1 & 2 Why Community Compost?

Welcome to Community Composting

Community Composting is where a community gets together to make compost. It is a very rewarding activity. Community composting make sense of valuable resources that are so often regarded as 'waste' or 'rubbish'.

Community Composting also helps local authorities fulfil their commitments to wiser use of resources under Local Agenda 21.

Local Agenda 21

At the Earth Summit in Rio in 1992, the governments of the world committed themselves to caring for and using the earth's limited resources more fairly and wisely. This was called Agenda 21 : from this they realised that, in order for their commitment to become reality, they must work at the local level.

Local Agenda 21(LA21) is all about local people setting their own agenda for action, to help improve their own immediate area. LA21 provides the opportunity for all to make a positive contribution to their environment.

Community composting is a way of putting words into action. People are increasingly beginning to think about how they live their lives and how much waste they produce. Establishing Community Composting schemes will act as a catalyst to provide a global solution to a local problem.

Why make compost?

Twenty million tons of domestic rubbish is produced in the UK each year, and around 25 – 30 per cent of this consists of compostable kitchen scraps and garden clippings. There is a government target to recycle or compost 25 per cent of this valuable resource by the year 2000.

Composting reduces the amount of waste we throw away, using it to make a valuable soil improver for gardeners, growers and landscapers.

The benefits of making compost may be felt by individuals, by the community and in the natural environment. Dustbins smell much sweeter if the compostable waste is removed, and sorting the rest of the rubbish for recycling becomes a much more pleasant task.

Reduction in the amount of waste being sent to landfill has a number of advantages. Pollution from the sites is reduced, a smaller area of land is used up, and liability for landfill tax by waste disposal companies is lessened, lowering the overall cost of dealing with waste.

If compostable material can be put to good use then less will be burnt on garden bonfires and this in turn will help reduce smoke pollution. The likelihood of fly-tipping of garden residue is diminished if it can be made into a useful product instead.

Depending on its properties, the end product can become a soil improver, mulch, or potting mix ingredient. These recycled products can be used instead of peat, which is good news for threatened peatlands and their wildlife,

Where compost heaps are created they encourage a range of wildlife such as grass snakes and hedgehogs. Worms and beneficial creatures that make their home in the heaps can spread out from there into the surrounding soil, enhancing the natural recycling processes.

There are other fringe benefits from composting, such as the production of heat in the breakdown process. This can be used to heat a greenhouse or water piped through the heap.

Compost can be made in the back garden by individuals. Even in a flat or house with no garden, a worm bin can be set up to recycle kitchen scraps. When people get together, however, larger quantities of material can be composted for the benefit of the community as a whole.

Peatland conservation

Peat comes from fragile peatland habitats and to extract it peat bogs are dreained and stripped of vegetation – destroying their wildlife. Peatbogs are vitally important. The rarest type of bog is found in the lowlands. These 'raised' bogs are islands of sphagnum moss, living history books and home to fascination plants and animals such as the sundew and the raft spider. Amazing finds have been made in peat bogs including the mummified bodies of people who died thousands of years ago. Bogs store carbon, stopping it from escaping into the atmosphere as carbon dioxide – a 'greenhouse gas'. Lowland raised bog is one of Europe's rarest, most threatened habitats.

Only 6,000 ha of lowland bog remains in a near natural state in the UK (in 1997): 94 percent has been destroyed or damaged. People who would never dream of using products made of tigers and rhinos are causing the destruction of our own rare species by using peat in their gardens.

Composts and leafmould can replace peat in the garden, giving peatland wildlife a better chance of survival.

What is Community Composting?

Community Composting is where a group of people, a village, or couple of streets share a composting system. The community provides the raw materials and benefits from the end product. A portion of the material currently being disposed of in landfill sites is turned into a valuable product for use in the community, either by individuals in their own gardens or for larger projects within the local environment. It also helps local authorities meet government recycling targets.

What are the advantages?

There may be times when making compost alone is either impractical or undesirable. For example, a small back garden may not produce enough matter or the right balance of soft and woody material to build a successful compost heap. Working together for the benefit of the community pools resources and can make the venture more viable as well as more enjoyable.

Advantages of Community Composting

- Recycles one person's waste into another's resource
- Pools raw materials, enhancing the chances of creating a good end product
- Means fewer car trips to the tip
- Shares labour and enthusiasm
- Shares expense, materials, tools etc
- Groups can attract funds more easily than individuals
- Builds community spirit
- Provides education about recycling, composting and soil care
- Encourages an exchange of knowledge and experience between sectors of the community such as young and old, beginner and expert
- Raises awareness of environmental issues and problems
- Helps local authorities fulfil their commitment to Local Agenda 21 issues
- Makes it easier to take advantage of local marketing opportunities

The concept is a relatively new one, and projects are springing up all over the country. The Community Composting Network (see below) has a membership of more than 60. all the signs point to a substantial increase in Community Composting throughout the UK, and beyond.

Much of the legislation relating to Community Composting is untried and is developing as time goes on. Changes will occur in the laws and in their interpretation. Local authorities have different approaches to Community Composting. It is important to check with the relevant officials at each stage. What is permissible in one area may well not be in another.

Community Composting Network (CCN)

The Department of the Environment supported the establishment of CCN through the Environmental Action Fund in 1996.

Aims of the CCN

- To provide accessible, practical information about composting, including the social, legal, and financial aspects
- To identify all Community Composting projects throughout the country and catalogue the extent and nature of their work

- To promote information sharing, problem solving and buddy systems between projects

When considering starting a project, the CCN should be your first port of call. The Network is staffed part-time and produces a quarterly newsletter. Its steering group is made up of people who are closely involved in Community Composting and other recycling activities. They should be able to advise on all aspects of your operation and on any changes in legislation. The Network can supply a list of current projects – so you can get in touch with any other groups in your locality.

3 Planning the Enterprise

The aims of this pack

This action pack is designed to provide the information you need on all aspects of a Community Composting operation. Help and advice is offered for all stages, from the initial planning to the distribution of your valuable compost. This card will serve as a check list to help steer you through the operation, from the initial idea to finding uses for your end product. Community Composting projects sometimes fail due to some breakdown in the flow of operations. Careful planning from the beginning will minimise problems.

Aims of the enterprise

The aims of a Community Composting venture are to recycle valuable materials, removing them from the waste stream and producing a good quality compost and other products, which can be used in the garden and landscaping. This will reduce the amount of material being disposed of in landfill sites, and provide a range of products that can be used as a soil improver or growing medium ingredient.

Forming a group

For legal and financial reasons as well as for pooling labour resources, it is necessary to form a recognised group. Legally this has to be a minimum of two persons; in fact this is likely to be a small group of like-minded individuals who want to start making compost or who are already involved in some related activity, such as another form of recycling or allotment gardening. This group of individuals can then form a Composting Club
(see *Legal Aspects*).

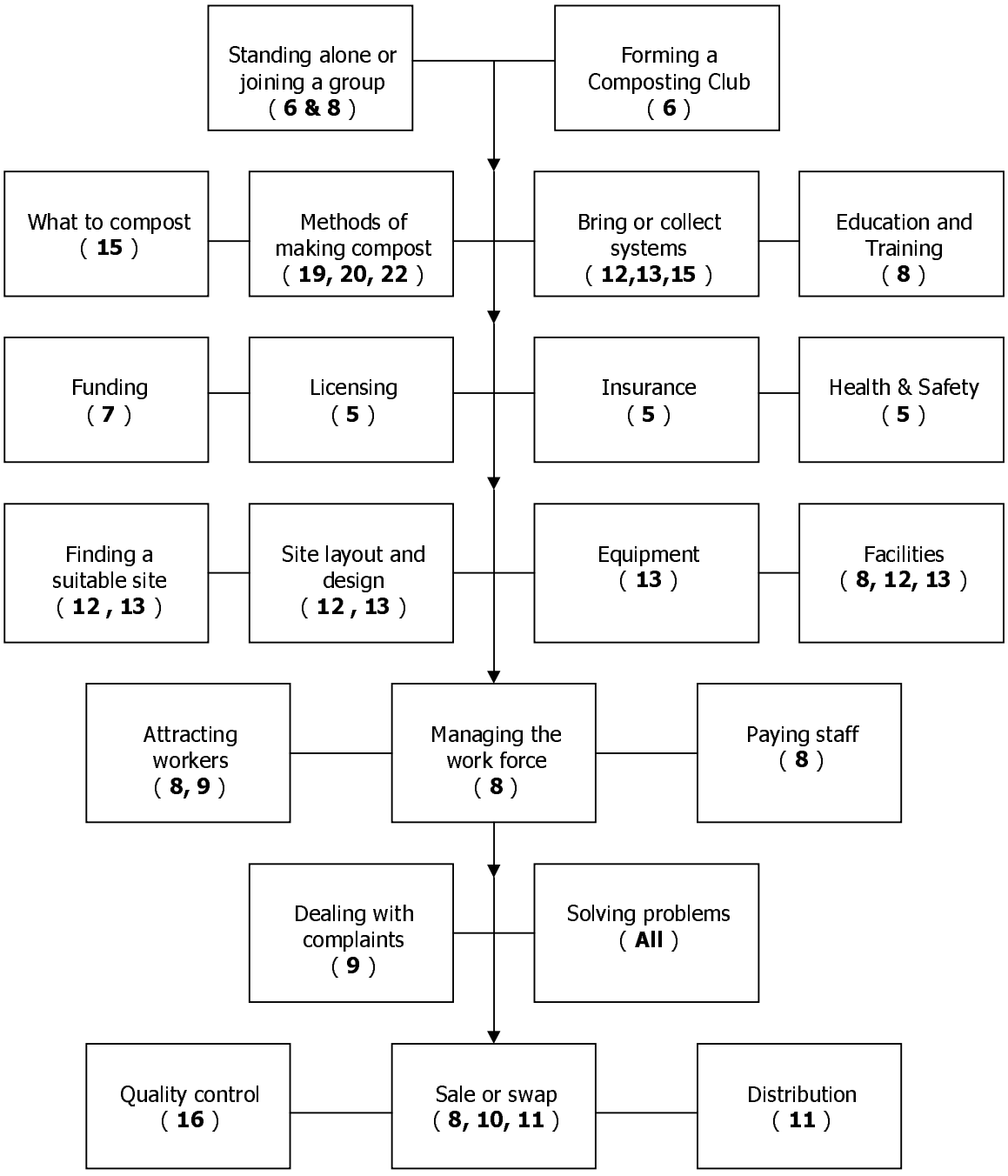
The number of people necessary to operate the enterprise will depend on the scale and methods adopted. To a certain extent this will also depend on the size of community which will serve and be served by it. On the other hand it may be necessary to limit the size of operations to the capabilities of the work force on hand. Start small but with room to expand. That way you will not feel swamped and give up before the scheme has had a real chance.

Aspects to consider

Although fine detail can be filled in as you go along it is as well to be aware of the various legal and practical implications of such a venture before you start. Being aware of possible requirements means you can be prepared for them.

Overleaf is a chart indicating points to cover when planning your enterprise. It refers to the cards in this pack which deal in some depth with each aspect. Once you have decided on the best approach for each subject area you will be ready to start your own Community Composting project.

Points to Consider when Planning a Community Composting Project



Once you have considered all aspects, decided how to run the enterprise and allocated jobs, all you have to do is decide on the date to start and off you go!

Other relevant sections

- All

4 Getting Started

Initial contacts

When considering starting a Community Composting project there are places you can go for help and guidance before you start. Talk to others who have already made their way through the necessary maze of decisions. This can help to make sense of it all and answer immediate questions. Read case studies to see how others have coped. This pack includes several which give ideas of what can be done in various situations. Visit existing projects to see how operations can be set up, and gather ideas of layout, managing the site and possibly even situations to avoid. Operations vary a great deal according to the different aims and existing conditions of each project. Make personal contact with as many different groups as is reasonable to give you an idea of the range of possibilities.

The first port of call should be to the Community Composting Network (CCN). They can tell you who you need to speak to and what you need to find out in order to set up a successful venture in your situation. They may be able to tell you who is operating a scheme close to you and who to contact.

Local Agenda 21 (LA21)

LA21 is the means by which the local authority (county council or district council) carries out their commitment to producing plans for sustainable development for the local area arising from the Earth Summit in 1992 (see *Using This Pack*). A Community Composting scheme could meet a number of the criteria for an LA21 project.

