion which creates a lemniscate or figure eight movement of the water in the bottle as described in Issue No. 28 of *Applied Biodynamics*. The water for the control was also potentized in the jar. I did four different treatments, a control of water only, dandelion (BD #506), oak bark (BD #505), and a combination of the dandelion and oak bark preparations. Where the dandelion preparation was used as the seed bath, the yield was much greater than the control and modestly better than the oak bark alone. The combination of the dandelion and oak bark was slightly better than the dandelion alone. We took bean counting to an extreme, counting both the pods and the beans at four stages of development, pulling twenty-five plants from each bed each time, arriving at a total of one hundred plants from each bed. I haven't done an analysis of all the numbers yet but hopefully it will be written up in the newsletter at some point. It doesn't qualify as sound science but it gives a reasonable picture of the influence of dandelion.

If we take the image of Jupiter's traditional association with wealth and abundance and take that thought form and

apply it to the question of yield, I think that we will find in the future that it will prove out quite nicely in increasing yield. Biodynamics has a reputation for great quality but modest yields when compared to conventional agriculture. I think that if we use the dandelion preparation more intensively, by itself (in conjunction with the usual application of all the other preparations, of course), it would go a long way to improving yields. That is an area for a lot more research.

In several places, Steiner states that the preparations give the plants the awareness and the means to draw from their surroundings the kind of nourishment that they need. It is that picture, of the preparations giving the plant kingdom the where-with-all to pull to itself what it needs for its nourishment, its growth, that led me to the sequential spray process. If the preparations really did work like this, and since we were experiencing a serious drought, I thought that if I chose the right preparation then I could help the plant to draw the much needed moisture to itself. I didn't know which preparations to use so I used them all in a specific order. And lo and behold we got rain. It was very scary at first. The initial experience was a bit of a Sorcerer's Apprentice kind of experience.

By studying the history of the biodynamic plants and the qualities associated with their ruling planets, we can get clues and perhaps intuitively perceive how to augment their use in a beneficial way. In biodynamics, we are barely touching the surface of what all the preparations can bring to agriculture.

AP: *Is there anything else you would like to add?*

HC: For a deeper understanding of the preparations and their contribution, I highly recommend the book *Earth and Man* by Karl König. König does one of the absolute best jobs around of trying to enlighten us to a better understanding of both the silica process and the limestone process. *Earth and Man* is one of my favorite biodynamic books, I think I'm reading it for not less than the third or fourth time.

In *Sub Nature and Super Nature*, Pfeiffer gives a profound lecture on the cosmic and earthly nutritional streams. I recommend that book as well.

AP: *Thank you, Hugh.*

*Silicic acid is a general name for a family of chemical compounds of the elements silicon, hydrogen, and oxygen with the general formula $[\text{SiO}_x(\text{OH})_{4-2x}]_n$.

Silica is the chemical compound silicon dioxide, also known as silica is an oxide of silicon with the chemical formula SiO_2 .

Silicon is a chemical element with the symbol Si. Silicon is the eighth most common element in the universe by mass,

but very rarely occurs as the pure free element in nature. It is most widely distributed in dusts, sands, planetoids, and planets as various forms of silicon dioxide (silica) or silicates. Over 90% of the Earth's crust is composed of silicate minerals, making silicon the second most abundant element in the Earth's crust (about 28% by mass) after oxygen. Silicon is an essential element in biology, although only tiny traces of it appear to be required by animals. It is much more important to the metabolism of plants. (en.wikipedia.org/wiki)

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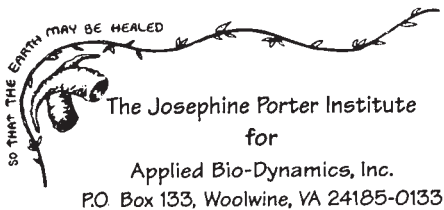
- www.celtnet.org.uk/recipes/ancient/wild-food-guide.php
(Wild food recipes from ancient to present including over fifty that include dandelion)
- www.pfaf.org/7000 plants for the Future
- www.sacredearth.com/
- www.skyscript.co.uk/jupiter.html
- solarsystem.nasa.gov/planets/
- www.traditionalmedicine.net.au/medastro.htm#Medical
foodunderfoot.com/ (Wild food identification and recipes)

CDS

- Biodynamic Composting: Demystifying the BD Preps* by Gunther Hauk: 2008 Acres Conference presentation; www.acresusa.com

“The innocent yellow dandelion! In what ever district it grows, it is the greatest boon... It [BD #506] will give the soil the faculty to attract just as much silicic acid from the atmosphere and from the Cosmos as the plants need, to make them really sentient to all that is at work in their environment. For they of themselves will then attract what they need.”

Rudolf Steiner – *Agriculture*, p. 99 (Adams translation)



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