Common-Sense Compost Making

By the Quick Return Method

by

Maye E. Bruce

with a foreword by

L.F. Easterbrook

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'The Divinity within the Flower
is sufficient of Itself'

Plate 1: Portrait of the author

This book describes a way of making compost, i.e. humus, which is simply, labour saving (no turning) and quick, both in ripening the compost and in getting results in the soil. It is adaptible to all conditions and to every size and type of garden, allotment or farm, the process being based on nature's own methods.

Miss Bruce tells how to make use of the natural heat of disintegration, which liberates the vitality of the plants; how to retain that vitality within the heap, and how to quicken both the disintegration of plants and the energizing of humus by treating the heap with a simple activator. This is a herbal solution which contains in living plant form the chief elements necessary to plant life; formulae are given.

From Vegetable Waste to Fertile Soil affirms a belief in the universality of Life, this Life being manifest in varying 'rhythms' in the mineral, vegetable, animal and human kingdoms. Health, productivity and perfection of growth in the vegetable kingdom, says the author, can best be achieved by feeding plants within the 'rhythm' of this kingdom.

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Foreword

by L.F. Easterbrook

When Dr. Rudolf Steiner was pressed to lecture publicly on agriculture, he eventually agreed, but with reluctance. 'All right', he said, 'this is what I think. But for Heaven's sake experiment for yourselves.' That is precisely what Miss Bruce has done, as the fascinating story she tells in Chapter 2 reveals. With her usual modesty, she puts forward the method that she has developed as merely one of three, each of which may be suited to particular circumstances. Hers is especially suitable to gardens and allotments and to the increasing number who find adequate supplies of animal manure hard to come by. But Miss Bruce would be the last person to claim to be the sole repository of knowledge about compost-making, and her readiness to recognize the claims of other systems is further proof of the spirit of disinterested public service in which she has undertaken this work. She seeks neither prestige nor financial reward.

Had I not been already convinced of this, I could not have taken the responsibility of giving a full description of her methods in a national newspaper. The result was staggering. Over 4,000 people wrote in the next few weeks to ask for further particulars. The fact was that it appealed to their common sense.

That seems to be the most remarkable thing about this business of fertilizing the soil by completing the circle of growth and returning to the earth organic matter that has served its immediate purpose. It is Nature's way, and although Nature is far less doctrinaire than many who fancy they can ignore her, and although she will permit liberties to be taken, yet she is inclined to be implacable when it comes to going against her first principles. The lack of health and the growing catalogue of diseases in plants, animals and men seems to me evidence of this, and in our hearts I believe we know it is true.

For when I first encountered the theories of Dr. Steiner and the methods of those who believe that only living things can produce life, I was frankly incredulous. That was some fifteen years ago. But somewhere there lurked the uncomfortable feeling that 'there was something in it'. This led me to try it, rather tentatively, about ten years ago. 'But I'm not going all the way', I said to myself, 'One mustn't become a crank'. I found myself going further and further, however, and even when I have metaphorically shaken my fist at Dr. Steiner's photograph and said that anyhow nothing would make me believe that one, sooner or later I have had to make an equally metaphorical apology. So far as I can discover, this has been the experience of everyone who has set foot upon this path. Perhaps, therefore, this should have been headed 'Warning' and not 'Foreword'.

To-day, after ten years' experience, all too literally at 'first hand' during the war years, I am completely satisfied with the result of Miss Bruce's system. Since the war, we have added poultry and rabbit manure to the vegetable waste, and it seems to have improved the compost. Our soil, inclined to be rather sticky on top of marl rock and unweathered greensand, has improved beyond all knowledge, and we can get on to it, and work it, for at

least an additional six weeks during the year. The flavour of what we grow is at least noticeable enough to provoke invariable comment from visitors. It is true we pick the white butterflies off the cabbages, dust some of the young brassicas with derris and spray the roses with soft soap, but apart from that we use no spray or insecticide of any sort. Yet potato blight is unknown to us, likewise the other curses of the gardener, and if the peach trees suffer from the attentions of red spider, they have the vitality to throw off the effects. As regards other fruit, I wish I knew where we could buy apples to equal those that we grow, although no spray ever pumps lead and arsenic into them; and while the diseases of strawberries and raspberries have wrought such havoc that the national acreage has decreased by about 50 per cent, our main trouble is to restrain their exuberance in throwing out runners and suckers. I have never seen a sick strawberry plant or raspberry cane in the garden.