- Taps grassroots enthusiasm from within the community
- Addresses a pressing environmental problem (waste disposal)
- Offers a low-tech, environmentally friendly solution (recycling organic waste)
- Provides employment and training
- Helps communicate the message of sustainability in a meaningful way to ordinary people

Approach the local LA21 officer to find out if anyone else has expressed an interest in setting up a composting project in your area. If so then you can contact that person to discuss a strategy. If no one else has contacted the LA21 officer, register your own interest and ask about the likelihood of financial assistance and help with finding a suitable site.

Recycling officer

The local recycling officer may also be able to offer advice and guidance. Details can be found in the telephone book, listed under your local authority.

Setting up the project

To maximise the chance of official recognition and in the hope of avoiding expensive licences it is advisable to form a Composting Club (se *Legal aspects 2*). It is also possible to set up a composting scheme within an existing group such as an allotment association, gardening club, school, scout group or city farm. Once a core of interested persons have got together and decided on a plan of action, the next step is to arrange an inaugural meeting to get the community involved.

The inaugural meeting

The inaugural meeting is a public meeting to inform all interested parties in the local community that you plan to set up a Community Composting scheme and to discuss how this should happen. Notice of the scheme can be given through newsletters, by letter to parents or members as appropriate, or through leaflets distributed in the district and posters in local shops and libraries. Try to reach as many local people as possible to recruit potential volunteers, contact donors of raw materials and inform possible objectors so that all worries can be addressed. It may be advisable to have an expert on hand to help with the presentation of your plans. The CCN may be able to help here. Plan the meeting well in advance. Display material will help to put the point across and may be obtained from other schemes.

Suggested agenda

- Welcome and introduction
- Introduction to Community Composting
- Possible sites
- Possible funding
- Name of composting group; should it be a "Composting Club"?
- Election of officers and other members
- Who should be contacted: planning officer, recycling officer, waste licensing officer
- Date, time and place of first working group meeting

You should come away from this meeting with support for the venture from the community and a core of people ready to organise it. To prevent interest waning the first meeting of the new working group should take place as soon as possible after the inaugural meeting.

First working group meeting

The purpose of the first meeting of the new working group is to sort out thee organisation of the enterprise. All those interested in taking part in the work should attend. Planning is essential to make the meeting go smoothly and address the essential points. A considerable amount of background work has to be done in order to present the intended organisation of the group. A working party will need

to do a lot of homework ahead of time. Again it would be helpful to have an experienced Community Composter at this meeting for guidance.

The topics which need to be addressed

- Preferred site location
- Size of facility
- Number of members
- Composting method
- Material to be composted
- Collection / delivery details
- Tools, machinery and equipment required
- Outline working plan
- Discussion of constitution
- Publicity
- Start date

Subsequent meetings

Further meetings of the working group will be required to cover administrative and development details including costing, funding, publicity, and legal considerations. An annual general meeting open to all interested parties may be necessary to allow the election of new officers and to report back on progress to the local community.

Other relevant cards

- Using This Pack
- Planning the Enterprise
- Site Issues
- Legal Issues 1 & 2
- Case Studies

Useful contacts

- Community Composting Network

5 Legal Aspects 1

The legal side of setting up a Community Composting operation need not be as daunting as it first appears. Advice and guidance is available at all points along the way. However, it may be helpful to have some insight into the various aspects early in the planning stage as some decisions will have a bearing on the legal steps to be taken. You may need a licence if you wish to sell the end product, for example.

Planning permission

This should be considered when planning where to site your operation. If setting up your project constitutes a change in the use of the land, planning permission may be required. The local planning officer at your local authority will be able to advise you if this is needed in your case.

Licensing

Community Composting schemes must either hold a waste management licence or an exemption certificate from the Environment Agency. Most schemes apply for an exemption. Exemptions may be granted where less than 1,000 cubic metres are being composted (this does not include any material being stored on site) in the following circumstances:

1. The waste is composted on the site where it is produced
2. The waste is composted on the site where the end product is to be used
3. The waste is composted on a site occupied by the producer of the waste, or
4. The waste is composted on a site occupied by the user of the compost.

So allotment sites could qualify for exemption if composting takes place on the site where the end product is to be used or where the composting material is produced. Where all users are registered as occupiers of the composting site an exemption may also be granted under item 4 above (see *Legal Aspects 2*). The licensing authority is likely to interpret the regulations favourably for small-scale Community Composting schemes.

The Environment Agency is responsible for administering waste disposal regulations which cover composting operations. Licences and advice may be obtained from them. The details of your area office may be found in the telephone directory. Your local authority may also be able to advise you.

Waste disposal licences cost approximately £600 per year. Conditions of the licence must then be adhered to; these may include testing of the material and the construction of concrete bases and a system catch any effluent, all of which cost money. Detailed record keeping is required. Once licensed, becoming exempt again at a later date also costs (£800 in the case of Dean Community Compost; see *Case Studies 3*). This must be carefully considered.

Legally, unless the venture is run on a non-profit-making basis, a licence is required to permit you to transport waste. This is necessary if your scheme plans to collect the raw materials. Additional licence fees are in the region of £70 for three years at present.

Forming a Composting Club will mean that you can avoid licensing (see *Legal Aspects 2*)

Registration

All schemes must be registered with their local Waste Regulation Authority at the County Council either as a Licensee or exempt. You must register for waste disposal and, if relevant, for carriage of waste even if your project qualifies for exemption.

Insurance

All projects need insurance.

Necessary cover

- Public liability (at least £2,000,000)
- Accidents, theft, fire and vandalism
- Personal accident if power-driven machinery is used

Where the project is part of an existing scheme, for example for recycling or in a school, it may be possible to add cover to an existing policy. Insurance packages are available for affiliated members from the British Trust for Conservation Volunteers (BTCV) at a cost of around £100 per year.

Health and Safety

The welfare of workers on the site is of paramount importance.

Reasons for safety measures

- Risk of injury or damage to personal property must be minimised
- Providing a safe work place will help to encourage volunteers
- In case of accident, insurers will require evidence that all precautions were taken
- A comprehensive Health and Safety policy may be required for grant funding

Areas to be addressed

- Use of hand tools such as spades, forks, shovels, bill hooks, rakes and loppers
- Use of machinery such as shredders, chippers, tractors and trailers
- Health and hygiene such as protection against tetanus, leptospirosis, bioaerosols, noise, lifting strain and damage to eyes
- Child health and welfare, if appropriate

Safety equipment and protective clothing must be supplied as appropriate and training provided if necessary, for example in the case of the operation of shredders. Individuals operating machinery must be fully trained and familiar with the equipment. Those involved are responsible for safe operation of equipment and safety of themselves and others. Machinery can only be operated by the named operators who are fully trained and insured. If children or people with disabilities are involved, remember that thought must be given to extra supervision and safety provisions.

According to the activity undertaken on site a range of protective equipment may be required.

Protective equipment

- Gloves / gauntlets
- Goggles
- Ear defenders
- First aid kit
- Guards where appropriate on machinery

Protective clothes and footwear should be worn at all times. Any fuel stored on site must be kept in a secure area and no smoking allowed nearby.

The Composting Association is aiming to produce guidance notes for composting site managers on occupational health issues. These are principally aimed at larger operations but may have relevance for projects of this scale.

Other relevant sections

- Planning the Enterprise
- Getting Started
- Legal Aspects2
- Labour Needs and Issues
- Site Issues 1 & 2
- Composting in Schools
- Shredding and Shredders
- Case Studies

Useful contacts

- BTCV
- The Composting Association

6 Legal Aspects 2

Composting Clubs

Forming a Composting Club is one way of fulfilling the criteria for exemption from licensing.

All members of the club – who may be suppliers of *compostable* material and/or users of the compost – are registered as 'occupiers of the composting site'. In this way the project may gain exemption from the requirement to have a waste disposal licence (see *Legal Aspects 1*)

Although local authorities differ in their interpretation of the legislation, many waste regulation authorities look favourably on any enterprise which removes material from the waste stream. However, a Composting Club's status may not be recognised, and it is advisable to check with your local authority before proceeding.

The legislation regarding Composting Clubs is in its infancy. Interpretation of the law varies from area to area and is likely to change with time. Check the current situation with the CCN.

If you decide to form a composting Club you will need to write a constitution for it. This provides a legal framework for your enterprise as well as a basis for running your group.

The Club constitution

In order to satisfy two of the criteria for licence exemptions (see *Legal Aspects 1)*, a constitution has to be written for the Club which lists all its members as occupiers of the site. The Seagull enterprise in Skegness (see *Case Studies*) has a system for automatically making any buyer of its compost a member of their Club thus satisfying the occupancy section. Discuss this with the local waste disposal authority in order to gain an exemption certificate.

The constitution is a formal document which should have a definite structure and cover the following points:

1. **Name**
   A name should be chosen which is not misleading, preferably short and memorable such as "Rotters" or "Run A Muck"

2. **Objects**
   An outline of all that the Club will do. All of its proposed activities must be written down within this section. Any activity not included will be unauthorised. An example of this might be "recycling of garden waste and education and awareness of recycling issues".

3. **Powers**
   The means by which the Club will achieve its objects. A general clause like "The Club shall have the power to do all things necessary for the fulfilment of its objects" will cover all eventualities.

4. **Membership**
   Mention of occupancy of the site by all members should be made here. The Club must not leave itself liable to abuse of the occupancy clause by the members, however. The advice of a solicitor is strongly recommended.

5. **Subscriptions**
   Describes who should pay how much for membership, for example £1 membership or free to anyone delivering raw material or buying compost.

6. **Indemnity**
   Ensure that members are not liable for any loss suffered by the Club, unless wilfully caused by the member, and are entitled to reimbursement of any expenses incurred while working for the Club.

7. **Meetings**
   Details types of meetings to be held (such as committee meetings, annual general meetings, extraordinary general meetings), who may convene a meeting, who may attend and vote, the quorum (minimum attendance) required for proceedings to be valid and the notice required to be given to members beforehand.

8. **Club Committee**
   Covers the officers to be appointed (for example Chair, Treasurer, Secretary and so on), methods of appointing and removing committee members, powers of the committee, meeting procedures and quorum required for committee meeting proceedings to be valid.

9. **Finance**
   Details the period of the financial year (for example April – March or January – December), the responsibilities of the Treasurer (such as the annual accounts, book keeping) and how finances will be audited if necessary.

10. **Alterations to the constitution**
    States the notice required to hold a meeting to make alterations and the majority required for alterations to be carried out. This usually takes place at the annual general meeting or an extraordinary general meeting.

11. **Dissolution**
    Outlines the procedure to be followed if a Club decides to fold. This decision usually requires a majority at a Club committee meeting followed by a majority at an extraordinary general meeting.

Help with your constitution

The preparation of legal documents may be a little intimidating at first. However, help in the construction of your Club constitution may be sought from CCN or BTCV. Alternatively, any successful venture operating as a Composting Club may be willing to talk to you.

Other relevant cards

- Getting Started
- Planning the Enterprise
- Legal Aspects 1
- Case Studies

Useful contacts

- BTCV
- Community Composting Network

7 Grants and Other Funding

Expenditure

Community Composting schemes can be run on varying scales from totally non-profit making self serving ventures to large businesses. They bridge the gap between composting your own clippings in the back yard to large municipal operations. Both expenditure and revenue reflect the scale of the project.

Possible costs

- Site rental
- Licence fees
- Transport
- Labour
- Administration
- Marketing
- Publicity
- Information i.e. leaflets, posters etc
- Hire or purchase of tools and equipment
- Analysis of compost
- Insurance

Income

Income can be generated by obtaining grants in the form of money or kind, by claiming recycling credits, by the sale of finished compost or some combination of these. The Community Composting Network and Waste Watch can provide advice and information.
If the venture is set up as a business the Government's Enterprise Allowance and the Prince's Youth Businesses Trust can be tapped.

Possible sources of funding
(please note many of these are out of date including Enterprise Allowance)

- Local Agenda 21 (LA21) Officer (local authority)
- Waste Disposal Department (local authority)
- Recycling Officer (local authority)
- Civic Trust
- Rural Action Fund
- European Rural Development Commission
- Shell Better Britain
- Rural Community Council (RCC)
- BTCV

See *Useful Contacts*

Attracting sponsorship and grant aid

Local businesses wishing to 'green up' their image may well be persuaded to support a viable and popular scheme. The same applies to local authorities and other funding sources. Although a direct approach can be made to such places, your cause may be helped, and indeed may attract interest from unthought-of sources, by positive publicity in the local press, or on the radio or television. The aim here is to raise the profile of the scheme.

