



Are you feeding your plants but killing your soil? Or are you feeding your soil and watching your plants thrive and produce flower, fruit and veg. in health and abundance. Even your fresh produce will have a greater nutritional content if you follow our tried and tested programme for feeding your soil.

Angus Horticulture Ltd promotes feeding your soil so that you can give your plants increased vigour, colour and health as well as increase the nutritional content of your fruit & vegetables. Follow the Angus way:

Introduction

For years now farmers, market gardeners and commercial growers of all types of crops have been feeding plants with artificial/manufactured fertilisers. These chemical fertilisers do produce fast growing and sometimes high yielding crops. Sadly, without realising, we have been damaging our soils. High levels of soil disturbance combined with the removal of crop litter [unwanted plant material] and organic matter and the regular input of chemical fertilisers has led to weak, starved and unhealthy soils all around the developed and developing world.

Our natural soils are full of not only plant life but various beneficial fungi and numerous animal species, many of which are microscopic. These fungi & microbes work together in the soil and colonise dead & decaying plant matter [organic matter]. They also colonise plant roots. As they feed, breed and carry out their day to day life cycle in our soils they work on mineral deposits [dissolving and releasing elements], nutrient sources and in turn provide nutrition to our crops, gardens, fruit & veg., lawns etc. Not only do they provide this nutrition, but they're also nature's way of providing effective resistance for plants against plant pest and disease. Plants growing in natural rich and living soils are naturally healthier and better able to withstand disease and insect attack. In some instances the insect or disease will just not attack due to the benefits of the healthy soil fauna.

For a great deal of the 20th century the developed world has been using chemical fertilisers [e.g. [Growmore](#)] in farming, horticulture, commercial food and flower production and also in our back yards/gardens. Soils have also been regularly disturbed, turned over, thus destroying soil structure and exposing soil fauna from below the soil surface to the elements above the soil surface. Soil erosion is another detrimental effect of this practise.

Soil sterilisation, although decreasing now, for many years was widely practised. While it did help to kill weed seeds and harmful bugs it also effectively exterminated our natural beneficial soil life. So of course we then became more and more dependent on chemical input; both fertilisers and pesticides. This has become an increasing cost not only to the grower but to all of us and our environment.

I have read of and spent time with farmers in Africa where in recent years some have followed a practise called 'Farming God's way'. This zero tillage plan where plant waste is left to remain in the soil and organic matter is added has resulted in an affordable and higher yielding farming programme for some developing African communities.

At Angus Horticulture we have developed over a number of years a system of growing without the need for costly chemical fertilisers and pesticides; by introducing to soils both otherwise [depleted minerals](#)¹, [organic matter](#)² that is rich in microbes and [mycorrhizae](#)³ followed by high quality [organic fertilisers](#)⁴.



1. [Angus Rock Dust](#)

Minerals – crushed basalt rock dust. We use crushed rock [which incidentally is a waste product at the quarry & would otherwise go to landfill] for incorporating into soils and growing media. This ‘organic’ basalt igneous rock which contains olivine, feldspar and augite is rich in natural plant nutrients (particularly, but not only potassium [K], magnesium [Mg], calcium [Ca], iron [Fe] and sodium [Na]). Although not traditionally recognised as a plant nutrient, silicon [Si] is also present in generous levels. The availability of Silicon to plants has been proven to reduce the incidence of disease in crops. We have analysed our rock dust to ensure that levels of toxic heavy metals are extremely low and therefore 100% safe to use for ornamentals and food crops alike. We have looked at rock from many different quarries had them analysed and we use the best and most consistent product known to us.

Olivine [(Mg, Fe)₂SiO₄], which is magnesium & iron rich, is unstable and therefore breaks down and releases its nutrients. Feldspar, rich in calcium & silicon, breakdown into clay particles releasing calcium which is essential for cell structure within plants. The clay that is formed during the breakdown of feldspar helps nutrient buffering and improves cation exchange capacity [CEC] of the soil/growing media. Improved CEC enables more efficient use of essential nutrient by the plant. Augite [(Ca, Na)(Mg, Fe, Al)(Al, Si)₂O₆] is rich in magnesium, calcium and iron, another essential plant nutrient used in the production of chlorophyll [the green colour in leaves].

