

THE BACH BIODYNAMIC PLANTING AND RESEARCH CALENDAR

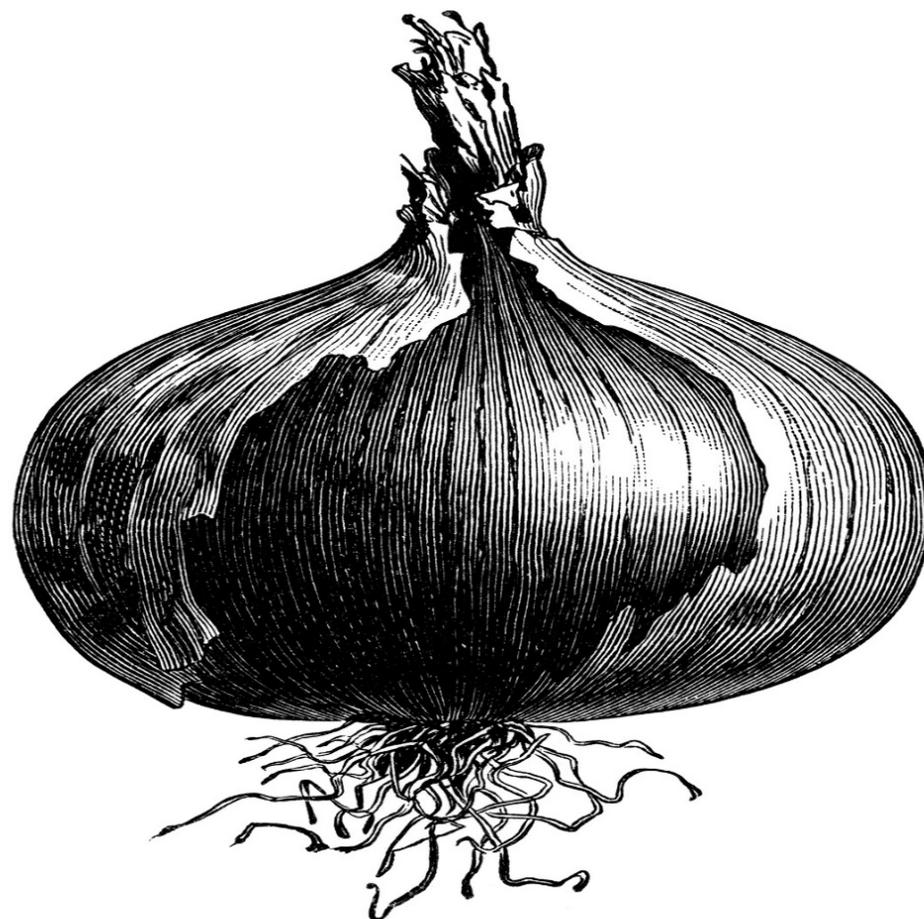


FIG. 737. NAPLES GIANT ROCCA ONION.

2018

Welcome to the 2018 edition of The Bach Biodynamic Planting and Research Calendar. This calendar is dedicated to investigating best practice in biodynamic agricultural practice. Past editions of this calendar have been dedicated to studying cosmic rhythms and the effect that these rhythms have on plant growth. My research over the last five years has shown that the influences that affect the growth of plants positively are related to the waxing phase of the synodic lunar cycle. Specifically, this influence is strongest two days before full moon, as was indicated by Rudolf Steiner. Research has indicated that the moon, as it approaches perigee, where it is closest to the earth, also has a positive affect on plant growth and yields. The moon in its anomalistic phases (perigee and apogee) is indicated in this calendar, as is the moon in its synodic phases (full and new moon). Additionally, the inner planets, while in their ascending phases, have been tentatively shown to have a positive influence on plant growth and subsequent yields. Further research in this direction is needed, as last year was the first year I studied this phenomenon. Planets in their ascending phases were also indicated by Steiner to positively affect plant growth in *The Agricultural Course*¹. The planets in their ascending phases are indicated in the calendar, and this information is in relation to the northern hemisphere. The inner planets Venus and Mercury should be considered as beneficial to the growth of annuals (vegetables and annual flowers) and also of shorter lived perennials (blueberries and raspberries, for example). The outer planets Mars, Jupiter and Saturn benefit the growth of longer lived trees. Steiner spoke of Mars being beneficial to the growth of oak trees in its ascending phase, while coniferous trees benefit from the influence of Saturn in its ascending phase.