Our health has been good enough to make people ask us how we manage it. When I take my small boy who has eaten compost-grown vegetables all his life, to the dentist, the dentist asks what we have done to him to give him such an exceptional set of teeth. We hope to be even healthier now we have discovered where we can buy flour from organically-manured wheat.

Not the least of the blessings of this 'common-sense' gardening is to be free of the slavery of measuring out and administering endless doses of this or that dope to the square yard, making one feel more like a chemist's assistant than gardener. Nature leaves wide margins for error, and will never quarrel over a few tons of compost to the acre one way or the other. Provided reasonable care is given in making the compost, it is as near to being a fool-proof system of manuring as anything can be. It makes the minimum demand upon intelligence and labour.

All this, I am quite ready to agree, is only 'evidence' and not 'proof'. Those 'scientists' who so stoutly fight the losing battle of chemical manuring and are retiring from one position to another, will not even regard it as 'scientific' evidence. But with the rising tide of practical evidence that refutes their theories, the onus has come to be upon them to prove their contentions, and until they can produce proof that artificial manures will give me food of the quality, health and succulence of compost-gown food, and with such little trouble, I shall be content to keep to compost, save my money, and retain my well-being.

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Common-Sense Compost Making

By the Quick Return Method

by Maye E. Bruce

Chapter 1

Introductory Note

Here is a curious fact. It has taken a World War to revive and strengthen the human love of the soil.

Throughout the ages, we find that work on and with the soil has meant fertility, health, prosperity; but as soon as man began to exploit it for gain, or neglect it from sloth, fertility ceased, the life departed from the earth, soil erosion followed, and vast tracts of land were invaded by sand and dust, with the result that once fertile country was turned into desert and dust bowl, and the process still goes on.

Nature is slow to retaliate, but terribly sure. The lesson may be learnt on every continent, either as the result of neglect in the long past, or from the concentrated and constant exploitation of a century. The first, neglect, is typified by the deserts of North Africa -- once the granary of Rome -- and by the derelict lands in Palestine, and Transjordania, once 'the land flowing with milk and honey'. The second, exploitation, is shown by the dust bowls of America -- here was virgin soil, rich in natural humus; the utmost was extracted from the land, no living matter was returned, and consequently the life went out of the soil and it returned to dust. The results are being faced at last, and taken to heart with courageous enterprise and a stirring of national conscience. In New Zealand deep anxiety is expressed, because of the exploitation of land by the use of chemical fertilizers and of widespread deforestation. In Australia great tracts are suffering from drought, soil erosion, diminishing fertility from the same causes. From East Africa come accounts of virgin land exploited, doped with chemicals, till it becomes useless, then left derelict for a repetition of the same procedure a little farther on.

If we turn from the large to the small, we find the majority of small-holders and gardeners are up against the same difficulties. They cannot get natural humus, i.e. farmyard manure. They try chemicals -- manure from a bag. It has all the right chemical ingredients, but no life, no inherent power of growth; has anyone ever heard of a mineral growing? The result after a few seasons is a steady decrease of fertility and increase of pests and disease. Mercifully, the compost heap is now being recognized as 'the heart of the garden'. This is a change of attitude of the past three years, and one which will surely save the situation, if the practice of using this compost becomes universal. In the midst of this world-wide sickness of soil, there are areas of fertility, and some in most unpromising natural conditions.

Primarily there are the Hunzas of Northern India; their valley home is an oasis of fertility, thanks to superhuman works whose origin must be in the far-off ages. Rock terraces hold the soil on arid hill sides; a system of irrigation, and -- most important -- the systematic and traditional making and use of compost, have produced a race of human beings, healthy, happy and wise. Then in China, amid poverty and difficulty, the use and detailed care of the compost heaps form a definite part of community life. This has enabled the Chinese to extract the utmost from the same soil for thousands of years and still keep it alive and fertile.

At last there is a dawning realization throughout the civilized world of the importance, the urgency of this problem of soil-fertility. To-day, a growing body of people understand that the soil is a living thing and must be rightly fed. It is such common sense! All we eat comes from the soil, and derives its feeding qualities from the life in the soil. Meat, butter, milk, represent the vitality of the plants eaten by domestic animals. Vegetables and fruit give their vitality directly to us, but if they grow in unnourished soil, devitalized soil, they have no vitality to give.