The rock dust when applied to the soil slowly breaks down with the action of weather and microbial activity and releases its nutrient to the soil thus making them available to the plants. It is also noticeable that worms and soil fauna appear to seek out this rock dust and are themselves more active when these minerals are present. This has a double benefit in that firstly the nutrients are released from the rock for the plants benefit, but also the soil/growing media becomes active with soil fauna offering even greater richness to the soil and improves plant health. The active soil fauna, microscopic creatures and beneficial fungi, not only work on the Rock Dust releasing its ‘goodies’, but also work the soil/growing media, releasing nutrients that are inherent in the soil, but otherwise unavailable [locked up] to plants. These beneficial microbes also colonise plant roots enabling better uptake of nutrients, improving plant vigour and effectively increase the plants resistance to damage from pest and disease attack.

Where soil fauna presence is believed to be low we strongly recommend the use of [Angus VermiCompost²](#) in conjunction with [Angus Rock Dust](#).

It is believed that the presence of **Angus Rock Dust** in the soil increases the rate of absorption of Carbon dioxide [CO₂] from the atmosphere thus reducing the speed of climate change.

Apply **Angus Rock Dust** as soon as possible. The sooner it is applied, the sooner it begins to benefit your soil and plants. After the first application further annual applications in the autumn are recommended.



Soil based applications

For existing trees, shrubs, herbaceous borders, bulbs, fruit trees & bushes:

- 1st application now @ **2kg/m²** [8 tonne/acre or 20 tonne/ha.]
- Annual applications in autumn/winter @ **500g/m²** [2 tonne/acre or 5 tonne/ha.]

Best applied to soil surface and covered with organic mulch [VermiCompost], nature will take the rock dust and its goodness to the root zone.

For existing lawns & pasture, meadows etc:

- 1st application now @ **2kg/m²** [8 tonne/acre or 20 tonne/ha.]
- Annual applications in autumn/winter @ **500g/m²** [2 tonne/acre or 5 tonne/ha.]

Best applied to soil surface and top dressed with organic mulch [VermiCompost], nature will take the rock dust and its goodness to the root zone

(NB: Use with care on lawns as sand/grit particles may damage cylinder mowers)

For vegetable gardens [all crops]:

- 1st application now @ **3kg/m²** [12 tonne/acre or 30 tonne/ha.]
- Annual applications in autumn/winter @ **1kg/m²** [4 tonne/acre or 10 tonne/ha.]

Best applied to soil surface, but if you are digging then we suggest you double the rate of use and incorporate to a depth of up to 300mm.

Planting of trees, shrubs and root balled plants:

- Back fill with your natural soil and 5% Angus Rock Dust.

Planting of bulbs:

- Sprinkle **2kg/m²** [8 tonne/acre or 20 tonne/ha.] to the soil surface prior to planting

Preparation for laying of turf or sowing of grass seed for lawns, pasture etc:

- Sprinkle **2kg/m²** [8 tonne/acre or 20 tonne/ha.] to the soil and rake in to the surface.

Compost / Growing media applications

Always use Angus VermiCompost with Angus Rock Dust in non-soil based growing media [commonly, but not always accurately, referred to as compost].

For all crops/plants in all types/sizes of containers mix 5% Angus Rock Dust and 5% VermiCompost with the growing media.

E.g. If using 90 litres of growing media mix in 5kg of [Angus Rock Dust](#) and 5 litres of Angus VermiCompost.

Composting

Angus Rock Dust is an ideal addition to your compost heap. Sprinkle a dusting to each layer to encourage speedy activation of microbes and ready to use compost sooner.

For other applications please don't hesitate to contact Angus Horticulture Ltd's sales office on 01241 829049 or e-mail them sales@angus-horticulture.co.uk. We'll be pleased to help. All products mentioned can be purchased in our online shop www.angus-horticulture.co.uk

According to documentation found on the Soil Associations website, ground basalt [of which **Angus Rock Dust** is an example] may, with justification, be used in the production of organically grown crops.

Soil Association organic standards|january2009 4.8.9 | Revised "With justification, you may use stone meal, such as ground basalt."
Basalt rock dust products have also been verified by Soil Association and certificated by Scottish Organic Producers Association [SOPA] and Organic Farmers & Growers [OF&G].



Angus Rock Dust analysis results

We chose to send a selection of basalt rock samples from various quarries in order to ascertain the best product for marketing for horticultural and agricultural purposes with the aim of improving soils and plant health and reducing the reliance on chemical inputs.