An ascending planet is here defined as a planet that is ascending towards the northern hemisphere, regardless of whether the planet is visible in the northern hemisphere or not. This means that a planet can be in an ascending phase even if it is high in the southern hemisphere, so long as it is moving towards the northern hemisphere. In the past two years of this calendar, I have attempted to show planets in their ascending phase only when they were visible in the northern hemisphere at sunrise. I have changed this in part because attempting to find tables which show this information is difficult, and also in part because Steiner indicated that planets affect plant growth whether they are visible or not. In the agricultural course he specifically mentions Saturn:

“...if you wish to plant coniferous forests, where the Saturn-forces play so great a part, the result will be different if you plant the forest in a so-called ascending period of Saturn, or in some other Saturn period (p. 108). For we must not forget that Saturn takes thirty years to revolve round the Sun, whereas the Moon with its phases takes only thirty or twenty-eight days. Saturn is only visible for fifteen years. It must therefore be connected with the growth of plants in quite a different way, albeit, I need hardly say, it is not only working

¹ http://wn.rsarchive.org/Lectures/GA327/English/BDA1958/Ag1958_index.html

January

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Saturn ascending until April 21	1 Perigee- 13:54 Venus ascending until May 22	2	3	4	5	6
7	8	9	10	11	12	13
14 Apogee-18:10	15	16 New moon-18:17	17	18	19	20
21 Mercury ascending Jan 21- March 24	22 Good planting days Jan22-24	23	24	25	26	27
28 No plant days Jan 28-31 Lunar eclipse	29	30 Perigee- 01:54	31 Full moon-05:27 Total lunar eclipse 05:29			

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when it shines down upon the Earth; it is also effective when its rays have to pass upward through the Earth. Sometimes it shines directly onto a given spot of the Earth. But it can also work *through* the Earth upon this portion of the Earth's surface" (p. 108).

Steiner here clearly indicates that Saturn, in an ascending phase, can work upon plant growth whether it is visible in the sky or working through the earth. I am assuming that this is also the case for the other planets, including the inner planets Mercury and Venus, even though this was not directly indicated by Steiner. The ascending phases of the planets in the northern hemisphere are indicated in the calendar. For those who live in the southern hemisphere a planet will be in an ascending phase simply when it is not in an ascending phase in the northern hemisphere, which in the calendar will be any date that is not within the time frame indicated for a planet in an ascending phase in the northern hemisphere. For example, Venus is shown in the calendar to be ascending from Jan 1-May 22. It will therefore be in an ascending phase in the southern hemisphere beginning on May 23 and ending on October 10, as it again enters an ascending phase in the northern hemisphere on October 11.

Favourable planting dates are indicated in the calendar in yellow, and are the result of the moon being in a waxing phase and close to being a full moon, being close to perigee, or if an inner planet is in an ascending phase. Combinations of these events are assumed to provide better planting days than any one of these single events. For example, January 22-24 is given as a favourable planting time in this year's calendar. This is the result of Mercury entering an ascending phase, and also of the moon being in a waxing phase. A lunar eclipse, however, occurs on January 31. I have found lunar eclipses to be very poor planting times, and so in the calendar these times are indicated as no plant times. Had there been no eclipse at this time, then January 28-30 would have been indicated as a near perfect planting time for annuals, as Mercury is ascending, and the moon is both at perigee and close to being full. The planting times of January 22-24 are considered to be good, as the dates are far enough from the eclipse so as not to be negatively affected by it, but also fall within the time when the moon is in a waxing phase coupled with Mercury ascending.