Recycling credits

One way in which you can gain financial reward for recycling is by claiming recycling credits. Credit payments are made based on the amount of material that you keep out of the waste disposal system. Accurate records have to be kept of how much compost you distribute, as this is the only practical way of measuring, albeit indirectly, what the project has actually achieved.
Contact the Waste Officer at your local authority for details, The value of recycling credits varies from region to region but may be worth up to £40/tonne.
Unfortunately not all local authorities are keen to pay recycling credits – so you may have to fight for them.

Landfill tax

All material sent to landfill is now taxed and monies collected are available for distribution under certain circumstances. The scheme is still in its infancy and details are likely to change, but at present a Community Composting enterprise would appear to fit the criteria for a project eligible to apply for funds from this source. Details of the scheme are available from ENTRUST, tel: 0171 823 4574.
(*please note: landfill tax is now channelled via local authorities, rather than through ENTRUST when this was written*)

Supplementary credit approval

This is in effect a loan from the Department of the Environment to the local authority for capital expenditure which would not otherwise be available due to budget restraints. Your venture would need to join with other organisations and your local authority in order to bid for it. The project at Heeley City Farm in Sheffield was able to raise a substantial amount of funding in this way.

Sale of compost

It is highly unlikely that you will be able to fund your scheme from the sale of compost so do not rely on it. Even Seagull in Skegness, which is a fairly large operation, would not be able to fund themselves from their sales. However, if it is decided to sell the product, attention must be given to packaging, marketing and distribution. A small amount may be sold from the site or larger quantities through garden centres, depending on the scale of operation.

Remember not to undervalue the product but to charge according to its quality. Compost may be sold in bulk, if large enough quantities are produced, or in bags. As a guide, if £3 is charged for a 40L (25kg) bag this is equivalent to £120 per tonne.

Example of funding

The Seagull group in Skegness has obtained the following funding:

£800 from Civic Trust to buy an 8 hp shredder
£4,000 from local authority to buy wood chipper
£15,000 per year from local authority for running costs
£625 grant from Rural Action Fund for analysis of compost
£10,000 per year sale of compost and other recyclables
£11.70 per tonne recycling credits
See *Case Studies 1*

Other relevant sections

- PR & Marketing
- Getting Started
- Case Studies
- Useful Contacts

Useful contacts

- Waste Watch
- Community Composting Network
- The Wildlife Trusts
- HDRA and The Composting Association
- ENTRUST

8 Labour Needs and Issues

The necessary labour force

In order to set up and run a Community Composting project you need willing workers. The necessary weekly time input varies with the scale of operations from 5 – 10 hours to 50 – 60 hours. A minimum of one very committed individual plus three or four helpers is therefore suggested initially. Once the enterprise is up and running two people may be sufficient to keep it ticking over, with extra help needed only when large jobs are to be carried out.

Labour sources

Where the enterprise is set up within an existing group such as the Scouts or an allotment association, a potential labour force already exists within the membership. Support can be sought through the club newsletter or by outside advertising, in the local press for example. Some ventures have drawn on children's groups such as scouts and schools, the probationary service, and prisoners. Such people may need close supervision, however, and health and safety rules must be strictly adhered to.

When first starting up it may well be possible to rely on voluntary labour. However, interest tends to wane after a while, and in the long term it may be advisable to look at using paid help, especially for such jobs as shredding or driving. The work is available in short stints and may be suitable for unemployed or retired people. The payment does not need to be in actual money: LETS currency can be offered if there is such a scheme operating locally.
See *PR & Marketing 2*)

It must be pointed out that where paid staff are employed, health and safety becomes a duty and appropriate safety regulations must be adhered to. Certain facilities must then be provided.

Required facilities

- Toilet facilities
- Washing facilities
- First aid kit

This is not to say that health and safety can be ignored if volunteers only are used! For advice on all matters of health and safety, contact the Health and Safety Executive. If in any doubt get advice in writing to cover yourselves.

Paid or voluntary?

Offering payment for services allows access to skilled and reliable labour, which is not dependent upon interest, enthusiasm or the weather. However, such labour is subject to Health and Safety laws as well as adding expense to the scheme. Voluntary labour is subject to personal whims and enthusiasm can wane with time. It does, however, provide a cheap labour force for the project while providing a suitable environment for learning about composting and for building community spirit.

The decision whether to employ workers or rely on volunteers will depend on your individual scheme. If a large potential labour pool of enthusiasts is available it may be better to tap it, at least initially until the venture becomes established. Once the enterprise is on its feet, it may become too large a commitment for volunteers or interest may slacken off. If so then this is the time to consider employing personnel.

Organisation of the labour force

A volunteer work force will benefit if some thought is given to motivation and organisation. Rotas can be invaluable for ensuring labour is available for the large, less popular jobs. They also ensure that the work is shared around according to how much each individual is able to contribute. In a large group a rota can help to ensure that volunteers who work well together are on duty at the same time and to avoid personality clashes. However, a positive attitude from a central, enthusiastic figure can reduce the need for strict rotas, using informal meetings to organise the week's work.

Where volunteers are to be used, keeping their interest and enthusiasm alive is central to ensuring a continuation of labour supply.

Suggestions for motivating volunteers

- Involve volunteers in all aspects of the project and give them responsibility where possible
- Keep people informed
- Make work fun
- Make work safe
- Provide facilities for tea-making, shelter and toilets, if possible
- Pay out-of-pocket expenses
- Arrange bagging days which are community operations
- Arrange social events
- Offer rewards of bags of finished compost
- Address grievances promptly

Jobs to be covered

There are a number of different kinds of work to be done in a Community Composting scheme. It is not all shovelling muck! In a small organisation there will be a certain amount of overlap but in a large one it may be necessary to appoint

individuals for particular jobs. If a Composting Club is set up it will be necessary to appoint a chair, secretary and treasurer. Even in a less formal situation it will be necessary to decide who will keep track of the funds, organise the work force or take care of the paperwork. Record keeping is essential for obtaining recycling credits and other grants and funds.

People needed

- Administrative personnel
- Labour manager (responsible for ensuring labour is available when required)
- Site manager
- Driver(s)
- Manual workers for compost making
- Machinery operators, especially for shredding
- Skilled workers for construction of bins / sheds/ hard standing etc.

Other relevant sections

- Legal Aspects
- PR & Marketing
- Getting Started

9 Public Relations & Marketing 1

Promoting the enterprise

Positive publicity can be used to your advantage to gain support in many areas. Once you have people on your side you will soon find that you have enough workers for your scheme, funds coming in, plenty of composting material, sales for your product if you so desire, and little in the way of antagonism.

For a Community Composting scheme to work you need the good will of a lot of people: volunteers to run the operation and sort out any hitches, donors of materials, officials who deal with licensing and other permits, those holding the purse strings for funding, and those who can sway public opinion. The last thing you need is bad publicity which could lead to the failure of your venture. Complaints, real or imagined, could snowball until you are faced with serious opposition and must therefore be prevented before they have had the chance to develop.

Attracting volunteers and members

If you are operating within an existing group there will already be a mechanism such as a newsletter to inform the membership about new developments. If the newsletter regularly promotes the work in a positive way members of the group are more likely to come forward. When you are starting from scratch, or need to attract new blood to an existing scheme, it will be necessary to reach the general public.

Options for reaching the public

- Leaflets and fliers
- Posters and stickers
- Local newspaper
- Local radio and television
- Open days and other events

Using a combination of different methods reaches a wider range of people. Don't forget, the community grapevine is a powerful tool and can work for you if you are in touch with the right community members.

Educating the public

It is not enough to simply say 'we are here and we want your rubbish'. According to decisions made when devising a plan for your enterprise you will want only certain types of material for composting. It is necessary to inform the public, who will be providing the feedstock, what it is that you require. Bearing in mind that only a small area will be targeted, the best way to do this is probably by leaflet to all homes. The effectiveness of this approach is reinforced if you offer a collection

service. Members of your scheme can inspect the material on offer as they collect it. You can't beat the personal touch.

Home composting

A Community Composting scheme can also encourage home composting. If your project has decided not to accept kitchen and food waste and if it is not composted at home it will simply go into the waste stream. If feasible, one of the services you could offer is simple advice – in the form of a leaflet, short courses at the composting site, or just talking to the people who supply the raw material for composting – on how to compost successfully at home. This service should be seen as being complementary to your scheme and it could be a useful marketing exercise as well.

Dealing with complaints

In general people are less likely to complain about a scheme which is popular. Showing that your venture has the approval of the public and officials will tend to reduce antagonism. However, it must be acknowledged that some genuine complaints may be made. You must establish a system to deal with) these.

There are two likely sources of complaint – official sources such as the Environment Agency and the general public. The chances of such problems occurring can be reduced by seeking advice from the relevant officials or the CCN and by advance planning. Always make sure you act within any licence restrictions and are adequately insured (see *Legal Aspects*). If you are likely to produce any leachate, for example if you are composting manure, seek advice on pollution minimisation (see *Site Issues*).

Complaints from the public could be about noise pollution, quality of the compost or availability. Problems such as dust, noise, exhaust fumes or smell can be minimised by careful siting of operations (see *Site Issues*). Some queries such as those about smells, diseases or vermin may simply be expressions of concern rather than a response to an actual problem. In such cases questioners will need to be informed of the relevant facts. If the same concerns are brought up frequently, it would be a good idea to address them in a newsletter or leaflet for public distribution, for example at open days.

Ensure that prospective users of the compost are clear about what they are buying, and what it should be used for. If distributing direct from the site, consider leaving bags open so that customers can see what they are getting.

The supply of compost may not be regular. At certain times finished compost may be unavailable because it has all been distributed and the next batch is not yet ready. Informing potential users when it will be ready or launching the "new batch" as a publicity event may help in these circumstances. If insufficient compost is being produced due to other constraints it will be necessary to address these problems as they occur. If you receive too much material for the available

space consider expanding operations. If insufficient raw material arrives, advertise for more.

Other relevant sections

- Grants and Other Funding
- Planning the Enterprise
- Compost Materials
- Site Issues
- Legal Aspects

Useful contacts

- CCN

10 Public Relations & Marketing 2

Name and logo

A Community Composting scheme needs a name. Choose an unambiguous name which declares who you are and what you are doing such as Run-A-Muck or Rotters. A recognisable logo is also valuable for use in all your promotional exercises. This can be displayed on a collection vehicle, leaflets, advertising and any packaging to add a corporate identity to publicity.

Managing publicity

Leaflets can be treated as newsletters or vice versa. They are small news packages which can be sent out now and again. Initially you will need to produce one to inform people about the scheme, what it is, who is doing it, people to contact concerning it and so on, in order to attract people to the project. Later they can be used to inform of further developments, progress and events.

Leaflet guidelines

- Keep it short and to the point
- Use illustrations where possible
- Keep language simple and jargon-free
- Stress the advantages to the local community
- Include details of who to contact

What to include in a leaflet

- Aims of project
- Benefits to householders
- How they can provide material
- Hoe they could get involved
- Simple, clear instructions on the suitability of materials
- Hints and tips for other recycling
- Collection / delivery days / times / locations
- Phone numbers for queries
- Any costs to them

A flier – a short, single sheet version of a leaflet – or small poster is handy for getting over a message such as what materials the project will accept. Posters can be used to advertise particular events such as meetings or open days, and stickers can be displayed, in the windows of cars and houses, to show support for the scheme and keep it in the public mind. Each of these communication devices should incorporate the project name, logo and any additional information in as concise a manner as possible.

The use of the public media

Local newspapers, local radio stations and regional television are always on the look out for stories, especially the rare and unusual. To use them to publicise your venture, prepare a press release containing the facts about your operation and, if possible, offer a photo opportunity or interview with a spokesperson for the group. Over time it is possible to develop good relationships with journalists. When exploring markets for your compost, it is helpful to be able to offer opportunities for publicity in the local media as an incentive for potential outlets such as garden centres. Even larger chains now have environment policies which promote locally produced goods, so consider them too.

Holding events

As long as your site is able to accommodate the public, an open day is a good public relations exercise. People who have taken part in the scheme by contributing material, equipment or funds can in some way then see what they have helped to create. Sceptics can also see what has been achieved and may be persuaded to join in. Samples of the finished product should be displayed.