Having received our sample analysis results we scored each product according to the level of beneficial plant nutrients present, but also looking for the lowest levels of heavy metals.

Our independent laboratory recommended testing by the Aqua-regia Digestion process, thus offering a result that shows levels of elements that are realistically available to plants. It is likely that higher levels of some nutrients are present however, if not soluble enough to be available to plants, they are no good for the purpose. We feel, unlike some competitors, that to quote these figures would be misleading and unhelpful.

Plant nutrients

Major nutrients:

Nitrogen [N]	n/a	- not analysed – nitrogen readily changes form and leaches
Phosphorus [P]	1556mg/kg	- the best of all samples analysed
Potassium [K]	1057mg/kg	- the best of all samples analysed
Sulphur [S]	78.42mg/kg	- the best of all samples analysed
Calcium [Ca]	8469mg/kg	- a useful level of this important nutrient
Magnesium [Mg]	8820mg/kg	- a useful level of this important nutrient

Micronutrients or Trace elements:

Sodium [Na]	582.9mg/kg	- a useful level of a nutrient that is harmful in toxic qty's
Iron [Fe]	35860mg/kg	- arguably the most significant of all nutrients available, not only the best of all samples analysed but also significant advantage to plants.
Boron [B]	46.66mg/kg	- the best of all samples analysed
Chlorine [Cl]	n/a	- not analysed, results not available with method of analysis
Cobalt [Co]	7.28mg/kg	- this nutrient is widely available in most soils
Copper [Cu]	6.42mg/kg	- all samples produced similar results
Manganese [Mn]	430.1mg/kg	- about the average of all samples analysed
Molybdenum [Mo]	2.3mg/kg	- the best of all samples analysed
Zinc [Zn]	98.14mg/kg	- almost double any other sample analysed
Silicon [Si]	n/a	- not analysed, but we know it contains very useful levels

Heavy metals

Cadmium [Cd]	0.000007%	- other samples produced similarly low levels
Chromium [Cr]	0.000473%	- other samples produced as much as 18.09mg/kg
Lead [Pb]	0.001674%	- a little higher than other samples analysed
Mercury [Hg]	<0.000008%	- all samples produced the same result
Nickel [Ni]	0.000438%	- other samples produced as much as 17.15mg/kg

Conclusion: Essential plant nutrients are present in an available form and at useful levels. This product will not provide all nutrients necessary for plant growth. It will, however, facilitate the activity of soil fauna, thus releasing nutrient inherent in soils. It may be necessary to apply additional organic matter and other forms of plant nutrition.

Heavy metals are not present in volumes enough to be a concern.

Further analyses are due to be recorded soon. We have a commitment to ongoing product monitoring and improvement.



2. VermiCompost also known as wormcast

Organic matter rich in microbes and beneficial bacteria. We use organic matter from various sources all visited and approved by our qualified & experienced staff. Worms are bred for the fishing industry. The food source and breeding environment for these worms is a variety of rich organic matter [which in itself would be a healthy addition to any soil] that could include some or all of the following, horse manure, uncooked vegetables [green & root], paper mulch, cardboard, leaf mulch etc. Worms live in this mixture for up to 3 years [probably an average of 2 years depending on the worm farm], the worms are removed, worm eggs are also removed by a sieving process and what is left is a fine, rich mixture of well composted organic matter that is rich in beneficial microbes, bacteria and plant nutrients. They reckon that each particle, on average, will have passed through a worms gut 12 times! Scientists will know how many cubic units a worm will digest in a given time, it can be calculated how many worms will be taken from the organic matter and the volume of organic matter they came from and then a simple equation tells us that each particle passes through a worms gut 12 times!

VermiCompost is produced by the feeding action of earthworms. Earthworms ingest organic matter, fragmenting and grinding it into a finely divided material with high porosity, aeration, drainage and water holding capacity. This process enhances microbial activity and accelerates the rate of decomposition. This leads to a humification effect where unstable organic matter or decomposing plant and animal matter is oxidized and stabilized.

Humus forms the dark brown or black mass of the upper soil and is important for storing and releasing plant nutrients. The process is similar to composting except it is non thermophilic or a cold process utilising naturally occurring soil dwelling micro organisms. VermiCompost has a large surface area and a high cation exchange capacity [CEC] providing strong absorbability and retention of nutrients.