The second reason that I did not conduct lunar planting trials in 2018 is that I have done 5 years of research in this subject, and feel confident that planting two days before a full moon and at perigee provides the best growth and yields for annual crops. I plan in future time to conduct larger scale trials, when time permits and the farm in Princeton is established. Also, this work needs to be conducted by other biodynamics researchers and by the various biodynamic branches around the world. The prominence of largely untested Thun style calendars, which in my opinion are at variance with indications by Steiner, will in future times prove to be problematic. I believe that it is inevitable that at some future time non-anthroposophists or perhaps someone or some group hostile to biodynamic principles will put Thun trigon theory to a rigorous regime of research. Based on the extensive work that I have done, and also research done by other biodynamic researchers, I believe that this research will show that the Thun trigon theory does not work, and in so doing, many of the other aspects of biodynamics, in particular the use of the biodynamic preparations may be cast

February

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6	7	8	9	10
11 Apogee-06:16	12	13	14	15 New moon- 13:05	16	17
18	19	20	21	22	23	24
25	26 Very good planting days Feb 26-27	27 Perigee-06:48	28			

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into doubt. It is irresponsible, in my opinion, that research into biodynamic growing methods based on cosmic influences are not being conducted on a large scale by biodynamic societies across the world, and especially by those who publish other calendars. Those who consider themselves serious anthroposophists and adherents to biodynamic agriculture cannot help but realise that biodynamic agriculture is essential to the future healing of the earth, and the spiritual development of the human race. As I have already said, I will be returning to this research in the next couple of years, but in the meantime, would like to discuss broader trends in organic agriculture, many of which can be incorporated into biodynamic practice.

Pest Control Using Ashing

In lecture six of the Agricultural Course, Rudolf Steiner gave practical information on the biodynamic approach to dealing with pest control. This is done through the process of ashing, where the pest that needs to be controlled is burned in a small wood fire. These ashes are then spread over the ground in a process Steiner called peppering. Only small amounts need to be used, and can be spread over a wide area. Steiner spoke of how life forces live in the watery element, and the counter forces to these life forces live in the element of fire. Hence, when we burn a seed, insect or rodent, we create anti-life or anti-reproductive forces in the burned substance. These forces are then spread out over the garden or field when peppering takes place. These forces can be further magnified in a process called potentization, where one part of ashed substance is added to nine parts water, and the mixture is stirred rhythmically for ten minutes. Rhythmical stirring involves stirring one way vigorously in one direction to create a vortex (30 seconds in one direction is sufficient), and then stirring in the opposite direction for the same amount of time, again creating a vortex. In the transition from stirring from one direction to another, stirring should again be vigorous, so as to create a period of what Steiner refers to as 'chaos'. The creation of the vortex draws the necessary cosmic forces into the water/pepper mixture, and the chaos period infuses these forces into the mixture. After the first ten-minute stirring takes place, the first potentization has occurred (called D1). After this first stirring has been completed, one part of this D1 mixture is added to nine parts water, and the process is again completed to create the second potentization, D2. I then spray the nine parts of the D1 on the field or garden in the areas where pest control is needed. A backpack sprayer can be used for larger areas, and a simple cedar or fir branch can be dipped into a bucket, and then used to whisk the potentized substance onto the soil for smaller areas. This process is then repeated. I recommend stirring up to a D14. In her book *Agriculture of Tomorrow* (I believe to be the most important Agricultural book in the world) Lili Kolisko spoke of how the first seven potentizations work in the physical realm, the seven after that on the etheric realm, and the seven after that on the astral realm. For ashing of pests, it should not be necessary to work further than the ether (or life) body of an organism to create the desired conditions where these pests will not want to inhabit the peppered or potentized area. This occurs from D7-14 in the potentization process.

MARCH

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Full moon-16:51	2	3
4	5	6	7	8	9	10
11 Apogee-01:13	12	13	14	15 Jupiter ascending Mar 15-July10	16	17 New moon-05:12
18	19	20	21	22	23	24 Mercury ascending phase ends
25 Good planting days Mar 25-26	26 Perigee-09:17	27	28 Good planting days Mar 28-30	29	30	31 Full moon-04:37 Mars ascending Mar 31- June 4

