

# CONSIDERA

*'Considera' comes from two latin words and means 'with the stars'.*

## Introduction

Is it possible that plants respond to the position of the Moon, stars and planets in the sky around them? For thousands of years people have believed this and taken great pains to plan their crops when the heavens were supportive. The idea is no longer fashionable and is usually thought to be superstition and just plain wrong.

Surprisingly, modern research suggests that plants in particular, but also animals and humans, do fluctuate with the position of these 'heavenly bodies'. There is a lot of such research collected on the [considera.org](http://www.considera.org) web site showing, for instance trout getting fatter and thinner as the Moon waxes and wanes, tree buds swelling and returning in harmony with the movement of the stars. Even apparently dormant seeds consume more oxygen in one phase than another.

Given that this is so, how do we demonstrate to ourselves whether it is real? And how does one make this information useful?

Experiment! The experiment Considera has suggested is very simple;- take some seeds and plant some of them at one time, and the more at another - and record the outcome. (The details are important but this is the basis.) The results are then sent to Considera and the results from your experiment are put together with the experiments from everyone else. Considera then looks for patterns and correspondences between the results and the time at which the seeds were put in the ground.

## Aims

Considera aims to collect and collate results from farmers and gardeners around the world who have taken note of the time at which they have planted their crops and have also taken note of the results of these plantings.

Considera will then look for correspondences between the results in this database and the position of the planets and stars at the time of making these plantings.

By doing this it is intended to clarify whether there really are correspondences, what these correspondences are, and to give guidance for those who wish to make use of these correspondences for their future farming and gardening.

## Method

At its most basic; similar seeds are planted in similar soils at different times. Differences in the outcomes of these comparable plantings are noted and submitted to Considera's web site, or by using the results template in this pack. To meet the aims of Considera the experiments must be undertaken to minimise the possibility of false results.

It is important to recognise the potential variables within each trial, and to try to avoid unnecessary influences. **The basic idea is that there should be the minimum variation in the obvious necessities of growing plants - seed, soil, moisture, etc - so that the celestial variables have the chance of making their influences show.**

**Seed from the same source and, preferably, packet must be used in each planting**

Seeds must be as similar as possible throughout all the plantings in each trial. The simplest way is to use seeds from the same source, preferably the same packet.

**F1 hybrid seeds are not used**

F1 Hybrids, GM seed and the increasing use of cytoplasmic splitters to make seeds are considered to be a problem by many researchers. If possible use organically grown seed.

**The same fertility regime and doses must be used across the trial plot**

The micro-differences in soil fertility cannot be overcome. The only way to demonstrate that this is not an issue is to have enough of each seed used in each planting so that the statistical likelihood is that fertility on one row is not the issue that makes any measurable differences in results compared to those of another row.

If composts and manures are to be used, as indeed we would hope they will, these should be applied as evenly as possible across the whole trial area. It would be no good to have one stripe across the plot laden with superphosphate whilst the rest got a bit of compost now and again thrown over the path.

**The soil on the experimental plot must be as uniform as is feasible**

There are gardens where it is clear that there is good deep top soil in some patches and others with a lesser depth. Drainage can also be patchy. All these have very clear effects on plant growth. Therefore, if you are going to undertake trials it is important to use a uniform and contiguous plot. If your soil is patchy it will not give meaningful results for this research.

**The time of each planting must be recorded as soon as possible after planting for accuracy. (Don't guess a month later!)**

This is clear isn't it? After making ones sowings there are usually lots of little jobs and distractions - putting tools away, the phone rings, the paper is wet and the pen doesn't work. All we are asking is that an effort of will is made to get the right time and date or we are going to have useless results.

**Any irrigation, if it has to be used, must be applied as equally as is possible between planting areas**

Some of the most respected researchers are clear that we can literally swamp the manifestation of the lunar influences by watering too much. When one sows or transplants, the soil is watered at this time to settle the plant in, but after that watering should be avoided. In this way, the plants have to put down deep roots and forage for their moisture.

We should not be too fundamentalist about this. Plants can wilt as a moisture saving 'technique', but we must not let them die for lack of moisture.

So sometimes we must water plants. As we are trying to make equivalent plantings on a trial as similar in earthly aspects as is feasible given the variation of life, it is clear that such a variable as watering, which is in our control, should be applied as equally as possible to those plots we are comparing.

**Care of the crop on the trial field needs as much thought as the planting**

Weeding and other attention whilst the crop is growing should be given equally to all parts of the trial.