VermiCompost contains a far more diverse microbial population than other composts. Micro organisms play an important part in soil fertility, they not only mineralize complex substances into plant available nutrients but bacteria in the earthworms' digestive system also synthesize a whole series of biologically active substances including plant growth regulators.

Earthworms promote the production of plant hormones, auxins, gibberellins and cytokinins from organic waste. Auxins are responsible for cell elongation, cytokinins for promoting cell division and gibberellins for stem elongation. These hormones play a fundamental role in plant metabolism. They influence plant growth and development significantly when present at low concentrations.

A consistent and interesting trend for trials with plants grown in container media is for the best responses to occur when VermiCompost constitutes only 1% - 20% of the volume of the mix and with increasing proportions of VermiCompost not always improving plant growth so well. Pasture grass trials have shown the same effects with as little as 20g - 40g of VermiCompost per m² making significant improvements to grass growth.

The addition of VermiCompost has consistently improved seed germination, enhanced seedling growth and development and increased plant productivity much more than would be possible from the mere conversion of mineral nutrients into more plant available forms.



Use of VermiCompost has also been shown to reduce the incidence of plant diseases. Research indicates that microbial activity and the make up of the microbial communities existing in VermiCompost play an important role in plant growth responses. The reason appears to be that different microbes act on different substances from simple sugars to complex substances. If any are missing it will inhibit growth. The diversity of microbes in VermiCompost supplies a balanced and rich soil fauna to any soil or growing media.

The role of earthworm derived humic acids has also received much attention recently. Humic acids are produced by the breakdown of organic matter by micro organisms. They are generally negatively charged so attract positive ions, such as calcium. Humic substances promote the conversion of a number of elements into forms available to plants, of particular importance is phosphate. Phosphate reacts with other minerals in the soil, (particularly iron and aluminium) and becomes locked or unavailable to plants. Humic acids help substitute iron and aluminium with other elements e.g. calcium, making phosphate available to plants.

VermiCompost is humus rich. The breakdown of organic material by earthworms accelerates the humification of organic matter. The humic and fulvic acids produced in this process have been proven to stimulate plant growth beyond that produced by solely the mineral nutrient found in VermiCompost. Humic acids are large complex molecules. Partial oxidation of humic acids allow bonding sites for plant nutrients including calcium and magnesium and other humic like materials produced in the faeces of earthworms which exhibit auxin, gibberellin and cytokinin. Studies of the positive effects of these humic substances on plant growth when full requirements for mineral nutrition are met resulted consistently in positive effects on growth independent of nutrition. Humic acids have been reported to enhance mineral uptake by plants by increasing the permeability of the cell membranes of root cells. VermiCompost humic acids appear to have greater effects upon the root growth of the plants than on the above ground parts of the plant. Stimulation of root growth, increased proliferation of root hairs, and enhancement of root initiation by humic acids has been reported commonly by several other researchers, this means more efficient nutrient uptake by the plant.

Apply [Angus VermiCompost](#) in conjunction with [Angus Rock Dust¹](#) as the 2 products work together for the greater benefit of your soil and plant life.

Apply [Angus VermiCompost](#) at any time. The sooner it is applied, the sooner it begins to benefit your soil and plants. After the first application further annual applications in the spring are recommended.



Soil based applications

For existing trees, shrubs, herbaceous borders, bulbs, fruit trees & bushes:

- 1st application now @ **1 litre/m²** [40 litre bag will cover 40m²]
- Annual applications in spring/summer @ **1 litre /m²** [40 litre bag will cover 40m²]

Best applied to soil surface and lightly raked; nature will take the beneficials and their goodness to the root zone.

For existing lawns & pasture, meadows etc:

- 1st application now @ **1 litre/m²** [40 litre bag will cover 40m²]
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For vegetable gardens [all crops]:

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Best applied to soil surface and lightly raked; nature will take the beneficials and their goodness to the root zone.

Planting of trees, shrubs and root balled plants:

- Back fill with your natural soil and 5% - 10% Angus VermiCompost.

Planting of bulbs:

- Sprinkle **1 litre/m²** [8 tonne/acre or 20 tonne/ha.] to the soil surface prior to planting

Preparation for laying of turf or sowing of grass seed for lawns, pasture etc:

- Sprinkle **2kg/m²** [40 litre bag will cover 40m²] to the soil and rake in to the surface.