If you are able to produce a variety of composts such as composted wood chippings for a mulch, leafmould, or a mixture containing composted manure suitable for use as a potting mix, a display of each material with a mock up of how it is to be used or plants grown in it could make a very persuasive visual argument. Do no forget to invite the press.

Other relevant cards

- Grants and Other Funding
- Public Relations and Marketing 1
- Making the Compost

11 Public Relations & Marketing 3

Distributing the compost

The methods used to distribute finished compost vary between existing projects. Some projects such as allotment sites or farms use the compost on site. Volunteers working on other projects are allowed to take the compost for their own use, or it may be returned to Compost Club members free of charge. Other groups sell the compost through local outlets, for cash, local currency or a mixture of the two.

Selling compost helps to raise the profile of the project – but it should not be relied upon as a major source of funding. Treat the income as a bonus. If you are intending to sell compost, some good market research is required. You also need to be able to produce a regular, good quality supply, especially if it is going for sale in a garden centre or similar outlet.

Potential markets

- Members of the scheme
- Donors of raw materials
- Allotment societies and garden clubs
- Local shops
- Local nurseries and garden centres
- Landscape gardeners and environmental groups
- Local authorities
- Local residents

Encourage landscapers to use your compost and promote it to local allotment sites and garden clubs. Environmental groups may also be interested in using composted green waste in their work. At the Seagull project in Skegness the compost has been used by their local authority and was specified by the Groundwork Trust in one of their local projects. Selling your product loose, in bulk, avoids the need for bagging, promotes the scheme to a wider section of the community and distributes larger quantities of finished compost. By both promoting the scheme to more potential contributors of raw materials and increasing use if the end product, you will help to ensure a continuous turnover of material.

Selling the compost

If in the course of your planning you have decided to sell the end product of your labours you will need to determine a marketing strategy

Marketing points to consider

- Similar products available, their cost and quality
- Potential local markets
- Product price

- Quantity and quality of the products which can be produced
- Seasonal variations in supply
- Packaging and presentation

It may be possible to sell direct from the site, having people collect supplies as required. If further markets are desired it will be necessary to persuade managers of local shops and garden centres to stock your compost.

You will need to set up a meeting to discuss the scheme and to decide quantities and price. It is a good idea to invite prospective stockists to visit the site and view operations. Pricing of similar products already on the market will give some idea what to charge (see also *Grants and Other Funding*).

LETS

Compost can be sold through LETS (Local Exchange Trading Systems), in which case no actual money changes hands. Compost is swapped for the ability to obtain services or goods, using the local currency. These schemes can be quite large. The 'virtual' income raised could be used to buy in labour, specialist skills, wood for compost bins and so on. Details of local LETS groups are available from LETSLINK UK.

Packaging and labelling

Depending on your market, you may decide to package your products in attractive, smart, clean bags. Bear this in mind when setting the price of your goods. The cost of specially printed bags is very high. It is much cheaper to buy plain sacks and either write on them or use CCN labels. These can have your own logo printed on them and can be stapled to the sacks.

Alternatively, it may be more appropriate to exploit the environmentally-friendly image which recycling used bags will give. Many schemes distribute their finished compost in re-used feed or fertiliser bags turned inside out and tied at the top. These can be returned for re-use. Small quantities can go in plastic carrier bags.

What to include on labels

Labels should give as much information as possible about the product without becoming cluttered and unintelligible.

- Producers' details
- Your logo
- What raw materials it contains
- What it can be used for eg mulch, potting mix etc
- Any relevant test results

For more information on labels and labelling, see *The End Product*

Recycling credits

To claim recycling credits it is necessary to have an accurate account of how much material has been processed. Bagging the compost allows the opportunity for records to be kept on how much is being produced. This can either be recorded by weight or volume. Volume is the simplest and can be calculated using a bucket. Weight is influenced by moisture content, so it can be highly variable. Weighing also requires the use of scales which is an extra expense.

Unbagged material can still be recorded by weighing in bulk and the value of offering it loose should not be ignored, for selling in bulk to landscapers, local authorities etc, or by distribution by the barrow load to allotment holders. Your target market will dictate which you do.

Product testing

See *The End Product*.

Other relevant sections

- Public Relations and Marketing
- Planning the Enterprise
- Grants and Other Funding
- The End Product

12 Site Issues 1

Community Composting projects are run on a variety of sites – from allotments to disused quarries to farms. *Site Issues 1* and *2* outline the factors to consider when looking for a site, how to go about finding one, and discusses the space and facilities that a Community Composting project may require.

Site location

A Community Composting site should be:

- Close, or central to the area producing the waste. This keeps transport costs down, and puts over a better environmental message
- Accessible to vehicles that will need to visit the site – lorries, private cars and so on
- Well drained. Mud underfoot and pools of standing water make working difficult and unpleasant
- Screened from neighbours who might object to the project
- Not immediately adjacent to, or upwind of housing, or other locations, where problems, either real or perceived, of smells, rodents, noise (from shredding, deliveries, or customers) are likely to arise
- Not likely to pollute local waterways. For advice, contact your local Environment Agency pollution control officer

Finding a site

The following may help you find a suitable site:

- Council recycling officer
- Local Agenda 21 contact
- Parish, town or local authority

Sites to consider

- Allotments
- Local authority (or other) nurseries
- Capped landfill sites
- City farms
- Organic or other farms
- Schools
- Disused quarries

Planning permission?

See *Legal Aspects 1*

Paying or free?

Ideally, look for a free site, as the project is unlikely to have spare funds. Supportive local authorities may be persuaded to offer a site free of charge. Quarry companies may offer a part of their site that is no longer used – a good PR exercise on their part. Allotment sites are unlikely to make a charge.

Area of site

Existing community composting sites vary from around 40m^2 to 5000m^2 - varying with the volume of materials recycled, the speed at which you are likely to recycle it, and the efficiency of the layout.

A compact, well-organised scheme can process a lot more than a sprawling badly managed enterprise. Don't, however, skimp on space at the expense of health and safety, ease of working and facilities. You will always need more space than you think.

See *Case Studies* for examples of existing Community Composting sites.

Site facilities

The check list over the page will help in choosing a site, and in planning the layout. Some sites may already provide the necessary facilities – otherwise it will be up to the project to do so. Some items are only likely to be required by larger operations. For further clarification consult the relevant cards listed overleaf.

Space requirements

- Reception / storage area for incoming compost materials, including separate bays for different types (see *Collecting Materials to Recycle)*

- Storage of large branches for firewood, bean poles, pea sticks and such like that may have been 'rescued' from incoming materials

- Vehicle access and turning space. How large this area needs to be will depend on whether you are getting the public to deliver, or bringing in material with your own transport. A typical family saloon car measures 4.5m by 1.7m and requires and additional 1m either side for opening doors fully. A car of this size requires a turning circle of approximately 5.5m radius. Good access is needed in both wet and dry conditions. Encourage people to share lifts

- Access for large deliveries such as leaves, manure or hedge clippings. Also storage space for these

- Compost bins or windrows – for 'working' and maturing compost

- An area for mixing ingredients prior to composting and for turning the compost

- A level area for shredding woody materials, with at least 2m space in each direction around the shredder. Shredders vary in the space they will take up. This area could be the same space used for mixing and turning ingredients, or, depending on the mobility of the shredder, it may be better near the shredder shed

- Good access between storage, shredding and composting areas

- Storing finished compost loose and in bags. A secure structure, such as a shed, may be necessary to prevent vandalism, theft and to protect from the elements

- Screening and grading compost – an area of around 4m x 4m hard standing should suffice

- Bagging compost – by hand or machine

- Storing empty bags

- Car parking space for workers, and people coming to buy the compost

- Secure storage shed for shredder, tools, project vehicle / trailer and bagged compost. Or compost could be stacked on pallets under secured tarpaulin or plastic

- Shed for shelter / tea making for workers

- If workers are employed, HSE requires toilet and washing facilities to be provided

- Future enterprises – such as a greenhouse heated by compost heat; other recycling facilities; composting training workshops

Ground surfaces

A combination of all-weather hard surface, and bare soil, is likely to be required. Compost is generally made on bare soil – allowing any liquid produced to drain into the soil. Your local Environment Agency may however recommend hard standing (with facilities to collect any runoff) to prevent pollution of watercourses (see *Site Issues 2*).

Good, all weather roads and paths around the site, and around the compost areas are essential to allow operations to continue all year round.

Other relevant sections

- Site Issues 2
- Legal Aspects 1 & 2
- To Contain or Not

- Collecting Materials to Recycle
- Making Compost 1 & 2
- Case Studies

Useful contacts

- Environment Agency
- Health and Safety Executive (HSE)

13 Site Issues 2

Water supply

Water is an essential ingredient in the composting process. It may well have to be added to a compost heap, especially where shredded prunings and other rather dry ingredients have been used in quantity. Where a site is connected to the mains, an outside tap or standpipe should be provided near to the operations.

Wherever possible collect water runoff from roofs in water butts – though this supply is unlikely to last long in dry months.

Pollution control

The aim of a Community Composting project is to reduce pollution – so it is important that the site does not cause any itself!

A prime concern is 'leachate' – a nutrient-rich liquid which can seep out of compost and manure heaps. This will usually simply soak away into the soil, but where the site is close to a stream, pond or other watercourse, it could pollute the water. Leachate is most likely to be produced by heaps containing a lot of manure, grass mowings or food scraps. A rainproof cover can reduce the problem. Contact your local Environment Agency office for advice before accepting a Community Composting site.

Security fencing

To prevent vandalism, theft and fly-tipping, it may be necessary to install security fencing or other means of keeping people off the site.

Site contacts

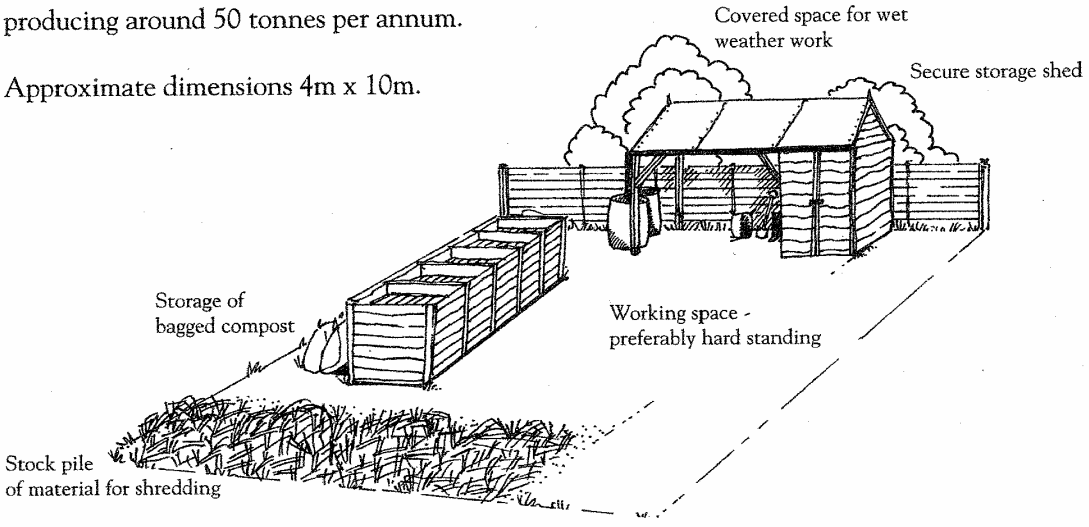
It is important to have a named person (or several people) who can be contacted regarding the site when it is closed.

Exit strategy

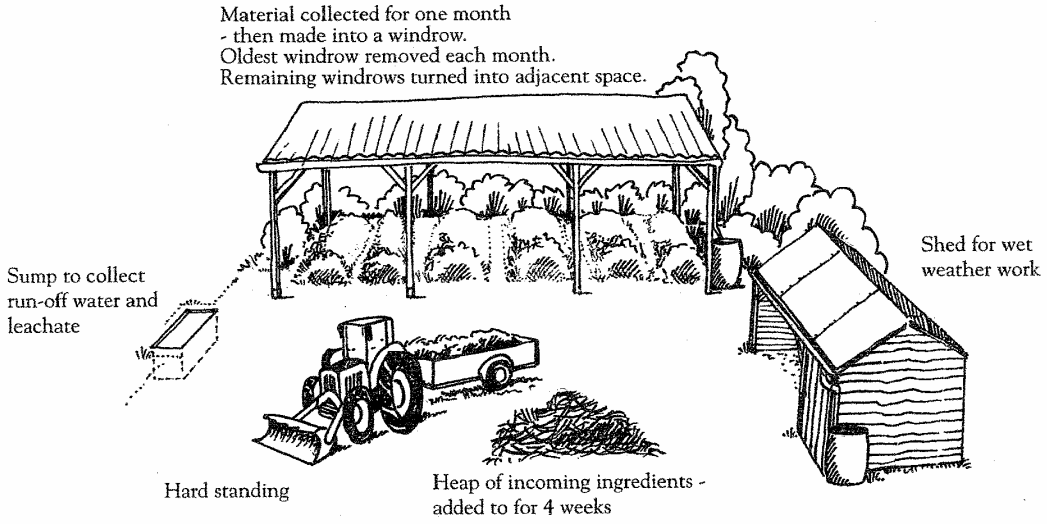
The group should bear in mind that they are not likely to be on the site forever. From the start, consideration must be give to the process of vacating the site. Issues too address include disposal of stored, composting, and finished materials; disposal of tools and equipment; disposal of buildings and constructions; disposal of financial assets; restoration of land) if required as a condition of lease). Identify a timescale over which the scheme could be wound down.

