



### The Vegan-Organic Network

The Vegan Organic Network is a registered charity (registered charity number 1080847), providing education and research in vegan-organic principles and has an international network of supporters. VON supporters enjoy a wide variety of contacts and can obtain advice on cultivation techniques. The magazine *Growing Green International* is sent to supporters twice a year. For more information and details of how to join, please contact:

VON, 161 Hamilton Rd, Longsight, Manchester M13 0PQ  
Email: [info@veganorganic.net](mailto:info@veganorganic.net)

General enquiries and advice on growing:  
Phone: 0161 928 3614  
Email: [advice@veganorganic.net](mailto:advice@veganorganic.net)  
Website: [www.veganorganic.net](http://www.veganorganic.net)

### Vegan-Organic information sheets

This is one of several sheets produced on various topics by the Vegan-Organic Network. These are aimed mainly at those with allotments, kitchen gardens or other small growing areas, although many of the techniques will also apply to larger-scale situations. We welcome feedback on this information sheet and any other related topics. The information sheets currently available are: #1 Propagation and Fertilisers; #2 Growing Beans for Drying; #3 Growing on Clay Soils; #4 Vegan-Organic Growing - The Basics; #5 Fungi - FAQ; #6 Gardening for Wildlife; #7 Growers' Guide to Beetles; #8 Green Manures; #9 Chipped Branch-Wood; #10 Composting.

These are available on request. Please send £5.00 per set, or 60p each (£6 and 75p respectively if outside the UK). The sheets are also available free on our website.

Issued March 2005. This advice is given as guidance only, with no responsibility for any results, due to the nature of the processes involved!



Vegan-Organic Information Sheet #5 (60p)

## Garden Fungi - FAQ

### Growing with concern for people, animals and the environment

Organic growing involves treating the soil, the growing environment and the world environment as a resource to be preserved for future generations, rather than exploited in the short term. Vegan-organics means doing this without any animal products at all, which is not difficult when you know how. *All soil fertility ultimately depends on plants and minerals - these do not have to be passed through an animal in order to work.* Fertility can be maintained by plant-based composts, green manures, mulches, chipped branch wood, crop rotations and any other method that is sustainable, ecologically benign and not dependent upon animal exploitation.

The guidelines below do not attempt to be fully comprehensive. *The extent to which you adhere to any system really depends on you, your conscience and circumstances.* We can only do our best with our available time and money. The Vegan-Organic Network has now published comprehensive Stockfree Organic Standards, which are available to commercial growers and can also be used as a reference for home growers. Of course,

no one person or organisation knows everything about the subject, so constant co-operation and updating of ideas and information is needed.

Whilst conventional cultivation relies on synthetic chemicals and animal products, traditional organic production also generally relies on animal wastes and by-products. Both involve the exploitation of living creatures, and the inefficient use of land, water and energy resources. Vegan-organic methods minimise these drawbacks. Many people who are not themselves vegan or vegetarian are coming to appreciate that animal-free growing is the most sustainable system: it is the future of organics.

### Why should I be interested in fungi?

Building good soil begins with fungal activity and many diseases are both caused and solved by fungi. Some plants are so dependent on fungi that they can't survive without them. This relationship can be at the root zone or in the leaves. It is now known that some fir trees have fungi that activate when the needle is attacked. This in essence is the immune system and adapts in areas where the tree is unable to adapt. Fungi should be en-

couraged where the soil is cultivated using vegan-organic methods.

It is also suspected that the decline in forest and farm soils is related to fungi diversity loss. This view seems to be mainly among mycologists at present but the supporting evidence is growing.

Some interesting facts about soils and fungi:

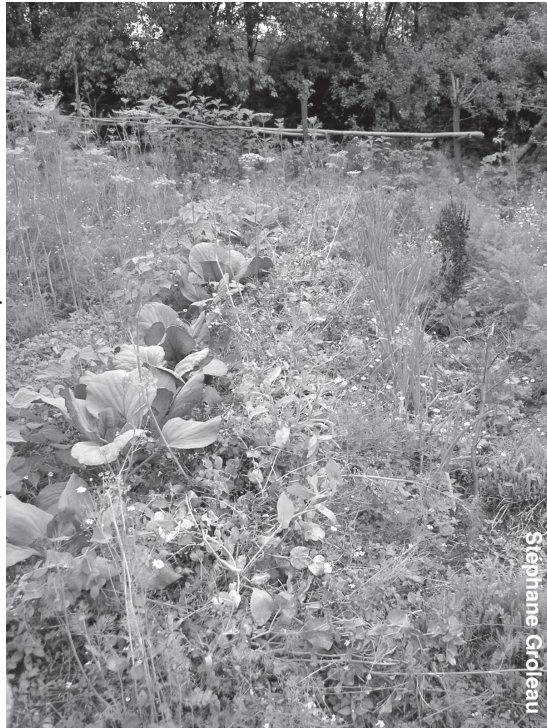
- Of the estimated six million species of fungi we have catalogued about 50,000.
- An important component of soils are actinomycetes, which have been called both fungi and bacteria.
- Fungi can selectively modify soil pH.
- Fungal die-off is an early sign of ecological collapse.

All this indicates fungi as part of one of our biggest frontiers to be explored: soil.

**If we encourage fungi won't that also encourage fungal diseases?**

It is usually a question of balance. The

fungi are always around and we want to make sure their predators are also around. Often those predators are other fungi. In addition, fungi can control some non-fungal pests, so usually we end up gaining more than we lose.



**Good habitat for fungi: crop diversity, mulch, permanent cover, no till**

### Can I add fungi to the soil?

Yes, the brewing of compost teas is one way to improve the fungal balance. These can be made by steeping a cloth bag of mature compost in a barrel of water, or cramming nettles/comfrey/weeds into a barrel of water. In each case, leave for a few weeks, then dilute with about 3

times as much water and spray on bare soil or around plants; a little molasses can be added to the brew. Preferably use rain or well water as the chlorine in tap water inhibits fungal growth. Such brews are smelly but high in soluble nutrients and will feed plants and the soil; see *Information Sheet #1* for more details.

### What is ideal fungi habitat?

It is doubtful that all the fungi in the

## Books

Readily available handbooks, which are not wholly vegan but provide good vegan alternatives are: *The Organic Bible* by Bob Flowerdew (ISBN 1856265951) and *The New Organic Grower* by Elliot Coleman (ISBN 093003175X).

*Weeds* by John Walker is an earth-friendly guide to tackling weeds and making good use of them. Published by Cassel (ISBN 1 84403 061 X).

The following books are available from The Vegan Society, Donald Watson House, 7 Battle Rd. St Leonards-on-Sea, East Sussex TN37 7AA. Tel: 01424 427393. [www.vegansociety.com/shop](http://www.vegansociety.com/shop):

*Abundant Living in the Coming Age of the Tree* by Kathleen Jannaway (ISBN 0951732803) – towards a vegan, self-sustaining tree-based culture.

*Forest Gardening* by Robert A de J Hart (ISBN 1900322021) – turn your garden or allotment into a vegan-organic, permaculture-based mini-forest.

*Permaculture: A Beginner's Guide* by Graham Burnett – apply the principles of sustainability and working with nature to your land, your community and your life.

*Plants for a Future* by Ken Fern (ISBN 1856230112) – pioneering book that takes gardening, conservation and ecology into a new dimension. Information about growing edible and other useful plants.

*The Animal Free Shopper* (ISBN 0907337252) – The Vegan Society's guide to all things vegan includes a section on garden products.

## Seeds and Supplies

**The Organic Gardening Catalogue**, Riverdene Business Park, Molsey Rd, Hersham, Surrey KT12 4RG, UK. Tel: 01932 25366. [www.organiccatalog.com](http://www.organiccatalog.com). Seeds and products such as fertilisers and compost listed as organic and animal-free.

**Suffolk Herbs**, Monks Farm, Coggeshall Rd, Kelvedon, Essex CO5 9PG. Tel: 01376 572456. [www.suffolkherbs.com](http://www.suffolkherbs.com)

**Chiltern Seeds**, Bortree Stile, Ulverston, Cumbria LA12 7PB. Tel: 01229 581137. [www.edirectory.co.uk/chilternseeds](http://www.edirectory.co.uk/chilternseeds). Wide range of seeds including uncommon and unusual vegetable varieties.