Compost / Growing media applications

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3. [Mycorrhizae](#)

Our third naturally occurring soil improver and plant stimulant is a soil organism that colonizes plant roots [most species] in a symbiotic relationship. Mycorrhizae fungi are like microscopic root threads known as hyphae.

"We discern a closed chain of cause-and-effect relationships in the role of endo mycorrhizal fungi in the plant-soil system - the fungi improve the health and development of their host by enhancing plant nutrition and disease and stress resistance; the more vigorous plant is a better source of carbon to the soil, which encourages the activity of the soil biota; the products of microbial metabolism enhance soil aggregation; and better soil structure permits better plant and endo mycorrhizal growth." Drs. Bethlenfalvay and Linderman of the USDA Horticultural Crops Research Laboratory.

Because biologically-active soils generate plant nutrients, natural nutrient generation processes are constantly taking place in undisturbed soils. Due to the disturbance and interference of soils and the nutrient balance farmers and growers have had to take on the plant-feeding role that had previously been efficiently managed by large populations of mycorrhizal fungi working in cooperation with bacteria, earthworms, and various other soil organisms.

Other than seeking nutrients in the soil, what else do the fungi do?

Finding nutrients, particularly phosphorus, and delivering them into the host plant is the most obvious function, but there are also important disease and pathogen suppression benefits for a mycorrhizal plant.

Some of the enhanced plant health comes simply from the plant being much better nourished, but the fungi also protect roots in other ways. First, by colonizing and filling the zone around the roots with sticky hyphae, pathogens have a far more difficult time just getting to the roots. One study reported 70% less nematode damage to roots inoculated with the endo mycorrhizae *Glomus mosseae*, although there were large numbers of nematodes in the surrounding soil.

If pathogens or disease organisms do enter the root zone, the fungi are what the scientists call "antagonistic". The fungi produce specific target antibiotics, and some have even been observed wrapping their hyphae around nematodes to immobilize and kill them (taking nutrients from the dead nematode bodies to the host plant afterwards).

What plants use mycorrhizal fungi?

Some plants are so dependent on mycorrhizae they may struggle to survive without it. A few extremely dependent ones are avocados, bananas, all types of citrus, and grapes.

Other types may not be quite as dependent, but will still benefit greatly from having the right mycorrhizae on their roots (examples are asparagus, artichokes, melons, tomatoes, peppers, and squash (note the common element of thick fleshy roots with few feeder roots on all of these). The beet and cabbage families plus a few others apparently do not rely on mycorrhizae.

The presence of mycorrhizae or a mycorrhizal plant plays an important role in the maintenance and improvement of soil structure and texture. The hyphae clump individual clay particles into aggregates, thereby allowing more oxygen to reach the root zone. This promotes the rapid multiplication of beneficial aerobic bacteria, which fix nitrogen, solubilise phosphorus, and process other elements into forms plants can use. As the fungi are also aerobic organisms, this forming of tight clay soil into a granular texture is a rather clever and useful thing to do.



The fungal hyphae will also clump together sand into an underground biomass, which then becomes an ideal moisture-holding environment for plant roots and bacteria. We see some of the most dramatic test versus control differences in pure sand desert conversion areas, where the physical clumping of sand grains is probably even more important than the seeking-out of nutrients.

Aren't there already mycorrhizal fungi in most soils?

In undisturbed soils, yes. However, tillage, fertilization, erosion, fumigation, wrong crop rotations, leaving soil bare, and many other factors may have caused the fungi population to be depleted, and they often need to be reintroduced. Even growers who believe they have active soil may discover that new species of mycorrhizae are worth introducing.

Home gardeners report double or triple melon and tomato yields on treated versus untreated plants, but to be honest, others say that they note little difference. Most likely, when both inoculated and non-inoculated plants bear very heavy crops, there were already good populations of mycorrhizal fungi in the soil.

There are currently seven types of endo Mycorrhizal species in our inoculants *Glomus brasilianum*, *G. clarum*, *G. deserticola*, *G. intraradices*, *G. monosporus*, *G. mosseae*, and *Gigaspora margarita*.

It may seem unscientific to apply several types and "just let them sort themselves out", but we feel that is actually the best way to ensure that at least one desirable type will perform well in almost any situation.

How durable are the dormant spores?