The slow process of an almost universal malnutrition has started; it goes from soil to vegetation, from vegetation to human being. The result is a vast increase in malnutrition diseases -- cancer amongst them; an increase in spite of modern amenities and the development of scientific knowledge, but knowledge that appears to be directed towards cure rather than prevention. The increase of bad health is not confined to man, it is shared by domestic animals, and by the vegetable kingdom. Every year brings the tale of new pests, new diseases, and new remedies -- and insecticides. There *must* be a common cause for the universal symptoms, and the common cause of all that is -- *is the soil*. If the soil is ill, all living beings suffer. The remedy must start there. Already proofs are available to show how a vast improvement in health has been brought about by feeding of the soil with organic composts, instead of doping the plants with synthetic manures. Evidence as to this has reached me again and again from Q.R. Compost users; and on a wider scale, the experience of schools and the well-known experiment of the Peckham Health Centre uphold the statement.

It is after all just common sense; common sense has been called 'heavenly wisdom', and a lack of it may lead to a world-wide tragedy, if steps are not taken to save the life of the soil.

I believe it is the force of public opinion that will tip the scales. There is much to overcome; vast vested interests; refusal to face facts; indifference and ignorance of urban populations; laziness and conservatism amongst the country folk; and the tentacles of a hundred years of synthetic manurcs.

An agricultural expert, who came to see the Q.R. Compost, and who was both friendly and appreciative, said to me, as he left: 'You know, Miss Bruce, we agricultural experts have *all* been grounded and brought up on the principles of chemical fertilizers and you can't expect us to change quickly'. That is true; but the change is coming and the increase of practical experience and personal knowledge will help to bring it about.

In 1939 I was discussing the title of a prospective book with the owner of a well-known nursery garden. I suggested 'Compost'. He just said: 'No, nine people out of ten wouldn't know what you meant'. He was right! Shortly afterwards, I was speaking at a garden féte on 'Compost'. An amateur gardener was asked why had he not attended as the talk was about gardens. His reply was: 'Gardens! I thought it was "*jam-making*"!'

Now the word is a commonplace; the value of compost is generally acknowledged in print and by authority, and, what is more, there is a widespread vocal revolt against 'manure from a bag'. The growing interest taken by doctors, hospitals, health centres, schools and other communities, shows how the wind blows, and the recent debate in the House of Lords, on 2nd February 1944, is a good omen for the future.

Above and beyond all these developments, is the practical demonstration, to be carried out by the Haughley Research Trust. This plan, started in 1940, embraces a long-term agricultural experiment under expert supervision, and in due course with complete scientific equipment and laboratories. The minimum duration of the experiment is to be ten years.

The Farm is to be divided into three sections:

1st. To be manured entirely by compost of mixed vegetable and animal origin.

2nd. The second to be manured with chemical fertilizers and organic residues of vegetable origin only.

3rd. To be manured with farmyard manure and/or compost, plus chemical fertilizers.

The plan aims at identical crop rotation, so that in any year the same crop grown in the

three different sections shall be in the fields of the same soil type. It includes the taking and segregation of seed from each section, and the breeding of stock animals in triplicate, so that there will be three groups of stock animals nurtured on crops grown in the three different mediums, and finally the supreme test; that of bringing the animals into direct contact with diseased animals (imported from outside) suffering from infectious diseases, to test the degree of resistance to infection brought about by the three different methods of nurture.

The fulfilment of the whole programme is dependent on the ability of the Trust to secure adequate financial backing. The direction is in the hands of a Trust. The Custodian Trustees are the East Suffolk County Council. The actual management is in the hands of six Trustees, of whom two are representatives of the County Council. (Pamphlets dealing with the Haughley Research Trust may be had from the Hon. Secretary, Haughley Research Trust, County Hall, Ipswich, Suffolk.) It is a farsighted and courageous undertaking, deserving the fullest public support. Lady Eve Balfour (author of *The Living Soil*) is the resident farm manager. Her book (*The Living Soil*, by E.B. Balfour, Faber and Faber) should be, and is being widely read. In fact, its reception is yet another sign of the growing volume of public interest in this all-vital question.

There are, many methods of making compost and I believe there is room for all of them. There are millions of different gardens and different circumstances: if one method proves unsuitable, another may fit perfectly.

The three best-known biological systems, as quoted by F.H. Billington in *Compost* (*Compost*, by F.H. Billington, Faber and Faber) are:

1. The Bio-dynamic method (Rudolf Steiner).
2. The Indore method (Sir Albert Howard).
3. The Quick-Return compost method.

All three produce good compost.

The Bio-dynamic system is interesting but complicated, and out of reach of the great majority, by reason of its restrictions.

For large farms and estates where there is plenty of livestock and labour, the Indore method is paramount. It is backed by the great knowledge and experience of its founder, Sir Albert Howard. But it presents difficulties to the small gardener without labour for turning, or livestock for manure.