Site layout
Small scale Community Composting project producing around 50 tonnes per annum.

Approximate dimensions 4m x 10m.



Site layout
Larger scale Community Composting project



Tools and machinery

The following tools, machinery, and other equipment are used by existing Community Composting projects. What an individual project actually needs will depend on the scale of the enterprise.

Hand tools

Spades	Shovels
Garden forks	Manure / stable fork
Pitch fork	Secateurs
Loppers	Yard broom
Rakes	Wheelbarrows

Machinery

Shredder	Sieve / screen
Trailer	Collection vehicle
Tractor	

Safety equipment

Goggles	Ear protectors
Hard hats	Tough gloves / gauntlets
Protective boots	

Other

Hosepipe
Watering cans
Tarpaulins / plastic sheet
Kettle for tea
Plastic bags for compost

Useful contacts

- Environment Agency

14 Recycling Organic Materials

Organic materials – weeds, grass mowings, plant debris and other items of living origin – can be recycled in various ways. Traditional composting is perhaps the most obvious and well known of these, but there are other techniques that are also worth considering. Which is the most appropriate will depend on the materials to be recycled, and the space, equipment and labour available.

It's all quite natural

It is useful to remember that the decomposition and recycling of organic materials is an entirely natural process. Left to itself, nature just gets on with it – otherwise the countryside would be littered with dead creatures! When plants and animals die, their remains are broken down by naturally occurring organisms, most of which are microscopic. In this way the nutrients that went to make up the original plant or animal are made available to future generations – and so life continues.

When we make compost all we are doing is harnessing these natural processes – speeding them up, making them happen in a tidier, more orderly fashion, and producing more usable end products. As long as we supply the recycling microbes with suitable food, air and water, they will do the rest.

Methods of recycling organic materials

1 Traditional composting

Used to recycle mixed garden and other green waste. Can also include some kitchen waste. Works best with large quantities of mixed materials.

Make in: Free standing windrows, or compost bins

End products: Garden compost – used to feed and condition all soils. Depending on the grade produced, it can be used as a mulch, and also in seed and potting composts. A nutrient-rich peat alternative.

Timescale: From 6 weeks to 1 – 2 years.

Basic equipment: compost bins; hand tools; water. *Could also use:* tractor with front end loader; shredder; sieve or screen.

2 Leafmould heaps

Used to recycle autumn leaves. Leaves can be included in a traditional compost heap, but where large quantities are involved, they are best dealt with separately, to produce leafmould.

Make in: Wire mesh containers; black plastic sacks.

End product: Leafmould – an excellent soil conditioner and growing medium ingredient. A low nutrient peat alternative.

Timescale: 1 – 2 years, depending on species of leaves.

Basic equipment: wire mesh cages, or plastic sacks; water. *Could also use:* shredder.

3 Woody materials

A Community Composting project is likely to attract a fair amount of tough and woody material – conifer hedge clippings, branches. Raspberry canes and the like – as gardeners find this the most difficult to deal with themselves. These woody items will eventually break down, but the process is very slow. They can be made into separate long term heaps, or be broken up by shredding, crushing or chipping.

Any items that could be used for pea sticks, bean poles, or firewood, for example, should be put aside rather than composted

3.1 Woody heaps

Used to recycle tougher prunings and other woody material, without using a shredder. The only requirement is sufficient space for long term heaps.

Make in: Free standing heaps / windrows.

End product: A mixture of rough compost plus twiggy material for further recycling.

Timescale: Several years.

Equipment: None.

3.2 Shredded woody material

Woody materials can be chopped up in a shredder or chipper. This makes them much quicker to decay.

End product: shreddings (small pieces of woody material). These shreddings can be added to a traditional compost heap, composted on their own for 6 – 12 months, or used fresh to mulch paths or other surfaces where plants will not be grown.

4 Worm composting

Used to recycle kitchen and food waste. Worm composting works best with a regular, relatively small, supply of ingredients, which is why it is so good for processing kitchen waste.

Make in: A plastic dustbin, wooden box or proprietary worm bin. This can be kept anywhere relatively warm- in the garden, garage or shed. It does not need to be on bare soil.

End product: Worm compost, which is in fact worm manure. A rich fine material which is good for top dressing tubs and planters, but can also be used as traditional compost.

Timescale: worm compost is an ongoing process. How often you empty the container depends on the number of worms, and how often they are fed.

Equipment: Container, hand tools.

5 Manure stacks

Used to recycle larger quantities of manure. Strawy animal manures make a good compost ingredient, but they will also compost on their own. This can be useful where larger quantities are concerned.

Make in: Free standing, covered heap.

End product: Well rotted manure. An excellent soil feed and conditioner.

Timescale: 3 – 6 months.

Basic equipment: hand tools, water, cover.

Recycling at home

Ideally, all organic wastes would be recycled where they were produced. Realistically we are unlikely to be able to encourage everyone to make compost but it could be part of a Community Composting project's remit to encourage as much home recycling as possible.

Leafmould is an easy place to start, as it requires little effort on the part of the householder. Another area that could be tackled is that of grass mowings. Contrary to popular opinion, grass mowings can be left on the lawn without detriment. They are best removed at the beginning and end of the season when decomposition is slow; at other times the mowings will quickly disappear into the lawn, where they will feed the grass, and help to keep it green in the summer. Spare mowings can always be mixed into the leafmould heap – a great combination.

A simple leaflet on home composting, plus some practical training workshops could also be of value. Contact your local council to see if they have any initiatives – such as subsidising compost bins – planned.

Material	*Rotting rating	Notes
Ash, wood	-	Provides potassium and lime
Ash, coal, coke	x	**DO NOT COMPOST**
Brassica plants - old cabbage, broccoli etc	4	Smash with hammer, or chop with spade to break up first. *See also Diseased plants*
Cardboard	-	Tear up before use. Glue contains boron, which can be toxic to plants in excess.
Cat litter	x	**DO NOT COMPOST** ***Cat faeces may contain toxiplasma – a disease that can be passed on to human beings handling the compost.***
Comfrey leaves	1	High in potassium
Diseased plant material	various	A reliably hot heap should deal with most diseases. Remove any obviously infected material, especially persistent diseases such as clubroot and white rot, at the quality control stage.
Dog faeces	x	**DO NOT COMPOST** ***Dog faeces may contain eggs of toxocara, a parasitic worm that can cause blindness in humans.***
Grass cuttings	1 - 2	Tend to exclude air in any quantity – mix well with more open materials. May also be mixed into a leafmould heap. Try to encourage people to leave the mowings on the lawn!
Hay	3	New hay tends to be very dry; old is better. Best chopped first.
Kitchen scraps – fruit, veg, tea leaves, coffee grounds etc	2 - 3	Good ingredient for a worm composting system; can also be composted. Tend to be wet.
Kitchen scraps - cooked food, meat, fish		Best avoided, unless a specific process has been set up to deal with them. Can cause smells and attract vermin. Do not store.
Leaves, autumn	4 - 5	Can be useful in a mixed heap to balance out very sappy ingredients. Treat separately to make leafmould. Tend to be very dry. Take leaves from parks, gardens, cemeteries and quiet roads to avoid risk of heavy metal contamination.
Manures, horse or cattle, with straw bedding	2 - 3	Can be composted on its own in a covered heap (to avoid leaching out of nitrogen and potassium). When fresh makes a good activator.
Manures, poultry, pigeon. +/- straw	1	Very rich in nitrogen, so go well with slower materials. Can be stored if kept dry.
Manures, vegetarian pet, with or without bedding	3	Rabbit, gerbil, hamster etc. Tends to be very dry.
Nappies	x	**DO NOT COMPOST**
Newspaper	-	Best taken for paper recycling. Use in limited quantities, torn up first. Avoid glossy magazines – the coloured inks may contain heavy metals.
Waste paper – kitchen towels, paper bags, egg boxes etc	-	Mix well with other items.
Potato plant tops	2	
Soft green prunings, young hedge clippings	3	Should not need shredding.
Prunings, woody	4 - 5	Shred first, or make into separate slow heaps. Rose thorns tend to survive shredding and composting, so may be best left out. Yew clippings can be sold! Contact CCN for details.
Rhubarb leaves	2 - 3	Although these are poisonous to eat, they are quite safe to compost.
Sawdust, wood shavings	5	Use in relatively small quantities in nitrogen rich heaps.
Straw	3 - 4	Spoiled or old straw is best. Fresh straw is very dry.
Weeds, annual	1 - 2	A hot compost heap is required to kill weed seeds.
Weeds, perennial	2 - 3	Perennial weed roots, corms etc will be killed in a reliably hot heap. Alternatively, compost them separately in a slow heap for several years.

***'Rotting rating'** – an indication of how quickly a material will decompose. [1 = quickest; 5 = slowest] This depends on the proportion of carbon to nitrogen the item contains (C : N ratio). The older the plant and the tougher the material, the higher the C : N ratio, and the slower the decomposition.
To make compost with a good structure, in a reasonable length of time, use a mixture of types.

1. Will decompose quickly. These materials, high in nitrogen, are natural compost activators. Because they rot so quickly, they should not be stored for any length of time before composting – otherwise they are likely to smell and attract flies.
2. Good balanced materials. Should not need additional activators.
3,4. Mix with increasing quantities of materials marked **1** or **2**.
Use in relatively small quantities

Other relevant sections

- Making Compost 1
- Shredding and Shredders
- Working without a Shredder
- Recycling Autumn Leaves

Further Reading

Worm Composting, HDRA

15 What Can We Compost?

Anything that once lived *can* be composted, or recycled in some other way, but it makes sense to limit the range of materials that a Community Composting scheme is prepared to accept. Decisions made at the start will pay dividends. Conifer hedge clippings, for example, are likely to be available in quantity – which is fine if there are facilities for shredding, or space to make some long term compost heaps. If not, forget them for the present. Lawn mowings may appear in abundance, especially in early and late summer. They need to be dealt with quickly – mixed with drier ingredients to avoid odours. Will this be possible? Diseased plants and weed seeds are no problem as long as you are sure that your heaps will be hot enough. (See *Making Compost 1*).

It makes sense to keep things simple to start with; rules can always be relaxed in future when the project has been running for a while. It is also important to have some means of quality control on incoming materials before they are composted (See *Collecting Materials to Recycle*).

The majority of Community Composting schemes recycle only garden waste at present. A few projects deal with cooked food scraps from the kitchen – though these materials are much more difficult to deal with effectively without creating problems with smells and vermin (See *Case Studies 1* and *2*).

Materials suitable for recycling

Weeds
Prunings
Tea bags and leaves
Pond weed
Autumn leaves
Lawn mowings
Crop debris
Plant remains
Hedge clippings
Old bedding plants
Brewery waste
Coffee grounds & paper filters
Manures from vegetarian animals

Questionable materials

Kitchen food scraps
Cardboard
Rose prunings
Newspaper
Perennial weeds
Diseased material

Don't compost

Cat and dog faeces / litter
Nappies

Will not compost

Stones and rubble
Coal ash
Bottles / Glass / Tin cans
Anything else not of living origin

How will it compost?

Materials vary greatly in how they will behave in a compost heap. Young sappy ingredients, such as grass mowings, rot quickly to a smelly sludge, while older tougher materials may take years to do anything. Some ingredients are wet and soggy, while others are much too dry. Some will make good compost on their own, but the majority need to be mixed with other ingredients for the best chance of a good quality end product. The table overleaf describes the composting qualities of a range of materials, and also discusses the problems that may arise from using "questionable materials". This information should help in making decisions about the materials that your project is prepared to deal with – and which it would rather not, at least for the present.