If our inoculants are kept cool (under 32°C) and are not exposed to sunlight we expect a shelf life of at least two years, but the viability of spores in their fully-dormant state can be much longer than that. One noted soil scientist said that he would be willing to bet that some spores from deep inside the pyramids would still activate with exposure to the right root exudates.

Can the fungi help growers with problem soils?

When the fungi take charge of a plant's root system, they are able to regulate the uptake of potentially harmful elements. This ability to "screen out" toxins has long been recognised by soil restoration professionals, and it is common to specify that mycorrhizal transplants be used on large projects.

How do you apply **Angus Mycoforce Transplanter inoculant to plants?**

1kg will treat 333 2 litre – 3 litre plants; as a general guide apply 1g of transplanter per litre of rootball or growing media.

The objective is to get an even coating of mycorrhizal spores over the young feeder root system on the outside of the rootball bringing the dormant spores out of dormancy as fast as possible by putting them in direct contact with roots. This can be achieved by any of the following methods:

1. Dust the powder lightly over the root ball
2. Mix Angus Mycoforce Transplanter with water and drench the root ball
3. Backfill around the rootball to within approx. 100mm of the finished soil level. Dust the perimeter surface of the rootball with transplanter and finish backfilling.

This inoculant can also be used with seeds and blended into potting and seed growing media.

For best results ensure high levels of organic matter is present – use [Angus VermiCompost](#).

When feeding use one of our [100% organic fertilisers](#).

[Mycorrhizae Transplanter 1kg](#) [Mycorrhizae Transplanter 300g](#)



4. [100% Organic Fertilizer](#)

We have sourced what we believe to be the best organic fertilisers [liquid & granular] on the market. We buy in Europe from an [experienced company](#) who has produced nothing but organic fertilizers and organo/mineral products for more than 40 years. Our organic fertilizers are manufactured entirely with 'green energy'. The factory is self sufficient for power with the roof covered with solar panels. The fertiliser is not made from a cheap source of chicken manure which has inconsistent levels of nutrient, but from renewable sources of high quality organic matter offering both N P & K + secondary & trace nutrients in a traceable organic form. The raw materials are bound together in a manufacturing process that produce a high quality crumb or granule that is then coated in a organic solution to keep the product dust free and sweet smelling.

By using our 100% organic plant nutrition products you can avoid the application of damaging chemical fertilisers, introduce more organic matter and ensure your plants have sufficient nutrient to perform without the unnecessary and damaging effects of using conventional chemical fertilisers.

Products available in the range are:

[Organic Universal](#) [general purpose] [Plant Fertilizer](#) is a slow release formulation; a good general purpose fertiliser that will replace the conventionally used '[Growmore](#)' and perform better. It also has added magnesium and essential plant nutrient. Use at 50 – 100g/m².

[Organic Lawn Feed](#) is a slow release formulation; a good alternative to all spring and summer lawn fertilisers and said by those who have used it to perform better than any lawn fertiliser they have previously used. This product contains added magnesium for good grass colour. Use at 50 – 100g/m².

[Organic Tomato Fertiliser](#) is a slow release formulation with a high potash content essential for good quality tomatoes, cucumbers, strawberries and raspberries. The added magnesium in this product makes it the ideal fertiliser for these crops. Use at 50 – 100g/m².

[Organic Rose Food](#) is a slow release formulation with essential nutrients including magnesium for perfect Roses. Use at 50 – 100g/m².

[Organic Autumn Food](#) formulated especially to provide the correct nutrient balance [high in potash] to harden plants prior to cold winter weather. Use on lawns, shrubs, trees, roses at 50 – 100g/m².

[Organic Container Plant Food](#) formulated especially to provide the best nutrient availability for plants grown in tubs, containers, hanging baskets etc.

[Organic Autumn Plant & Lawn Food](#) formulated with high potassium for hardening plants ready for the winter to help protect from frost and disease susceptibility.

[Organic Universal Liquid Plant Food](#) formulated for easy use when watering all plants including the feeding of indoor plants.

[Organic Tomato Liquid Plant Food](#) especially formulated to feed tomatoes, cucumbers, strawberries and other flowering and fruiting plants.

We also have a full range of other organic fertilizers formulated for the professional amenity and horticultural markets and can offer these in retail packaging. Please ask for your specific requirements.