This book tells the story of the 'Quick-Return Compost' (Q.R.) for short!

It possesses three main advantages:

1. The compost needs no turning.

2. The vegetable matter disintegrates in an amazingly short time. Even after ten years' experience, I get the thrill of a miracle, every time I open a new heap, four to eight weeks after treatment, and find brown soil, rich in humus, instead of green vegetable matter.

3. The 'herbal activator' can be made by anyone who can find the right plants. The formula is given in full detail.

If it is impossible to find the herbs, the activator can be bought for a few pence, a flat rate of sixpence per heap. It is sent out in multiples of two (see Appendix 4).

This is not primarily a money-making concern. It was launched in the hope of helping to give back life to the soil, and thus eventually of abolishing disease in plant, animal, and man.

This is a hope which can only be successfully fulfilled by the co-operation and personal effort of all who hold in trust a portion -- however small -- of God's earth.

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Chapter 2

The Story of Quick-return Compost

It all started with the garden, a derelict garden, but with beautiful bones. There were a few grand old trees, a lovely curved wall, and the rest was a wilderness, except for one strip which was planted with sickly cabbages. It stood on the very top of the Cotswold Hills. The soil was shallow and stony, thin, friable, and very, very hungry. The place. had been a neglected farm. There was a yard full of ancient manure, and as long as that lasted, the garden did well. Then the manure gave out and I could get no more. In one season everything went back and I was in despair; I did not know what to do. I instinctively disliked the idea of chemical fertilizers, though at that time I knew nothing about 'compost' (this was nearly twenty years ago). Then a friend told me about Dr. Steiner's method and the Anthroposophical Agricultural Foundation, as their English branch was called. My friend knew of it by hearsay, but it sounded so interesting that I got into touch, joined the Association, and acquired my first experience of compost and compost-making.

I learnt much of intense interest, accepted some of their theories, rejected more, queried the rest. I had some delightful experiences, pre-eminently a visit to Holland to see the Bio-dynamic Farms and the work of Dr. E. Pfeiffer. I learnt to appreciate the quality of compost and the effect it had on the land.

But, as time went on, I realized that the need for compost was both world-wide and urgent, and I saw that it was the millions of smallholders, allotment-holders and gardeners who needed it most, for they were quite unable to get farmyard manure.

The Steiner Method seemed to me to be too complicated to have a universal appeal. The

literature was too obscure. The process of making the 'preparations' used as activators is secret and is the property of the Association. Moreover, these preparations can only be obtained by a member of the Association. There are of course many who use. the preparations and rejoice in the methods. It always remains a question of individual appeal. I look back with real gratitude and much pleasure to their kindly friendship and all I learnt; but we gradually grew apart, and finally came to a parting of the ways, and I withdrew from the Association.

I was, of course, bound by my pledge of secrecy as regards the making of the special 'preparations', but I was convinced that there must be some simple way of reaching the same end, and making good compost, moreover a way which could and should be given to all. I told them of this belief, and that I should do my best to find some other method, and, when found, developed and proved, would publish it, and bring it to as many people as I could reach; and further, that as there was, and never had been, any secret about the identity of the wild flowers used in the Steiner method, I felt free to use the same herbs in my experiments.

There was a slight demur, but when I drew the Association's attention to the fact that, after all, it was not Dr. Steiner who had given either dandelions or nettles to the world, they could only laugh, acquiesce, and we parted the best of friends, mutually wishing each other 'good luck'.

My boats were burnt; I can confess now that I felt very lost, completely blank, only believing intensely that an idea would come to my help -- and come it did. I woke up one morning with the key to the problem in my mind and the words ringing in my head: 'The Divinity within the flower is sufficient of Itself'.

With the words came the understanding of what they meant: the life, the vitality within the herbs, in the sap. From previous experience I knew it had to be used in homeopathic quantities, according to the homeopathic creed of 'the power of the infinitely little'.

I started experiments that very day, extracted the juices from the living plants -- dandelion, nettle, chamomile, yarrow, valerian, and made an infusion of oak bark.

The difficulty was to ascertain the right strength. I was no scientist; the only way was by practical experiment; and comparative tests. I filled a number of glass jam jars with lawn mowings, chopped-up weeds, nettles, and general vegetable matter. I treated them with the solutions in the following strengths:

1 in 10: 1 in 30: 1 in 60: 1 in 100 -- and then, urged by an impulse -- 1 in 10,000. There were two controls.