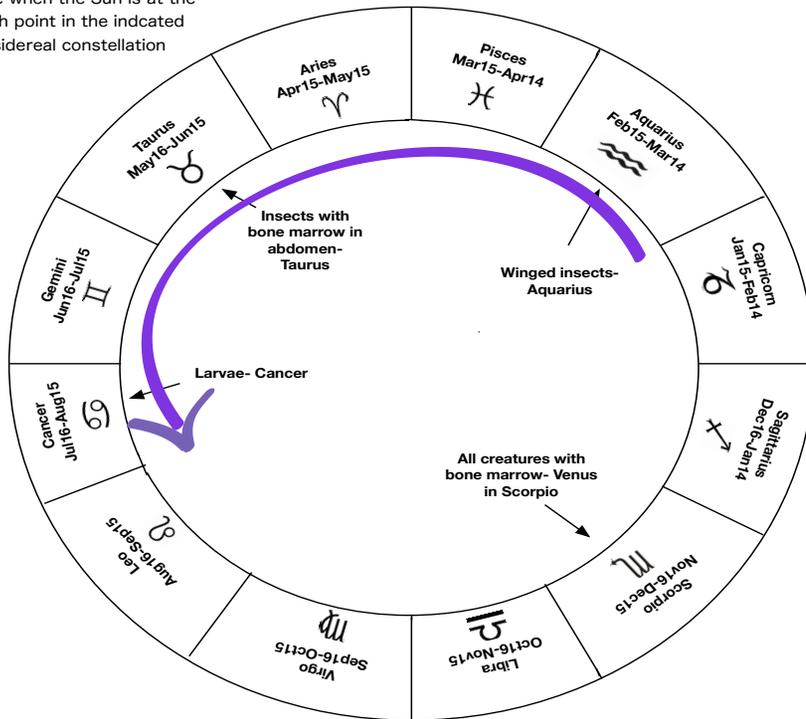
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It is, however, of paramount importance that the pest in question be burned at the correct time. In the case of insects, the timing of this correlates to the sun's passage through the constellations.

Weeds should be ashed two-days before a new moon. The chart shows the progression given by Rudolf Steiner, where winged insects are ashed in the constellation of Aquarius, those with bone marrow in their abdomen (beetles) in Taurus, and larvae (I include slugs and snails in this category) are ashed in Cancer. The ashing takes place when the sun is in the mid-point of the constellation in question. The ashing for creatures with a bony system, with a spine and skeleton, is somewhat different. Here the creature should be ashed when Venus is in the sign of Scorpio. All of these dates are achieved by using a sidereal zodiac, which shows the true position of the sun as it passes through the zodiac. I have included all of the dates of the sun's high point through the zodiac in the table below.

Insect and Animal Ashing Chart (sidereal)

All Ashing for insects is done when the Sun is at the high point in the indicated sidereal constellation



Aquarius	March 1
Pisces	March 31
Aries	May 1
Taurus	June 1
Gemini	July 2
Cancer	August 3

Venus does not enter Scorpio in 2018. It is the high sign of Scorpio on January 17ty, 2019.

April

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7 Apogee-21:32
8	9	10	11	12	13	14
15 New moon-17:57	16	17	18	19 Good planting period April 19- 28	20 Perigee-06:44	21 Saturn ascending phase ends
22 Mercury ascending Apr- 22-June 17	23	24	25	26	27	28
29 Full moon-16:58	30					

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The Permaculture Movement

Permaculture is a term that is used widely now in agriculture that attempts to use natural, non-chemical means to grow food and control weeds and pests in a sustainable way that will have a healing affect on the earth. Permaculture is defined in Wikipedia as “a system of agricultural and social design principles centered around simulating or directly utilizing the patterns and features observed in natural ecosystems.” This trend to sustainable agricultural practice is a reflection of concerns in the world of the alarming degradation of our environment that is taking place through processes related to global warming, extreme consumerism, and the systematic decline in soil health and food quality occurring in conventional agriculture.

Within the permaculture movement there are many different approaches and philosophies that explore the best way to grow healthy food and improve the land on which that food is grown. I would like to focus on two movements that I have been researching over the last couple of years. The first of these movements is the use of woodchips as a mulch covering for gardens. Mulching has been in practice for centuries in agriculture, but has usually been in the form of straw, leaves or grass clippings. Many farmers and gardeners have refrained from using woodchips as a mulch, fearing that the high carbon density of wood chips will tie up nitrogen in the soil, thus leaving the soil nitrogen deficient, and in the process, increase acidity levels. I have been told directly from biodynamic farmers that the use of woodchips as a covering will ruin soil for years to come.