For specific advice or any queries please don't hesitate to contact Angus Horticulture Ltd's sales office on 01241 829049 or e-mail them sales@angus-horticulture.co.uk. We'll be pleased to help. All products mentioned can be purchased on our online shop www.angus-horticulture.co.uk



Conclusion

The formula described in this paper, 'The Angus Way' feeds soils giving mineral and organic matter richness with high levels of humus and soil fauna. Plants will thrive in such conditions, not only growing better, more vigorously, healthier and without the need for as much attention but the produce from these plants will also have higher nutritional value and will be better for our health. This formula is also good for grazing animals and reduces if not eliminates our dependence on damaging chemicals.

Features & Benefits:

Low effort – zero tillage	Reduced erosion Reduces moisture loss / improves moisture retention Reduces labour [& machinery] input Doesn't harm soil structure Doesn't harm soil life [worms, microbes and beneficial fungi]
Use of Angus Rock Dust	Introduces depleted minerals Encourages active microbes Naturally nutrient rich soils – healthy plants Balanced soil life – less damage from harmful pest & disease Less requirement for pesticide use Environmental CO ₂ reduction
Use of Angus VermiCompost	Introduces microbes and organic matter Improves soil structure – both microbes and organic matter Increased utilisation of inherent soil nutrients Healthier plants with reduced susceptibility to disease etc Less dependence on damaging chemicals
Use of Mycorrhizae	Ensures plants get the nutrients they require Releases inherent but difficult to get at nutrients to plants More efficient nutrient uptake Healthier and more disease resistant plants Less dependence on damaging chemicals
Use of organic fertiliser	Become less dependent on chemicals Feeds soil which in turn feeds plants Doesn't kill the soil fauna and structure Provides humus rich organic matter Provides balanced N P & K with secondary elements Developed according to crop requirements Crop specific formulations & universal formulations



Organic – doesn't mean organic!

The myth about organic growing. It is unfortunate that the term 'organic' has now become a very misleading term. It has become to mean whatever a particular organic accreditation body/organisation has on its agenda. The agenda may be very commendable, but the terminology is certainly misleading and so is the public perception. I have spoken to many and indeed heard in the national press well known horticultural broadcasters speaking on the subject suggesting that organic means pesticide free. This most certainly is not the case. In fact I know of some conventionally grown crops which are grown pesticide free whereas many organic crops are actually using some of the nastiest pesticides available. They might be naturally occurring, but certainly they are potentially dangerous. Whereas peat is certainly organic, but not certified for use in 'organic accredited' growing systems; arguably with good reason, but this does make the term 'organic' very untrustworthy and certainly almost impossible to translate.

Did you know that a huge percentage of plant nutrients applied to crops never reach the plant?

Nitrogen is very easily leached and therefore the wrong form of nitrogen in the wrong soil type will often have very little benefit to the crop but can be very harmful to the environment. This is much less likely when using organic nitrogen sources.

It is estimated that 85 – 95% of phosphorus applied to crops is never taken up by plant roots. Before the plants get a chance to take it up it is locked up by other elements in soil and made unavailable. Some soils around the UK have very high levels of P after many years of fertiliser application, but little of it is available to plants. Angus Horticulture Ltd's formula for healthy soils will begin to rectify this as the healthy soil fauna and mycorrhizae begin to break down these 'locked up' nutrients.

Growing media or compost?

What is compost and what is growing media? Simple really. Compost is a product that is produced by a composting action of one method or another. Growing media is a substance for growing in. Sometimes we are misled by the term compost. It is important to recognise that not all compost is a suitable growing media. A growing media must have the ability to provide an environment where plants can obtain the perfect balance of air, water and nutrients. The best growing mediums in the world have to be our natural, undisturbed and non-toxic soils.

Peat, coir, bark, rock wool, perlite, JI, green waste and many others often fall short and many of them a long way short. Growers using these mediums will have to manage the nutrient and water supply very carefully to ensure best results. Angus Horticulture Ltd do not sell growing media [except coir substrate for professional strawberry growers, coir is probably the best growing media apart from our natural soils], but we do offer products that can substantially improve your chosen substrate.

For our full range of [soil conditioners, compost additives and substrate improvers](#) please contact Angus Horticulture Ltd's sales office; we'll be pleased to help. Telephone: 01241 829049; email: sales@angus-horticulture.co.uk; all products can be purchased @ www.angus-horticulture.co.uk