**Planting plots should have as equal as possible access to shade and light**

Other plants will be growing during the trial and there are permanent structures in the garden. Therefore, there is a great chance that the soil in the different planting areas will be exposed to differing conditions of light and shade. This is something that needs to be considered at the design stage of your trial. If a wall shades only one planting in the afternoon it will have an effect, hindering or helping, on just part of the comparative crop. This will obscure the differences from the timing of the planting.

It is particularly necessary to consider that plants will grow in the course of the season and will create shade later on.

**Harvest must compare like with like as far as is possible**

You will be putting seeds into the soil at different times for the different plantings in a trial. Each of these plantings must be in the soil for the same period of time; each planting must be in the soil for the same number of days regardless of when it is planted.

This is quite simple for root crops which are often harvested in one take and then stored. It is not so simple for something like runner beans which are often harvested over a sustained period. Either choose other crops in your trials ... or do your best; this will entail evaluating the crop on each harvesting session! For weight this is simple enough, for taste etc it means lots of notes and organisation. I suggest the KISS principle - keep it simple stupid. If we can get good results concerning simple crops, we can be somewhat confident in the anecdotal evidence concerning crops like pick-and-pluck lettuce etc.

**With subjective results such as taste, results must be described not just expressed.**

Tasting is a skill that can be exercised. There are professional tasters whose language is specific but hard for an outsider to gauge. At the other extreme people either say 'Urrgh' or 'yum yum in my tum'.

We are looking for a middle ground in such subjective tests. We want appreciation and disgust to be clothed in standard language. For instance, "The smallest radishes were very peppery and crisp, but left a woody residue in the mouth which was almost impossible to swallow." "The smell was like an apple."

**If crops are to be stored they must be stored in similar conditions and well identified.**

One of the parameters of a crop is their ability to store without rotting or going mouldy, say for roots over winter. So will you remember which ones are which in March after harvesting in October?

Also for the results to be comparable they need to be stored in the same place, so that temperature, moisture and exposure to light are the same.

**Organic fertility should be the source of nutrients for the soil.**

Inorganic fertilisers are not only derived from the inorganic world, but they owe their effectiveness to being water-soluble. Organic fertilisers can be soluble too but the ideal sate for them is in the continuum of states - stable to colloidal - found in humus.

**Humus needs to be nurtured as it is the heart of the soil.**

It has been suggested that a mineralised (ie lacking organic matter) soil does not respond to the cosmic inprints. A minimum organic matter of 2- 2.5% is suggested.

### **Manure and compost needs to be mature**

Manure and compost needs to be mature or it will swamp the lunar effects. To test if your compost or manure is mature take some and place it in a zip lock bag and close the bag. Leave it in a warm place for 3 days and then open the bag. If it smells bad it is not mature. The mature compost has a look of dark christmas pudding. When it is squeezed, water will barely emerge but it will feel damp. The smell is pleasant - warm and earthy, a little sweet.

### **Assumptions and hypothesis**

- We have adopted the conjecture that a crucial point in a plant's 'biography' is the time it is put into its final growing place and medium. This may be as it is sown or, if it needs transplanting, when it is planted out.
- We assume that there are several overlapping rhythms which can be differentiated.
- We assume that we can get enough results for these patterns to emerge.
- We assume that other biological variations can be rendered insignificant by good experiments and by collating enough results.
- We assume that we are not wasting our or your time. There has been a lot of research which suggests that there are repeatable and measurable effects, but this research is not (yet!) unanimous in its recommendations!
- We assume that there are enough people willing to entertain the hypothesis to join in and make diligent experiments.

A target that Considera has **not** set is that of elucidating a mechanism by which the stars and plants correspond. If anyone finds the 'smoking gun' then please do get in touch. We're looking for it!