Other relevant cards

- Collecting Materials to Recycle
- Case Studies
- Making Compost 1

16 Collecting Materials to Recycle

Having made some decisions as to what your project is, and is not, prepared to take for recycling, the next step is to work out sources of supply, and how you are going to get the materials to the composting site.

The options

- Direct collection from households, offices, markets and so on
- Central delivery / collection point, not at the composting site
- Direct delivery to the composting site

House to house collections

Householders leave suitable materials for collection on the kerbside on regular specified days. Collections may be monthly or more frequently – especially where food waste is collected.

Benefits

- Good contact with the people supplying the materials for recycling
- Opportunities to check materials offered
- Very easy for the public
- Some projects make a charge for collecting larger volumes of material

Requirements

- Leaflet all houses in collection area – provide details of what will be taken, collection days and so on.
- Regular collection day/days – it is essential that these are kept to.
- Collection sacks – many projects provide householders with strong sacks, such as those used for feed or fertilisers, which can be reused.
- A vehicle and personnel to do the collection; most schemes use vans, cars or tractors, with trailers. An electric milk float (used by Run-a-Muck in Birmingham for example) is a very appropriate vehicle. WyeCycle use a tractor and trailer because it is cheap to run. The ultimate would be a horse and cart if you are lucky enough to have one available.

Central delivery / collection point

Materials are delivered, by the public, to a central spot, such as a recycling centre – which may be a permanent site or, perhaps, a facility that visits a village once a month or so.

Benefits

- Allows some sorting of materials before transfer to the composting site

- Where the collection site is used for other recycling, excess materials, that your project can't deal with at present, could be left to go to landfill
- More flexibility in timing of collection
- Option of stopping collection at short notice if unforeseen circumstances require it

Requirements

- Leaflet all houses in collection area.
- Good clear signs – so correct materials are left, and in the right places
- Cooperation with existing site managers
- Lift sharing should be encouraged
- Vehicle to take material to the composting site
- Regular collection of materials from collection site

Direct delivery to composting site

Materials are delivered to the composting site by the general public.

Benefits

- Vehicle and personnel for collection not needed
- Shows public what is happening to their contributions
- Customers can collect compost at the same time as delivering composting materials

Requirements

- Leaflet all houses in collection area
- Site security so unwanted materials are not dumped on site
- Specific times for delivery, or open all hours
- All weather access, parking and turning for vehicles delivering to the site
- Well signed reception area so appropriate materials are left in the correct places
- Provision for dealing with excess and unwanted materials

Other options

A good publicity stunt would be to get people to deliver their Christmas trees to a site where a shredder is set up. In the autumn, councils may deliver lorry loads of leaves, or a specific leaf collection week could be organised to collect autumn leaves from the district.

Reception and storage

When the composting materials arrive at the final composting site they should not be put straight onto the compost heaps, especially by people who are unfamiliar with the process. Space will be needed to sort the materials and to store them temporarily – preferably in well-labelled areas. Hard standing is preferable as it can easily be swept clean. It should be accessible in all weathers.

Dry, tougher materials that are slow to decay can be heaped up in the open. They can be stored for some time, and are useful to have on hand to mix with wetter ingredients. Keep materials to be shredded separately.

Grass mowings, vegetable scraps and other items that are quick to rot should not be stored long as they will rapidly turn into a slimy mess. Keep them covered and / or mix with drier items

Quality control

A project may stand or fall on the quality of the products it produces. If customers are confident that compost is free of weed seeds, perennial weeds, plant diseases and other contaminants they are much more likely to use it! A Project without customers has no future – so quality control is essential.

- Publicity leaflets should state clearly the reasons for only supplying the items requested. What you take will depend on how confident you are in your composting
- Talk to people when collecting materials to reinforce the message
- Check incoming materials as early in the process as you can – on the doorstep or at the delivery site
- Hot composting (see *Making Compost 1*) should deal with the majority of weeds and plant diseases

Other relevant cards

- What Can We Compost?
- PR & Marketing
- Making Compost 1
- Case Studies

17 Composting with Schools

Children are usually more receptive to good ideas than adults, and if they think something *is* a good idea they are quite likely to encourage their parents to do more. If we want to encourage the use of organic "wastes", and for any increase to be sustained in the future, getting children interested and involved is essential.

Helpful advice

Schools are increasingly making use of their grounds as a teaching aid, but they may need advice, and encouragement on making and *using* compost. All too often a school compost heap, if it exists, is made in a rather haphazard fashion, and then the compost is never used – perhaps because no one knows where or how to use it.

If a Community Composting project can work with schools, making curriculum links, and providing back-up advice, they are much more likely to do something. On-site training could perhaps be provided at the school, or the composting site.

What do kids get out of it?

By making and using composts and leafmould children can feel empowered. They will be doing something positive to counter the images of environmental doom and destruction that abound. Taking tins, bottles and so on to a recycling centre is all very well – but how do we know their fate? Are the newspapers really recycled or simply burned or dumped? With composting, kids can see unwanted materials being converted, by an almost magic process, into useful products. They can then use these products on the school's flowerbeds and borders and see how they improve the soil and plant growth.

What do teachers get out of it?

If teachers are to be encouraged to make compost in school, there must be something in it for them, other than the feelgood factor. Fortunately, a compost heap can fulfil a wide range of curriculum requirements in a diversity of subjects at all Key Stages.

Compost in the National Curriculum

English

Discussions What happens to rubbish when it goes into the bin? Do we have to simply throw it away? What else might happen to rubbish? What will rot and what won't.

Reference materials Books and leaflets are available for pupils to study at all Key Stages.

Writing Discuss the various possibilities as a result of using, or not using, compost. Write to local recycling departments to find out what is going on in your area. Present findings to rest of school.

Maths
Data collection How much of what sort of waste material do they have in school? What proportion can be composted? The difference between weight and volume. Who does what at home? What does the school do as regards recycling?

Science
Life and living processes Studying mini-beasts – the creatures that inhabit the compost heap and make compost work. Plant response to the application of compost (effect on growth and health). Food chains in the heap. Difference in decomposition of various materials.

Design technology
Design a perfect compost bin. Compare with others. Use a range of materials, recycled and new.

IT
Use computers for graph work and data collection and analysis.

Geography
Environment Look at the problems of landfill. How can composting improve the landscape? Investigate conflicts over land contamination as a result of leachate.

Compost boxes

Schools could have a great time designing and making compost boxes, using the criteria listed on the *To Contain or Not?* Card.

Where vandals are likely to destroy a compost box, a free standing heap, covered with an old hessian-backed carpet or sheet of polythene can be used.

Other involvement

Under the Schools Challenge and other initiatives, schools are often looking for projects. It might be possible to use schools to promote the composting message in your community.

Health and safety issues

Teachers and others working with children are always rather nervous of compost heaps – seeing them as a prime source of 'germs', and attractor of rats! As long as the usual hygiene precautions are observed, compost making is generally quite safe. However there may be some risk to individuals with breathing problems or immune deficiencies.

Infection from pathogens
Meat wastes, animal manures, cat and dog faeces can carry pathogens that may infect humans. Plant wastes generally do not.

Inhalation of "bio aerosols"
The fungus *Aspergillus fumigatus* is common in compost heaps. When a heap is turned, spores of this fungus are released in higher quantities than are normally found in the air. These spores can cause allergic reactions, particularly for asthmatics, those with breathing problems and people with immune deficiency problems.

Tetanus
Tetanus spores lurk in soil, manure and compost. They can infect people through cuts and grazes. Check the children have had anti-tetanus inoculations.

Rats and Weil's disease
If compost is made in an area where rats are endemic, it may well be visited by these creatures – even if food waste is excluded. In this situation a ratproof compost bin could be used. A compost heap alone will not attract rats to an area – but it does make their presence more obvious to people. Weil's disease, which can be passed on to humans, is transmitted in rats' urine. The disease infects through cuts and abrasions, so keep them covered. It can also enter the body via the mucous membranes of the nose, mouth and eyes – so keep dirty hands away from your face.

Sensible precautions

- Limit contents of compost to botanical (plant) material only
- After handling compost, wash hands well with soap and running water
- Keep cuts covered
- Keep people with breathing or immune deficiency problems away when turning a heap
- Keep anti-tetanus protection up to date

Other relevant cards

- To Contain or Not
- All compost making cards

Useful contacts

- HSE Information Centre
- HDRA

18 To Contain or Not

The majority of Community Composting projects currently make compost in heaps or bins; a few also use windrows.

Heaps and windrows

Free standing compost heaps can be made up to a size of around two to four cubic metres. If the heap gets much larger than this, the weight of material tends to force air out and the process turns anaerobic. Once a heap has reached 1.5 m or so in height, it should be extended lengthways, making what is known as a windrow. This is basically a long, low mound shaped heap, wider at the bottom than at the top.

Pros

- ✔ No container costs
- ✔ Easy for turning, especially with machinery
- ✔ Good for large quantities; only limitation is land
- ✔ Can easily absorb an extra flush of materials

Cons

- ✘ Covering, or a central site may be needed
- ✘ May not look so neat and "tidy"
- ✘ More land required
- ✘ Mechanical operations in adverse weather require good ground surface

Windrow composting

Windrow composting is a good method for larger quantities of materials, especially where machinery for building and turning is available. The result can be a quick return of good quality compost.

The size of a windrow will depend on the nature of the material being composted, and the reach of the machinery, or people available for making and turning it. Strawy manures, for example, are very dense. To ensure sufficient aeration through a manure rich heap, the maximum height should be around one metre. Lighter, fluffier materials may start off in a windrow up to four metres high, if the machinery, or workers, can cope.

The width of a windrow can vary from around three to six metres, and it can be as long as the site allows. Smaller windrows are not advisable. They will quickly lose heat, may not heat through and will tend to get soaked in the rain, unless covered.

As a windrow diminishes in size as it composts, two can be combined to make one. This is particularly useful in winter to retain heat, and it also liberates space.

Ideally windrows should be covered, or made under cover. In practice this seems to be rarely the case. Larger windrows will usually generate sufficient heat to evaporate

excess moisture from the rain. Smaller heaps are best covered – with, for example, a layer of spoiled old hay, used silage bags or even a 'thatch' of brushwood and conifer prunings.

Once the compost has finished heating it can be left to manure in situ, or made into a larger windrow, around two metres high an four to five wide. As this is not producing any heat, some form of cover is recommended.

Windrows should be turned regularly, at least in the early stages, to ensure that all material spends some time in the warm moist centre of the heap.

Making compost bins

The most practical option is for Community Composting projects to make their own containers, using the most appropriate materials available. Timber is the most popular. Use recycled materials wherever possible, to cut down costs and maintain the ethos of the project.

Some options

- Wooden pallets - cheap
- Forestry offcuts – cheap
- Larchlap fencing lined with pallets
- Tanalised softwood – costly; long lasting; treatment not environmentally friendly
- Railway sleepers – high cost; long lasting
- Concrete blocks

Gaps in the side can be lined with flattened cardboard boxes, carpet etc.

Wood preservatives

The decision whether to treat wood, or buy treated timber, is a difficult one. Wood preservatives are, because of their function, toxic. Tanalised (CCA treated) timber has a long life, but the treatment involves the use of copper, chrome and arsenic. Creosote also has environmental disadvantages.

There are some so-called 'organic' materials available, but they tend to be more expensive. Another option is to use free/cheap materials and replace them when they rot. At Chagford they save up old cooking oil and saturate the wood with that.

How many bins?

The number of bins used ranges from three to 10 in current projects. The general feeling is that the process is easier to manage and monitor if there are more, rather than fewer.

Containers

A compost bin is some form of enclosure that contains the composting materials.

Pros

- ✔ Can look 'neat'
- ✔ Retains heat and moisture
- ✔ Keeps rain out
- ✔ Ideal for smaller quantities
- ✔ Good where space is more limited

Cons

- ✗ Cost of materials and labour to construct bins
- ✗ Less flexible for varying quantities
- ✗ Not suitable for mechanical turning

Compost bins

The optimum size of a compost bin is around 1.2 x 1.2x 1.5m. anything bigger can get unmanageable, and may be an overwhelming sight when it comes to turning the heap. Some projects, such as Seagull, do however use larger bins.