The conception that woodchips should be avoided in gardening and farming was turned on its head in 2011 by the release of the film *Back to Eden*, where gardener Paul Gautchi, who lives in the Olympic peninsula of Washington state, used woodchips as a thick cover with apparent great success. The film makes the claim that the use of thickly spread woodchips over the surface of the soil will retain soil moisture, prevent weed growth, and, most interestingly, provide all of the nutrients, including nitrogen, needed by a garden to produce fruits and vegetables. Here we are faced with two very contradictory points of view- one stating that the use of woodchips creates harm to soil and plant growth, and the other that woodchips are a cure-all for the gardener. As is usually the case when we are presented with two polar points of view, the truth lies somewhere in the middle.

May

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5 Apogee-16:35
6	7	8	9	10	11	12
13	14	15 New moon-03:48	16 Fair planting days May 16-17	17 Perigee-13:06	18	19
20	21	22 Venus ascending phase ends	23	24	25	26 Good planting days May 26-27
27	28	29 Full moon-06:20	30	31		

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Over the last five years, I have set aside a portion of my garden to test woodchip theory. I did soil testing on the area before the use of woodchips, and then tested the soil several times over the course of the five-year period. What I found was that acidity levels in the soil remained relatively unchanged with wood chips as a cover. I live in Vancouver, and the soil here quite acidic (pH of about 5), due mostly to high levels of precipitation, and heavy clay soil in the area where I live. Even though the use of woodchips has not increased the level of acidity in my garden, it also has not increased the nutrient levels in the garden, as was claimed would be the case in *Back to Eden*. What has been noted in Paul Gautchi's garden is his use of composted chicken manure, which he spreads over his garden beds. This is a more plausible explanation for the ideal nitrogen levels that are found in his garden and described in the film, as chicken manure has the highest levels of nitrogen of all of the domestic livestock manures. I think that woodchips can be used as mulch over most flower beds and most perennial plants in the garden. Blueberries, raspberries, rhubarb, gooseberries and strawberries are all plants that can do well when mulched with wood chips, but fertilization and use of compost still needs to happen for all fruits and vegetables. Raspberries, for example, can tolerate acidic soil but are also moderate consumers of nitrogen, so care has to be taken that these plants receive nitrogen, which is not supplied by wood chips alone.

The number one reason that gardeners do not have success in growing vegetables is low soil nitrogen levels, often coupled with high soil acidity. Most areas of the North America and Europe have adequate phosphorous and potassium levels, and often at the outset of a new garden being established, nitrogen levels are also adequate. Many vegetables consume large amounts of nitrogen, leaving the soil depleted within a year or two. Because of this fact, which many readers may find obvious, knowing the nutrient makeup of the particular soil in your area is of paramount importance. I use a simple soil testing kit to ascertain the soil nutrient levels in my garden. The kit that I like to use is available from *Johnny's Seeds (Accugrow Soil Test Kit)*, and retails for about \$35 US dollars. Trying to garden without knowing the nutrient levels in your garden is like trying to build a house without a tape measure. The small cost of a soil testing kit is the most cost-effective investment that you can make in your garden. Below are three soil tests that I conducted in my garden this winter, from three different areas of the garden.

June

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2 Apogee-08:34
3	4 Mars ascending phase ends	5	6	7	8	9
10	11	12	13 New moon-11:43	14 Perigee-15:55	15	16
17 Mercury ascending phase ends Good panting phase Jun 17-26	18	19	20	21	22	23
24	25	26	27 Full moon-20:53	28	29 Apogee-18:43	30

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Figure 1- Grapevine soil sample



Figure 2-Biodynamic compost sample



Figure 3- Chicken run soil sample

The first sample that I tested was just beside a grapevine that has been growing in my garden for about ten years. It is a good producer, but I have not fertilized it in several years. The upper portion of the test strip shows nitrogen levels, and the lower level pH levels. A rosy pink colour indicates good nitrogen levels, where a faded or brownish colour indicates poor nitrogen levels. On the lower strip, a greyish colour indicates high pH, orange low, and tan or light brown indicates ideal (6.0-6.5) pH. The grapevine sample shows adequate pH somewhere around 6.5, but the nitrogen levels are very low. This soil needs nitrogen amendments. The second sample is from my biodynamic compost heap. It is a mixture of weeds, lawn clippings, shredded blackberry vines, and some horse manure. The compost was made in September, and the biodynamic compost preparations were added at that time. This sample also has a good pH level, but what might be surprising to some is that this compost has low levels of nitrogen. The nitrogen (upper sample figure 2) is somewhat pinkish, which puts it at the lowest level (A-B) on the chart on the back of the bottle. I think that it is important to note that just because a compost pile has been created and the pile has broken down, nitrogen levels may still be too low to foster vigorous plant growth. Horse manure has relatively low levels of nitrogen when compared to cow and especially chicken manure, and in Vancouver where it rains often, nutrients can be quickly washed from soil, especially in a compost pile. There is a common misconception among biodynamic practitioners that if the BD compost preps are used this will automatically translate into good nutrient levels. Steiner in *The Agricultural Course* spoke of how the biodynamic preparations should not be considered as a replacement to the practice of using