## Literature

- Abele, U. (1973). Vergleichende Untersuchungen zum konventionellen und biologisch-dynamischen Pflanzenbau unter besonderer Berücksichtigung vom Saatzeit und Entitäten. PhD thesis, University of Giessen, Germany.
- Abele, U. (1975). Saatzeitversuch zu Radies. Lebendige Erde, 6.
- Adams Kaufmann, G. (1933) Space and the Light of Creation, Published by the Author, London.
- Adams, G. (1977) Universal Forces in Mechanics, Rudolf Steiner Press, London.
- Adams, G. (1979) The Lemniscatory Ruled Surface in Space and Counterspace, Rudolf Steiner Press, London.
- Adams, G. and Whicher, O. (1980) The Plant Between Sun and Earth, Rudolf Steiner Press, London.
- Atkinson, G. [Bio-Dynamics Decoded](#) (1989) Garuda Trust, New Zealand
- Atkinson, G. [Spiral Astrology](#) (1988) Garuda Trust, New Zealand
- Bacon, F. (1627). Sylva Sylvarum. In: The Works of Francis Bacon, Vol.2. (J. Spedding and Ellis, eds.), Longmans; London 1887.
- Beeson, C. (1946). The moon and plant growth. Nature, 158,.
- Benesch, F and Wilde, K. (1995) Schaumberg Publications, Illinois, USA
- Bishop, C. (1977). Moon influence in lettuce growth. The Astrological Journal, 10,1.
- Bockemühl, J. (1985). Elements and ethers: modes of observing the world. In Towards a Phenomenology of the Etheric World (J. Bockemühl, ed.) Anthroposophical Press; New York, U.S.A.
- Brown, F. & Chow, C.S. (1973). Lunar-correlated variations in water uptake by bean seeds. Biological Bulletin, 145.
- Brown, F. (1960). The rhythmic nature of animals and plants. Cycles, April, 81-92.
- Bruce, M.E. (1967) Common Sense Compost Making. The Soil Association, Bristol, UK
- Colquhoun, M. and Ewald, A. (1996) New Eyes For Plants. Hawthorn Press, Stroud, England
- Corrin, G (2004) Handbook on Composting and the Bio-dynamic Preparations. BDAA, Stroud, England
- Dubrov, A. (1996). Human Biorhythms and the Moon. Nova Science Publishers, New York, U.S.A.
- Edwards, L. (1985) Projective Geometry by Lawrence Edwards, Rudolf Steiner Institute, Phoenixville.
- Edwards, L. (1993). The Vortex of Life, Nature's Patterns in Space and Time. Floris Press, Edinburgh, Scotland.
- Erbe, H. et al (2003) [Hugo Erbe's New Bio-dynamic Preparations](#). MM Publications, Gloucestershire, UK
- Graf, U. & E.R. Keller (1979). Zusammenhänge... Schweizerische Landwirtschaftliche Monatshefte, Bern.
- Graf, U. (1977). Darstellung verschiedener biologischer Landbaumethoden und Abklärung des Einflusses kosmischer Konstellationen auf das Pflanzenwachstum, PhD thesis, Zurich Technical College, Switzerland.
- Grohmann, G. (1989) The Plant vols I and II. Biodynamic Farming and Gardening Association, Kimberton, USA
- Hachez, M. (1935). The significance for seed-germination of the passage of the Moon through the constellations of the zodiac. Anthroposophical Agricultural

- Foundation, Notes & Comments.
- Keats, B. (1999) *Betweixt Heaven and Earth*. Self Published, Bowral Australia
  - Keats, B. (2004) *Northern Star Calendar 2005*. Self Published, Bowral Australia
  - Koepf, H. (1989). *The Biodynamic Farm, Agriculture in the service of the Earth and Humanity*. Anthroposophic Press, New York, U.S.A.
  - Koepf, H., Schaumann, W. & Haccius, M. (1996). *Biologische-Dynamische Land Wirtschaft*. Darmstadt.
  - Koepf, H.H. (1976). *What is Biodynamic Agriculture*. Bio-dynamic Literature, Rhode Island, USA
  - Koepf, H.H. (1993). *Research in Biodynamic Agriculture: Methods and Results*. Biodynamic Farming and Gardening Association, Kimberton, USA
  - Kolisko, E and L (1978) *Agriculture of Tomorrow*. Kolisko Archive Publishing, Bournemouth, England
  - Kolisko, E. (1936). *The Moon and the Growth of Plants*. Stroud, Gloucester.
  - Kolisko, E. (1978) *The Twelve Groups of Animals*. Kolisko Archive Publishing, Bournemouth, England
  - Kollerstrom, N. & Staudenmaier, G. (1998). *Mond-Trigon-Wirkung: eine statistische Auswertung*. *Lebendige Erde*, November 1998.
  - Kollerstrom, N. & Staudenmaier, G. (2001). *Mond in Tierkreis: anders rechnen - andere Ergebnisse*. *Lebendige Erde*, January 2001.
  - Kollerstrom, N. (1977). *Zodiac rhythms in plant growth: potatoes*. *Mercury Star Journal*, London III.
  - Kollerstrom, N. (1980). *Plant response to the synodic lunar cycle: A review*. *Cycles*, *Bulletin of the Foundation for the Study of Cycles*.
  - Kollerstrom, N. (1993). *Testing the lunar calendar*. *Biodynamics*, Winter 1993.
  - Kollerstrom, N. (2000). *Planting by the Moon*. Prospect Books 1999
  - König, K (1982) *Earth and Man*, Bio-dynamic Literature, Rhode Island
  - Kranich, EM. (1984) *Plantary Influences on Plants*. Bio-dynamic Literature, Rhode Island, USA
  - Llewellyn's *Lunar Organic Gardener* (1993). Llewellyn, St Paul, Minnesota, U.S.A. *logie und Landbau*.
  - Lücke, J. (1982) *Untersuchungen...* (Dissertation). Universität Giessen 1982.
  - Marti, E. (1984) *The Four Ethers*, Schaumberg Publications. Illinois
  - Mather, M. (1942). *The effect of temperature and the Moon upon seedling growth* *Journal of the Royal Horticultural Society*.
  - Maw, M. (1967). *Periodicities in the influences of air ions on the growth of garden cress*. *Canadian Journal of Plant Science*, 47.
  - *New Zealand Biodynamic Association* (1989). *Biodynamics, New Directions for Farming and Gardening in New Zealand*, Random Century, Auckland, New Zealand.
  - Poppelbaum, H. (1961) *A New Zoology*. Philosophic-Anthroposophic Press, Dornach, Switzerland
  - Poppelbaum, H. (1977) *A New Light on Heredity and Evolution*. St George Publications, Spring Valley, NY, USA
  - Remer, N. (1995) *Laws of Life in Agriculture*. Biodynamic Farming and Gardening Association, Kimberton, USA
  - Rossignol, M., Tizroutine, S. & Rossignol, L., (1990). *Lunar cycle and nuclear DNA variations in potato callus*. In *Geo-Cosmic Relations*. (G. Tomassen, ed.), Pudoc; Wageningen, Holland.
  - Sattler, F. & Wistinghausen, E. (1992). *Biodynamic Farming Practice*. Cambridge