There is nothing complex or mystical about the design of a compost bin. It is simply a four-sided container. The important aspects to consider when buying or making a bin are as follows.

- **Easy access** for emptying the container. A removable front, in the form of slats, or solid section that is easily lifted off is advisable. If the back is also removable two people can have access at the same time – but bracing would be needed to keep the sides in place.

- **Sturdy.** Compost is heavy stuff and can soon burst out of a flimsy container.

- **Rainproof cover, lid or roof.** Rain will cool a heap and wash nutrients out, a waterproof cover such as a tarpaulin, corrugated iron, or even plastic bags should be used to keep the rain off.

- **Solid sides** to retain warmth and moisture.

Other relevant cards

- Case Studies
- Making Compost 1 & 2

19 Making Compost 1

As any gardener will tell you, there are many ways of making compost. The timescale and the quality of the end product are almost directly proportional to the amount of care and effort that are put into the making.

In a Community Composting scheme, it may be best to aim for quick hot composting – which can achieve a good quality end product in 6 to 8 weeks. Quick processing means a higher turnover from a given area, but more labour is required in its production. A slower, cooler compost will make equally valuable compost but the turnaround will be less quick and each batch will occupy space on site for longer. The end product may not be so fine in texture, and may contain more contaminants such as weed seeds.

Some compost making guidelines are given here. The method(s) used by a project are likely to be governed by the site, and available labour, ingredients and equipment.

The composting process

When organic (once living) materials are heaped up together, naturally occurring bacteria start to feed on the soft and tender items. The speed of action is remarkable, and their numbers increase dramatically. Energy is released as heat, and a compost heap can reach temperatures of 60° - 70° in a few days. If a heap is made piecemeal, then this heat is less likely to be noticeable.

As the heap settles, lack of air soon starts to slow down the microbial activity and the heap cools down; slower acting organisms that can work without air take over.

If more air is mixed into the heap, by turning it, the heat will rise again. This process can be repeated several times. Once all the readily decomposable materials have been consumed, fungi and other creatures move in to deal with the tougher items. This process is much slower, and the air demand less, so turning no longer has any effect. It is then left to mature.

Composting: "Five Basic Essentials"

1 A mixture of materials

Soft, nitrogen-rich materials, such as grass mowings and young weeds, get the process started; tougher, more fibrous material such as old bedding plants give the product body. The right mixture of tough and sappy ingredients is learned by experience.

If the heap smells strongly of ammonia, or the end product is wet and slimy, there is too much sappy material; if nothing much happens, the opposite may be the case.

2 Layering or mixing

Traditionally, materials are added to a compost heap in layers, alternating wet and dry, tough and sappy. This helps to give an idea of how much of each is being added. but mixing everything together at the start is more effective. Microbes don't move far, and prefer to have a good mix of food directly available

3 Water

An essential ingredient. Water the contents of a heap as it is built, not just at the end, so it is wet throughout. The quantity required is again learned by experience. The higher the proportion of soft, sappy materials, the less the water. Very dry material, such as straw, will need to be well soaked.

4 Air

Built in as materials are stacked. Air is essential for a fast, odour-free process, but too much can encourage drying out. Firm down compost materials, but not so as to exclude all air. Mix dense materials, such as grass mowings, that tend to settle and exclude air, with drier, open materials. Shredded conifer prunings, in particular, can be very dry and open.

5 Cover

To exclude rain and keep moisture in.

For faster composting

- **Greater volume** — Make a heap of *at least* 1m^3 in one session. This will heat up, which will speed up the process.
- **Break up ingredients** — Shred or chop tough material, or simply bash it with a hammer.
- **Turn the heap** — Turn the compost at least once or twice.

Hot heaps

A heap built using *all* the guidelines listed above should reach 60°C within a few days. This heat will kill most weed seeds and plant diseases, and also speed the composting process. Turning the heap helps to maintain high temperatures and can create a good quality compost in as little as 6 – 12 weeks.

Too hot?

There is no gain from having an excessively hot heap. The heat can drive off ammonia – which means a loss of nitrogen, and an unpleasant smell – and it can kill the more temperature sensitive microbes (though they will return slowly when it cools down). The

most efficient temperatures are said to be around 55°C, for maximum speed of decay – though slightly higher temperatures are required for killing weed seeds (63°C). pathogens should not survive 54°C – though many will be killed at lower temperatures. If temperatures rise too high, reduce the quantity of sappy material, only shred really tough ingredients and turn the compost regularly.

Cooler heaps

Heaps made following only the "Five Basic Essentials" listed above may not heat up significantly. Diseases and weed seeds are less likely to be killed, though some kill will occur as a result of the intense microbial activity. It will take considerably longer to be ready for use (6 – 12 months), but the end product may be richer as less nitrogen is likely to have been lost.

Compost additives

A compost activator gets the composting started, and may also speed up the whole process. Generally, in a good mixed heap, there is no need to add an activator – the basic ingredients will do the job. A heap that is rather woody can be "activated" by adding sappy, nitrogen rich materials, such as grass mowings, nettles, comfrey leaves or rich animal manures to get it going. A liquid activator can be made by soaking comfrey or manure in water.

Research has shown that one additive that may make a difference is mature compost, though quantities required – around 20% by volume – are rather large. Lime and soil are not essential in a compost heap.

Other relevant cards

- What Can I Compost?
- To Contain or Not
- Shredding and Shredders

Further reading

How to make your garden fertile
- Pauline Pears

Backyard Composting
- John Roulac

20 Making Compost 2

Recording and monitoring

As each heap is made it should be given an identity code, that stays with it throughout its life, so that progress can be monitored.
The code could be written on a label that is stuck into the heap, or on a wooden block that can be hooked onto the front of a compost bin. When the heap is moved, the label goes with it.

In the initial stages of a hot composting heap, the rise and fall in temperature is a measure of progress – so it is worth monitoring the temperature, especially over the first few weeks. If the temperature fails to rise, or does not rise again after turning, this is a fair indication that some factor, other than oxygen, is limiting. It may also be useful to know that temperatures have been high enough to kill weed seeds and pathogens.

A heap's temperature can be recorded using a soil thermometer, or simply by thrusting a metal bar into the heap for a few minutes. If the hot end cannot be held comfortably for more than three seconds, the heap is over 50°C. Several projects have found difficulty with thermometers breaking or going missing – but find they are able, with experience, to gauge a heap's performance simply by feel.

Turning compost

The term 'turning' compost simply means remixing the ingredients of an existing compost heap, so that, as far as possible, the outside becomes the inside, and vice versa.

Benefits of turning

- Ensures that all ingredients have a period in the hot moist centre of the heap, to kill weed seeds and diseases
- Reintroduces more air into the heap, to keep the aerobic bacteria at work
- Provides an opportunity to check how the heap is progressing; dry areas can be watered; soggy areas can be teased out and mixed with drier ingredients – or dry and wet heaps can be combined
- Helps to dry out wet heaps
- Makes infestation by rats less likely; they do not like the disturbance

When to turn

A heap is usually turned when it begins to cool down, or when it drops to 50°C or below. Turning can be repeated several times, until it no longer results in a rise in temperature. The Seagull project turn their compost every two weeks, using a powered machine (see below), making a batch of compost in six weeks in summer. Others turn once a week, once a month, or never! Not turning a heap is not the end of

the world – composting will be slower, and you will not know if there are dry or soggy areas in it – but much less work will be involved.

Cool heaps may also benefit by being turned once or twice – to ensure good mixing and to check progress.

How to turn

The simplest method of turning is to fork the contents of one compost bin into an adjacent bin – putting top to bottom, and outside to inside. A manure fork with pointed, curved tines is best for this. As the volume of a compost heap decreases over time, the contents of two bins can be amalgamated into one. In this way the compost can gradually be moved down a row of compost bins towards the bagging point.

Free-standing heaps and windrows can be turned using a front end loader or bucket on a tractor.

The Seagull project uses a powered rotating Trommel drum screen or "rumbler" designed for separating sand and gravel, and purchased for £50. Compost from one bay is shovelled into the drum – which mixes the materials, breaks them up, and adds oxygen. It is then forked into the next bay. Chagford have a hand powered machine of similar design.

Curing and maturing

Once the high temperature composting phase is over, the compost will no longer re-heat when turned. The process slows down and oxygen consumption is much lower. This stage is known as the curing or maturing phase and it should last around one to three months. It provides a safety net, overcoming any shortcomings in the composting process, and reducing the dangers of an immature compost being sold.

During the curing phase, resistant materials will continue to decompose, the pH will move towards neutral, and the compost will be recolonised by soil micro-organisms which can give the compost disease-suppressing qualities.

Trouble shooting guide

Heap doesn't heat

Reasons: Too dry, too wet, mixture too woody, pile too small.
Remedies: Add water / wet ingredients, add dry ingredients, add fresh green material, increase heap size, or just leave it as a cool heap.

Heap fails to compost

Reasons and remedies as above.

Ammonia smells from heap

Reasons: Heap too hot, too much nitrogen-rich material, pH over 8.

Remedies: Turn heap, soak if dry, add woody materials, don't add lime to heap.

Compost texture not uniform

Reasons: Poor mixing, insufficient turning, large tough items in initial heap.
Remedies: Sieve compost, improve initial mixing, turn more often, shred raw materials, leave to compost further.

Flies a problem

Reasons: Fresh manure or food scraps accessible to flies.
Remedies: Turn heaps regularly, don't store food scraps.

Rats visit heaps

Reasons: Rats endemic in area.
Remedies: Rat control in area, turn heaps regularly, use a rat-proof container.

Other relevant cards

- What Can I Compost?
- Case Studies

21 The End Product

So you've made your compost, turned it and left it to mature. The next stage is to get rid of it! The last thing you want is a mountain of compost cluttering up the site. How this is to be achieved should be considered in the initial planning phase. It can be a major issue and has legal implications regarding licensing. For more information on marketing and selling, see *PR & Marketing 1 & 2*; also *Grants and Other Funding.*

Production volume?

How much compost is produced will depend of course on the quantity, and type, of material collected for recycling. At a rough estimate, the final product will be around 25 per cent of the original volume of the material. Remember to keep a record of the volume of compost distributed / sold if you are applying for recycling credits.

When is it ready?

A characteristic dark brown colour and earthy smell are not adequate criteria for determining that the composting process is complete. These qualities develop before the compost is mature. An immature compost could be harmful to plants, and it will continue to decompose if bagged up – reducing in volume and producing gases and smells!

When compost has been left to cure for a month or two it should be stable enough for sale or distribution. To check maturity, seal a sample of well-wetted compost into a small plastic bag. Store it for a week or so at room temperature. If it still smells good when opened after a week, it can be considered stable.

Sieving and riddling

However long you leave the compost, if twiggy material, sticks and woody bits went in, they are still likely to be present. This compost is quite usable, and could be sold as a mulch. Some users may feel happier with a finer product. The answer is to put it through a sieve – producing both a finer product, and a coarser mulch material. The coarser material could also be put back to compost further. One project, WyeCycle, will sieve on request, charging for the service.

Methods of sieving vary from low to high tech. The simplest is to throw the material against an old bed frame. Machines are available, and the Seagull project gets on well with theirs.

Bagged or loose?

Community Compost is currently sold loose – by the wheelbarrow or trailer load – or in bags, which may be new or recycled.
For more information, see *PR & Marketing 2 & 3.*

Labelling

Printed plastic sacks are very expensive and do not put across a good recycling message. Most projects just label sacks with a black marker, or attach a simple paper label. The Community Composting Network produces labels that can be printed with a project's own logo – but further labelling may be needed if you sell a range of products.

What's in a name

There is, as yet, no legal definition for the various products of a compost heap, so you can call them what you like, within limits. According to trading standards, misleading labelling would be the only possible crime.

Existing Community Composting projects produce compost products which they sell under a range of different names – including mulch, soil improver, peat substitute, soil conditioner, potting mix, compost, and wood chip. As these terms are used differently by different people: this could cause some confusion – so do make sure that customers know what it is that they are getting, and how to use it. Let customers see a sample if possible.

A common confusion occurs with the word "compost" which, to the average garden centre customer, is a medium in which plants are grown. Traditional garden compost however is something different. The use of the phrase "composted green waste" or "composted garden clippings" could help avoid confusion.

Benefits and uses of garden compost

To help advertise compost products accurately, the various uses, and benefits, of compost are outlined here.

Soil conditioner: Helps light soils to retain water and plant foods; helps heavy soils to drain more easily and to become easier to work

Soil food: Compost provides a supply of slowly available plant foods; contains major nutrients (N, P, K etc) in low quantities. Also all trace elements.