**Tamar Organics**, Unit 5A, Westbridge Trading Estate, Tavistock, Devon PL19 8DE. Tel: 01822 834887. [www.tamarorganics.co.uk](http://www.tamarorganics.co.uk). Excellent organic seed supplier.

## Mushroom Sources

### Gourmet Woodland Mushrooms Ltd

One of the aims of this vegan-run company is to promote the cultivation and consumption of wood decomposing mushrooms as an ethical, healthy and tasty alternative to the ubiquitous button mushroom. They run introductory training courses to familiarise potential cultivators with the techniques required to produce commercial crops from low grade timber and associated by-products. They offer a 50% discount on courses to charitable institutions and their members. They also sell DIY oyster and shiitake kits, which can be grown out of books or wood.

Gourmet Woodland Mushrooms Ltd, The Glebe, Westgate Carr Rd, Pickering, N Yorks YO18 8LX, tel 01751 475900. [www.gourmetmushrooms.co.uk](http://www.gourmetmushrooms.co.uk).

**Seeds of Italy**, 260 West Hendon Broadway, London NW6 6BE, tel 020 89302516; [www.seedsofitaly.sagenet.co.uk/funghi.htm](http://www.seedsofitaly.sagenet.co.uk/funghi.htm). They sell mushroom spawn and trees inoculated with truffles.

**The Humungus Fungus Project:** Growing mushrooms commercially on logs. See [www.jac-by-the-stowl.co.uk](http://www.jac-by-the-stowl.co.uk).

**Some interesting US websites:** [www.mushroompeople.com](http://www.mushroompeople.com); [www.fungi.com](http://www.fungi.com); [www.mykoweb.com](http://www.mykoweb.com).

**Book:** *Growing Gourmet and Medicinal Mushrooms* by Paul Stamets, ISBN 1580081754

## Organisations

**HDRA**, Ryton Organic Gardens, Coventry CV8 3LG. Tel: 024 7630 3517. [www.hdra.org.uk](http://www.hdra.org.uk) Demonstration gardens and education centre at Ryton, which is presently being expanded. Some of their advice is based on animal products but this can be adapted. Members receive a quarterly magazine, *Organic Way*.

**Movement for Compassionate Living**, 105 Cyfyng Rd, Ystalyfera, Swansea SA9 2BT. Tel: 0845 4584717. [www.mclveganway.org.uk](http://www.mclveganway.org.uk). MCL produces a quarterly magazine, information and books on cultivation, cooking, etc., emphasising locally grown food and cruelty-free sustainable methods, especially the growing and use of trees.

**Plants for a Future**, Blagdon Cross, Ashwater, Beaworthy, Devon EX21 5DF. Tel: 01208 872963. [www.pfaf.org](http://www.pfaf.org). Researching ecologically sustainable vegan-organic horticulture; an excellent resource and information centre. The website contains much useful information.

**Spiral Seed**, 35 Rayleigh Avenue, Westcliff-on-Sea, Essex SS0 7DS. [www.spiralseed.co.uk](http://www.spiralseed.co.uk). Have publications, vegan-organic information and ideas including lots on vegan permaculture, very useful as most 'permaculture' involves animal exploitation. The website is a mine of information.

world and the roles they play will ever be known. This makes precise answers difficult but we can make some generalizations. Fungal-dominated soils occur in forests and grasslands with the following characteristics:

1. Stable perennial plant cover with which to interact.
2. Mulch layer as food supply. (For prairies it is reversed, root death provides the food.)
3. Mostly undisturbed soil (not tilled).

Other characteristics are diversity and change. It is common for a fungus to find a home and spread slowly, consuming its preferred food and leaving an open centre. This appears as a ring of mushrooms after a few years. It is called a fairy ring and may not seem interesting, but consider this: a fairy ring 150 miles across was discovered in the American midlands. This suggests slow change everywhere these rings are growing and interacting.

The diversity factor consists of fungi populations eating each other, being eaten by just about everyone, and constantly changing. It is impossible to predict all the soil interactions so one answer is diversity. Have the good guys present and ready to fill the niche.

### How do I know if my soil has a good fungal balance?

Once the land has been cultivated using

vegan-organic methods for some years it is likely to be in good shape, assuming that proper techniques have been used. If the land has been fallowed, treated with fungicides (especially those used to control club root), intensively cropped using chemical fertilizers or overdressed with animal manures (which can contain powerful fungicide residues or cause overacidity) then it would benefit from the use of compost teas or other additions of fungus. Various adverse soil conditions such as overliming, alkalinity, waterlogging or lack of humus will inhibit a good fungal balance.