- University Press, Cambridge, U.K.
- Schmidt, D. (2005) Observations in the Field of Formative Forces in Nature. Methods and Results. (Trans. Heaf, D.) BDAA, Stroud, UK
  - Spiess, H. (1990). Chronobiological investigations of crops grown under biodynamic management. 1. Experiments with seeding dates to ascertain the effects of lunar rhythms on the growth of winter rye. *Biological Agriculture & Horticulture*.
  - Spiess, H. (1990). Chronobiological investigations of crops grown under biodynamic management II. On the growth of little radish. *Biological Agriculture & Horticulture*.
  - Spiess, H. (1993). Haben Lunare Rhythmen Bedeutung für den Ecologischen Landbau? Stiftung Eco of 319 pp., the data.
  - Spiess, H. (1994) Chronobiologische Untersuchungen mit besonderer Berücksichtigung lunarer Rhythmen im biologische-dynamischen Pflanzenbau, Darmstadt.
  - Spiess, H. [Lunar Rhythms and Plants](#), Institute for Biodynamic Research web site (pdf download)
  - Steiner R, (1879) [Truth and Science](#).
  - Steiner, R. (1886). [The Theory Of Knowledge Implicit in Goethe's World Conception](#). Rudolf Steiner Publishing Co., London, UK
  - Steiner, R. (1893). [The Philosophy Of Spiritual Activity](#). Rudolf Steiner Press, London, UK
  - Steiner, R. (1993). [Lectures on Agriculture](#), 1924. translation by C.Creger & M.Gardner, Biodynamic Farming and Gardening Association, Kimberton, PA., U.S.A.
  - Thomas, N.C. (1999) [Science Between Space and Counterspace](#), N.C. Thomas, Temple Lodge Publishing, London.
  - Thun, M. & Heinze, H. (1979). *Mondrhythmen im Siderischen Umlauf und Pflanzenwachstum*. Darmstadt, Germany.
  - Thun, M. (1964). Nine years observation of cosmic influences on annual plants. *Star and Furrow*, 22.
  - Thun, M. (1991). *Work on the Land and the Constellations*. Lanthorne Press, Launceston, Cornwall, U.K.
  - Thun, M. (1999). *Gardening for Life - the Biodynamic Way* Hawthorne Press; Stroud, Gloucester, U.K.
  - Thun, M. (Each year). *Working with the Stars, a Biodynamic Sowing and Planting Calendar*. Lanthorne Press, Launceston, Cornwall, U.K.
  - van Romunde, D. (2003) *Perceiving Plants: Experiencing Elemental Beings*. Lee and Röell
  - Wachsmuth, G. (1932). *The Etheric Formative Forces in Cosmos, Earth and Man*. Anthroposophic Press; London, U.K.
  - Wildfeuer, S. (1986). *Stella Natura, The Kimberton Hills Agricultural Calendar*, 19th edn. Kimberton Hills Publications, Kimberton, U.S.A
  - Wistinghausen et al (2000) *The Biodynamic Spray and Compost Preparations. Production Methods and Direction for Use*, BDAA, Stroud, England.