July

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10 Jupiter ascending phase ends	11	12 New moon-18:48 Fair planting days Jul 12-13	13 Perigee-00:28	14
15	16	17	18	19	20	21
22	23	24 No plant days July 24-27 Total lunar eclipse	25	26 Apogee-21:44	27 Full moon-12:20 Total lunar eclipse-12:22	28
29	30	31				

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manure. The use of manure in gardening is absolutely essential, and the gardener and farmer must know the nutrient levels of their compost. The compost that I made last summer was not covered, and much of nutrients in the compost leached out in the rainy season.

Figure 3 shows the nitrogen and pH of the soil in our small chicken run. Here we can see that the nitrogen levels (upper sample) are very high, as is shown by the bright red colour of the test strip. In fact, these levels are too high, and would almost certainly burn roots. This is not surprising, as I have not dug this area out for almost a year, and the manure buildup has been substantial. Chicken manure has the highest nitrogen levels of all domestic animal manures. After these tests, I now have a clear idea of what I need to do to create a soil mixture that I can add to my garden beds. I mix the manure from the chicken run in equal parts with my compost. I will let this mixture compost further for a month or so, and the result should be a mixture that will feed the garden for the entire year. I will then add a light dusting of lime to the finished beds. Steiner spoke of cow manure as being the best manure to use. The digestive system of cows, with multiple stomachs, provides for the best digestion of food, and the cows themselves, especially if they still have their horns, allow for the highest integration of spiritual forces into the manure and subsequently the compost. Where I live, it is difficult to find large amounts of cow manure, so I use horse manure, which is readily available, along with chicken manure from chickens that free range in my yard. The true farm is one that is completely self sufficient, and does not need external inputs for its success. Having said this, I would say that it is also true that food produced on one's own land, using biodynamic preparations, is superior to any food purchased at the supermarket-it is a case of knowing what the ideal is, but also realising that we can't be too rigid and must make the best of the situation in which we find ourselves.

Having discussed the importance of knowing the nutrient levels of your garden, compost, and ultimately the final product that is added to soil, I would like to now move onto a discussion of the best way to utilize a properly fertilized garden or farm for the growth of vegetables. There are many approaches to gardening techniques, and most of these approaches will give good results. Some say that all vegetable plants should be widely spaced, so that roots don't compete for nutrients and water, while other approaches state that planting vegetables close together provides a canopy that in the process of preventing light from reaching the soil also helps to retain moisture while at the same time inhibiting weed growth. Both of these approaches are true, but for different vegetables. A rebirth over the last few decades has occurred to a form of gardening and farming that was common before the great shift to mechanized agriculture that occurred after the first World War. This method of gardening is broadly known as the French Intensive Method, and was rediscovered about three decades ago by organic farming pioneer Eliot Coleman.

August

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3 Mercury ascending Aug 3- Aug 26	4
5	6	7	8 Good planting days Aug 8-10	9	10 Perigee-10:05	11 New moon-01:58 Partial solar eclipse-01:46
12	13	14	15	16	17	18
19 Mars ascending until end of year	20	21	22	23 Apogee-03:23 Good planting days Aug 23-24	24	25
26 Full moon-03:56 Mercury ascending phase ends	27	28	29	30	31	