The performance of vegetation is often a good indicator. If plants are growing poorly then there can of course be many reasons: the books listed below under 'Resources' will offer suggestions, but additions of fungus can also be made. Some plants that prefer fungal soils are: conifers, grape, apple, forest plants, most deciduous trees, citrus and strawberries.

So how do I use all this information? Increasing soil bioactivity and being aware of how balance works is a good place to start. Also look at all the techniques that use perennials mixed with annuals to build habitat. This includes:

- Alley cropping: nitrogen-fixing trees coppiced to provide mulch. Mixing alders and potatoes, for example. This appears to provide sustainable yield. The alders work in conjunction with actinomycetes at their roots.

- Forest Gardens: this technique mixes perennials with annuals and attempts to build a diverse ecosystem. Several books exist on this topic.

- The study of agroforestry includes other systems with similar characteristics. Other things to consider are no-till and

limited crop rotation. Where soils need to be tilled the use of compost teas can help restore the soil life balance. Teas can be brewed for increased bacteria by increasing the sugars or for increased fungi by increasing the cellulose, starch, and gums. Year-round gardening is another

good technique. Having plants around also helps their supporting fungi to survive. If we combine this with mulching and a few perennials our diversity is maintained and the soil is much more adaptive.

Even land in good condition can benefit from a maintenance application of

compost tea if you have the time and opportunity to do it.

#### What about pesticides and herbicides?

Caution to the point of complete avoidance is the safest approach with pesticides. Where ever possible building

healthy ecosystems with predators is much preferred. Often this is more labour-intensive and can impact profits. On the other hand, it provides meaningful work and connects us back to the land.

#### Can I grow edible mushrooms in my garden or allotment?

Yes, but reliable results are difficult without careful procedures. There are also problems with identifying mushrooms, which need to be considered. We are surrounded by fungal spore looking for a home and this presents some problems.

In commercial mushroom farms about half the work is maintaining spore and



Shiitake mushrooms growing on a log

Gourmet Woodland Mushrooms

propagating it. This spore is then used to quickly inhabit a sterile medium. Even these commercial methods sometimes fail.

Some things gardeners can do are: 1) Buy a mushroom kit and spread the inoculated medium on a suitable shady patch of rich soil or lawn; then spread a woody material on top, 2) Buy a mushroom kit and grow the mushrooms, then spread and cover the spent medium in the same way, 3) Buy mushroom spore or plugs and inoculate the garden directly, again selecting a shady patch of rich soil or lawn. Choose a damp day in spring or autumn to attempt these methods. We don't know if these products will be vegan-organic at source, animal manure is often used in commercial mushroom production.

Another method is to obtain a known mushroom spore from the store or other source. This can be mixed with a dilute molasses slurry and left to grow. The result can be sprayed in a good habitat and may take up residence (see THE FARM web pages for techniques).

#### Which mushrooms are recommended for garden growing?

Gardeners should first decide if they have a site suitable for mushrooms and then pick types that will fit the habitat. Here are some candidates:

- Oyster, one of the easier mushrooms to grow but it can be confused with other mushrooms. Habitat would be compost

piles or a prepared medium.

- King Stropharia, can be grown in soils amended with chopped straw.

- Shiitake, can be grown on wood.

- Shaggy Manes, can be grown in very rich soils and near compost piles.

- The Mycorrhizal species (chanterelles, king boletes, matsutake, and truffles) are possible candidates for seeding by slurries or inoculated trees. This still seems to be a controversial issue. A few people claim success and others are questioning the results.

Information on mushroom gardening can be obtained from Paul Stamets' books and from local mycological societies. Trial and error procedures can be risky with mushrooms so good information is important.

#### What about collecting wild fungi from the garden or field?

Many people collect wild fungi to eat, but the **greatest caution** must be observed. Most of the common edible types have nasty or deadly look-alikes; you can pick up toxins just licking your fingers after handling some species. Overpicking may deplete a species. The illustrations in many guides can be deceiving. Unless you are really an expert, **don't** take risks, and don't believe your friends who may think they know what's edible either.