Mulch or dig in: Compost can be applied to the soil surface, or dug into the top 15 – 20 cm of soil. Rougher composts, those containing lots of woody bits and composted woody shreddings, are probably better applied as a mulch. If the compost tends to contain weed seeds, it is better to dig it in.

Peat substitute: Compost is of course a substitute for peat as a soil conditioner in the garden – though it is much more effective than peat in this context. It is not a *direct* substitute for peat in potting mixes however. It can be used as an ingredient of a home made potting mix, but it needs to be mixed with other ingredients such as leafmould, sand etc.

Saves water: Well composted soil (mulched or dug in) will need less watering, and will hold on to water longer in dry weather.

Natural pest and disease control: Compost contains naturally occurring fungicides and beneficial organisms that suppress pests and diseases.

Long lasting: Studies have shown that residual benefits of compost are still present eight years after application.

Testing and analysis

Composted green waste can be analysed for plant food content, pH, presence of unwanted toxic elements, maturity etc. Some projects have had this done, but most don't. It may be worthwhile once or twice for your own information, and particularly if you are concerned about any contamination with toxic elements.

There is no legal requirement to put a nutrient analysis of the product on the sack. As this is likely to be quite variable between compost batches, regular analysis would be required to keep the figures accurate, and the cost would be prohibitive. Providing an analysis can also give a misleading message. The nutrient (NPK) levels will tend to be low, but the value of the material goes far beyond these figures, as the list above shows.

Other relevant cards

- PR & Marketing 2 & 3
- Legal Aspects
- Leaf Mould
- Shredding and Shredders
- Case Studies
- Grants and Other Funding

Further contacts

- Compost Analysis Services
- Community Composting Network

22 Shredding and Shredders

It is quite probable that the waste that you collect for composting will include relatively large quantities of hedge clippings, prunings and other 'woody' waste. A mechanical shredder will quickly reduce a large heap of such items to a relatively small pile of woodchips which can then be added to a compost heap, composted separately or used as a mulch.

Shredding *Plus* points

- Shredded materials compost more quickly
- Woody items can be composted if shredded first
- Woody items can be converted into useful mulches
- Finer compost produced
- Good publicity – people are interested in ways to get rid of woody waste

Shredding *Minus* points

- Cost of machine – min £2000
- Cost of trailer if machine to be moved far
- Running and repair costs
- Insurance of machine and operators
- Safety equipment essential
- Operator training required
- Secure storage needed
- High energy use
- Noisy in use
- Shredding is time consuming
- Hazardous to use

To buy or borrow?

The minimum cost of a reasonable size of shredder will be around £2000, so it needs to get good use to be worth the investment. Unfortunately, even at this price the machine will be small in the shredder world. It will be relatively slow, and extremely noisy in use, which makes it unpleasant for both the operators and anyone in the vicinity. One option to consider is to persuade your local council to offer a mobile shredding service, bringing their large shredder / grinder (if they have one) to your site now and again (if you have the space). Large machines get through an enormous quantity of material in a short time, minimising the disruption. Of course all the expenses and responsibilities of owning and running a machine of your own are gone, and volunteers and workers have more time to devote to making compost.

If such a service is available you will need to stockpile material to make it worth while, so space is required for storage. It also means that materials have time to dry out, rather than be shredded green; green material shreds and composts much more effectively.

Buying a shredder

Power: Choose the most powerful machine you can reasonably afford. A petrol driven machine of around 8hp is the minimum that is worthwhile. Anything smaller will be slow to use and may not be up to the job you require of it. Tractor PTO powered models are available.

Portability: Do you have the means to move it around the site, or to other locations, if necessary?

Capacity: Check that the machine will deal with the maximum size (diameter) of material you will be dealing with.

Working height: Some models would be impractical for a short person to use.

Funding

See *Grants and Other Funding*

Health and safety

- Only named, fully trained and insured operators should be allowed to use the shredder. Shredder companies may offer training to one or two individuals.
- Always work on a level, hard surface where there is plenty of room to stack materials and move around.
- Full protective clothing – goggles, ear protectors and thick gloves must be worn at all times when shredding.
- People not involved in the process should keep well out of the way

Shredding hints and tips

- Pile up items, ready prepared where necessary, close to hand. Don't leave the machine running unnecessarily.
- Have one or two people supplying the shredder operator.
- Reject anything with soil on – it blunts blades.
- Fresh material will shred much more easily than dry or dead wood.
- Wet material does not shred well; alternate with dry items to reduce clogging.
- Don't try to push too much through at once.
- Don't shred *everything* – only the tough and woody materials that would otherwise take too long to compost.
- Turn the machine off as soon as it gets clogged.
- Never clear out the shredder chamber with bare hands. There is now a 'Nine-finger Club' for those who have lost digits while operating composting machinery!
- The maximum size for shredding stated by manufacturers is for guidance only.
- Some materials will be just too hard for it to cope with.
- When in doubt, use the chipper chute.

Alternatives to shredders

Tough materials, other than prunings and hedge clippings, can be chopped with a sharp spade. Do this on grass or soil – not a hard surface where you are likely to jar yourself. Soft hedge clippings will compost without shredding, but rather more slowly. Where space is available, woody materials can be made into separate slow heaps (see *Working Without a Shredder*).

What to do with the shreddings?

Shredded prunings, hedge clippings, brassica stems and other tough materials make an excellent addition to a mixed compost heap. They are particularly useful mixed with large quantities of grass mowings and other soft items.

Where there is a sudden influx of, say, Leyland cypress, this can be shredded and composted on its own – with the addition of lots of water, and something nitrogen-rich such as grass mowings or pigeon manure if available. The heap should be left for 6 – 12 months before being offered for use as a mulch. Unshredded, it can be useful to cover muddy patches around compost boxes!

Tougher, woodier material, shredded when it has dried out, will not compost so well. Small quantities can be added to a heap or use them to mulch paths. The alternative is to stack up the woodchips, watering them well as you do, and leave them to compost alone for a few months. The result can be offered for use as a mulch for shrubberies and other permanent plantings.

DO NOT offer woodchips for use on playgrounds – there are strict regulations covering this situation.

Other relevant cards

- Grants and Other Funding
- Working Without a Shredder

Useful contacts

- HSE

23 Working Without a Shredder

As the section on shredders explains, these machines are not particularly environmentally sound, neither are they much fun to use. A quieter, more environmentally-friendly method, of dealing with tough and woody materials is to compost them in separate, slow heaps. All that is required is space, and patience – as they may take years to decay. An added bonus is that wildlife loves woody heaps as a refuge.

And remember that some woody waste material can be used by gardeners – for pea and bean sticks, windbreaks and fuel.

The Chagford Community Composting Project has been experimenting with such heaps. As a result of a shredder breakdown, compost material at the Chagford project started piling up. Weeks later, when the shredder was repaired they found that the heap had already started composting. It was very twiggy but much too wet to put through the machine. Instead it was stacked in a windrow, about 2m wide, tapering to 1m at the top, and some 6m long. Some of the very toughest material *was* put through the shredder with the grid off, which cracked and bashed the stems, allowing greater bacteria penetration, but did little else.

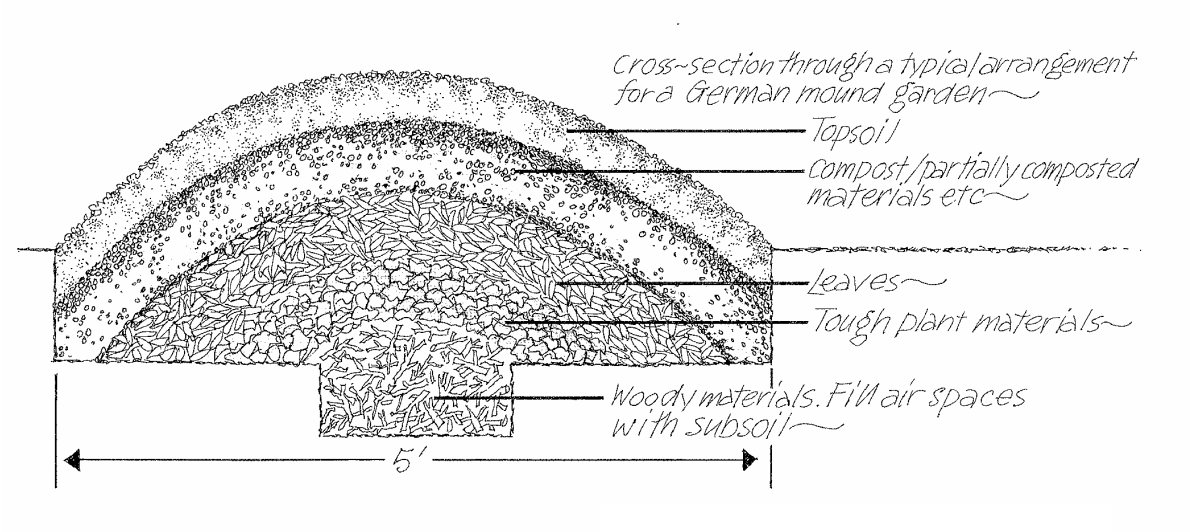
The heap was well trodden down as it was built. Where possible, grass cuttings and manure were added to fill the air spaces and provide an activator. It was left open to the weather until well soaked, then covered with old silage bags. It was soon steaming. The resulting compost will inevitably need riddling, but the twigs and other items riddled out can go back into another long-term heap.

Hints and tips for woody heaps

- Bash up the material in some way
- Create a large heap
- Compact it as much as possible
- Fill the air spaces with other materials such as grass, earth or manure
- Thoroughly soak the heap
- Cover the heap with plastic or straw to keep it moist

German mounds

This is another interesting technique to try if you have the space. A mound (or windrow) is created with a woody core, then built up with progressively more composted material. Compact each layer well before adding the next. The mound is finished off with topsoil (which has been dug out of the initial trench used to prepare the mound). Take care not to have the sides too steep, or the soil washes away. It can then be used to grow crops. In the first year, shallow rooting crops, or beans and peas which fix their own nitrogen are the best bet.



Recycling Autumn Leaves

Autumn leaves are unique among recycling resources in that they appear over a very limited time – only Christmas trees being more seasonal.

They are also clean (relatively), light to handle, pose no pollution or odour risk during decomposition, and can easily be stored for future use.

Contrary to popular belief, all autumn leaves do decay – though some take longer than others. As part of a mixed compost heap they provide a good counterbalance to sappy green ingredients such as grass mowings. In larger quantities they are usually recycled separately, taking a year or more to decay into what is known as leafmould. Leafmould is the nearest we come to a true peat alternative in that, unlike compost, it is very low in plant foods (peat has none). It also has the advantage of being a resource that is renewed annually!

Leaves in Community Composting

It is estimated that 50,000 tonnes of leaves are collected from parks annually and that private gardens probably provide as many – so there is no shortage of supply. You will need to set aside space for a year or more, but perhaps as regular attention is not required this could be slightly out of the way (though autumn leaves and a water supply will be needed).

Getting in the Leaves

As an annual event, leaf fall (and hence collection) could be used as a good publicity exercise for the project. The public and schools could be encouraged to recycle their own leaves, or to bring them to you for recycling.

Local authorities tend also to have quantities of autumn leaves. If you can take lorry loads this would be a good source of supply. Ask for leaves from parks and cemeteries rather than street swept leaves.

Contamination

There is often a concern about lead and other metal pollution of leaves. Unless they are taken from very busy streets, this is unlikely to be a problem. This is one situation where an analysis might be worthwhile.

Making leafmould

To make leafmould, simply heap up the leaves and leave them to decay, somewhere where they will not blow away. A wire mesh enclosure is usually used. There is no limit to size, though a larger container will need to be made of something sturdier than wire fencing. Where at all possible, the leaves should be watered as they are stacked, unless they are already wet from rain. Dry leaves can be very resistant to decay. Shredding can also speed the process, but this is not essential.

How long does it take?

After a year, the leaves will have darkened and broken up to some extent. Soft leaves such as birch and cherry will be unrecognisable, whereas the high tannin types such as oak and beech may still be intact. At this stage the leafmould can be used as a soil conditioner, dug in, or as a mulch round plants. It can be used all year round, on any type of plant. The pH will be around 6.5 – 7.5 (depending on species).

For a finer product, for use in seed and potting composts, leave it for two years.

Useful contacts

- Compost Analysis Services