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In this method of gardening, plants are spaced closely together, or intensively, to utilise smaller spaces more efficiently. Before the age of mechanization, this method made it easier to weed and till a smaller area, as opposed to a larger area, where plants were more broadly spaced. Using this method makes sense for several reasons. This type of agriculture is much more efficient, producing high yields over much smaller areas. Farmers like Jean-Martin Fortier (<http://lejardiniermaraicher.com>) in Quebec annually sell \$150,000 of produce on a two-acre plot of land. Similar yields have been obtained by Coner Crickmore at Neversink farm in New York State (<http://neversinkfarm.com>). On these micro farms tractors are not used- they are too large and cumbersome to move in such intensively planted beds. Also, the cost of large agricultural machinery, which has caused so much financial hardship for many farmers, is eliminated. Another benefit of this type of farming is a huge reduction in global warming emissions caused by large farming machinery. Additionally, larger tracts of agricultural land on the outskirts of urban areas have become prohibitively expensive in many areas of North America and Europe. Micro farming is an excellent option for a new, younger generation wanting to become farmers, while the growing demand for high quality, organic food produced locally through the growing farm-to-table movement can be well accommodated by this type of agriculture.

Planting beds are standardised to thirty inches wide, and are usually one hundred feet long. Ergo dynamic design is an important factor in this type of farming, as human labour replaces much of the work performed by tractors and other machinery on larger scale farms. Research has demonstrated that thirty-inch wide beds were easy to reach without causing back strain over long periods of time, and can be straddled easily with one foot on either side of the bed, while at the same time providing enough space to plant from 4-6 rows, depending on the crop sown. Eliot Coleman developed hand tools to weed and cultivate these beds, and seeders that precisely space seed, so that minimal thinning is required. These tools were developed in conjunction with Johnny's seeds, and are sold on the company's website at www.johnnyseeds.com.

I believe that this type of farming fits very well with biodynamic practice, and that the use of the biodynamic field sprays (500 and 501) and the compost inoculation preps (502-508) are the last piece of the puzzle needed to perfect this approach to agriculture. One additional benefit to this type of agriculture is the extension of the farming season using row covers and greenhouses, which are employed in colder climates to extend the season. Intensively planted beds can be grown in a greenhouse, or placed under row cover.

September

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6 Fair planting days Sept 6-7	7 Perigee-17:21	8
9 New moon-10:01	10	11	12	13	14	15
16	17	18	19 Apogee-16:54	20	21 Fair planting days Sept 21-22	22
23	24 Full moon-18:53	25	26	27	28	29
30						

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Limitations to the French Intensive Method

Works well in a French intensive system	Does not work well in a French intensive system
Lettuce Pac choi Radishes Spinach Tomatoes Cucumbers Kale Garlic Beets Leeks Carrots	Corn Squash Melons Eggplant Cabbage Potatoes

There are some limitations to this method of gardening and farming, which the gardener or farmer needs to be aware of. French intensive gardening is meant to grow what you would essentially eat in a salad. For example, corn is not a vegetable that can effectively be grown in this type of system. Corn is a huge nitrogen feeder, and to grow well needs to be minimally spaced at between 9-12 inches apart in rows 24 inches apart. In 30-inch seed beds, this is simply not a very good use of space. French intensive

method is designed for multiple crops per year where vegetables grown, at least early season plantings, should have maturities of no more than 60 days. The table above describes what can and cannot be grown in this type of system. These is not an exhaustive list, but the general principle is that in a French intensive system, plants need to tolerate being close together, not take up huge amounts of space, and reach maturity fairly quickly. I divide my garden into two parts- one for French intensive gardening, the other for growing longer maturing heavy feeders that need more space.

Another consideration in the French intensive system is that the first plantings, done early in the year, should also be somewhat cold tolerant if you are in a northern climate. An example of succession planting in this type of system is as follows: February-March (under cover or in a greenhouse): radishes, spinach, garlic, pac choi and lettuce greens. When most of these come to maturity they are pulled up and followed in April-May with: tomatoes, cucumbers, kale, leeks, carrots and beets. As the summer draws to a close in mid August-September, a second planting of the February-March vegetables is sown. Alternatively, in mid August and early September,

October

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4 Good planting days Oct 4-5	5 Perigee-14:29	6
7	8 New moon-19:47	9	10	11 Venus ascending until end of the year	12	13
14	15	16	17 Apogee-11:16	18	19	20
21 Good planting days Oct 21-22	22	23 Saturn ascending until end of the year	24 Full moon-08:45	25	26	27
28	29	30	31 Perigee-12:05			

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cover crops combinations like oats and field peas can be sown. These will die off in the winter, and in the process, add nitrogen and biomass to the beds. It has been mentioned above, but it bears repeating here that in order for this type of intensive gardening/farming to work, *it is of paramount importance that nutrient rich, well balanced soil, using high quality compost be used.* Compost that does not have the nutrients required will need to be amended.

Why Biodynamics?

I would like to conclude this year's discussion with a comment on why the biodynamic way of gardening needs to be fostered and developed around the world. There has been limited research that has indicated that antioxidant levels increase in fruits and vegetables grown biodynamically, and that microbial levels in soils also improve using the biodynamic method². I have no doubt that this is the case. Biodynamic agriculture needs to spread around the world and the use of the biodynamic preparations will not doubt have a deep healing influence on the land where they are used. In the preface to the Agricultural Course, Ehrenfried Pfeiffer describes a conversation that he had with Rudolf Steiner in 1924. Steiner said the following to Pfeiffer: "The most important thing is to make the benefits of our agricultural preparations available to the largest possible areas over the entire earth, so that the earth may be healed and the nutritive quality of its produce improved in every aspect." What I feel is sometimes lost is the spiritual importance to the human being of biodynamic agriculture. The earth not only needs to be healed, but the human being needs proper nourishment not just for physical development, but especially for spiritual development. In the same conversation, Pfeiffer asked Steiner: "How can it happen that the spiritual impulse, and especially the inner schooling, for which you are constantly providing stimulus and guidance bear so little fruit? Why do the people concerned give so little evidence of spiritual experience, in spite of all their efforts? Why, worst of all, is the will for action, for the carrying out of these spiritual impulses, so weak?" Steiner answered: "This is a problem of nutrition. Nutrition as it is today does not supply the strength necessary for manifesting the spirit in physical life. A bridge can no longer be built from thinking to will and action. Food plants no longer contain the forces people need for this."

This was a startling revelation for me the first time I read it. We as anthroposophists often talk of the need for change in the world, and when we look out in the world there is often a sense of despair that so little progress seems to have been made. The world seems to be spiralling deeper and deeper into a state of chaos. As an anthroposophist, I believe that it is a mistake to look out into the world and try to make change, without first and foremost working on inner development and striving for spiritual vision. Based on Steiner's comments just mentioned, I believe that it is incumbent upon the anthroposophist striving esoterically to provide for

² <http://articles.extension.org/pages/28756/the-science-behind-biodynamics>

November

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

				1	2	3
4	5	6	7 New moon-08:02	8	9	10
11	12	13	14 Apogee-07:57	15	16	17
18 Good planting period Nov 18-26	19	20 Mercury ascending Nov 20-Dec 7	21	22 Full moon-21:39	23	24
25	26 Perigee-04:10	27	28	29	30	

NOTES: _____

their own spiritual nourishment by growing biodynamic food. This food is not readily available, and therefore must be produced wherever there is a garden space accessible to the anthroposophist. Season extension and intensive growing, as has been briefly outlined in this year's calendar are essential to the esoteric development of the spiritually striving anthroposophist. To that end, I am planning to create a diary this year, starting in January, of my efforts to produce biodynamic food for as much of the year as possible. This diary will be available on the planting calendar research page of www.bachbiodynamics.com . I will attempt to update the diary monthly, and intend to have the first entry available in early February.

Further reading/viewing:

Eliot Coleman

Books:

The Winter Harvest Handbook

The New Organic Grower

Videos:

<https://www.youtube.com/watch?v=Xm6khNRIGhE> (The Winter Harvest Lecture on YouTube)

Jean-Martin Fortier

Books:

The Market Gardener

Videos:

<https://www.youtube.com/watch?v=1BH0NkN6zHs> (The Market Gardener lecture on YouTube)

If you have any questions or comments, please send them to me at jbbach363@gmail.com.

Thank-you,

John Bach

December

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6 New moon-23:20	7 Mercury ascending phase ends
8	9	10	11	12 Apogee-04:25	13	14
15	16	17	18	19	20 Good planting period Dec 20-24	21
22 Full moon-09:49	23	24 Perigee-01:52	25	26	27	28
29	30	31				

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