The jars were carefully labelled, then mixed and placed with the label towards the wall. Within five days the contents of one of the jars had gone ahead, and was changing colour

rapidly. After ten days I invited a soil expert to come and see the progress of the experiment, and place the jars according to their merit. When he had made his choice, we turned them, label forward, and they read:

First, 1 in 10,000: Second, 1 in 100: Third, 1 in 60, and so on down to the controls which were still green, much as they had started. In fifteen days it was obvious that the 1 in 10,000 was far the best, in fact, almost broken down to compost.

What the jars showed was proved in the test 'heaps'. I took two numbers only -- 1 in 10,000 and 1 in 60. Again, the 1 in 10,000 was ripe and ready for use long before the 1 in 60.

I made one other, very crucial test. If this simple method was to be published, I must be certain that the compost was as good as the Anthroposophical one. So I made two identical heaps; treated one with the Steiner preparations, the other with the solutions. Both heaps were, or seemed, very good. I have not much faith in chemical analysis as a criterion of true compost value, but I sent a sample of each to a well-known soil analyst, and the returns were practically identical, with the comment: 'Of equal manurial value'. I thought *that* was good enough.

From then, it was the heaps that taught me the most valuable lessons. I had realized that heat was a vital part of the breaking-down process, and that the conservation of this heat was of utmost importance. To this end, wooden bins were made; they had no bottom, but stood directly on the soil. The cheapest form of timber in those pre-war days was old railway sleepers, 9 ft. long and 9 in. by 4 in. thick. They were everlasting, solid. Three half sleepers made each side, and three sleepers, one on top of the other, gave length and height. They could easily be sub-divided into any desirable width. The bins were built against a stone wall. The irregularity of their edges admitted air, and a roof of stretched hop-sacks kept out the rain.

The heap taught me how essential it was to keep an extra piece of sacking on the top layer *all the time it it was being built*. One day a large corner of this covering was blown back, and that corner was stone cold while the covered portion remained hot and happy. I learnt the lesson: its importance cannot be overlooked.

It was the heap that taught me that if a large quantity of any one material is piled together, it takes a long time to break down, and in the case of lawn-mowings it packs together into a slimy mush. Hence the advice to make no layers thicker than four inches -- and if possible to follow a layer of tough stuff with one of soft, juicy weeds, or cut grass -- the one helps the other. I learnt too the importance of keeping the layers flat, by light pressure, so as to prevent crossing stems forming large pockets of air, and to ensure that the sides were packed up to the level of the centre. Heavy pressure is bad, but light treading or packing with a spade is beneficial, and I learnt that, in the bin, with level packing and the control of the natural heat of decomposition, the breaking-down process was even

throughout the heap, right up to the sides. I learnt moreover that by the injection of the solution (the activator) the need of turning was eliminated, and the speed of decomposition increased, so much so, that a spring heap became soil, rich black compost, in from four to six weeks! A summer heap took from six to eight weeks; an autumn one from eight to twelve weeks, but a winter heap remained asleep, unchanged, and unchanging, till the surge of spring reawakened the life in the earth. The quick ripening of the compost meant a great increase in the amount available for the garden, and the garden soon responded. The soil became richer, blacker, plants more vigorous, diseases vanished, the colour of flowers deepened and the flavour of vegetables improved. Many people visited the garden, tried the system, and were delighted with the results.

There were scoffers, of course, especially of the scientific, chemical-analyst mind. I came up against this type twice in quick succession: one was a science master in a boys' college, who openly scoffed at the idea of the homeopathic dose of 1 in 10,000 having the slightest effect as an activator.

The other was the agricultural expert of a Land Settlement Scheme which was started to provide allotments, equipment and advice for certain depressed areas -- a grand bit of social work. One of the heads of the association had heard of the Q.R. method and came to see for himself. (Incidentally the association was spending thousands a year on artificial fertilizers.) He was delighted with all he saw, and departed with leaflets and samples of the compost to show the agricultural expert; naturally nothing could be done without expert sanction.

In a few days the agricultural expert's report was sent me, with deep regret and a request to answer it. The expert turned the system down utterly and completely. He said: (1) plants required certain carbo-hydrates which were not present in the solutions; (2) that if the method were adopted it would result in (a) very slow disintegration: (b) a compost of no manurial value whatever!

I answered the letter, pointed out that modern science recognized and utilized the forces of radiations, vibrations and emanations, all of which were beyond the power of detection by chemical analysis. It seemed a pity that agriculture -- a science of 'life' -- should deny the possibility of achievement along such paths. As to his two authoritative assertions, BOTH were disproved by practical experience.

(a) No one could call an average of two months 'slow' disintegration.

(b) My own flower garden had had nothing but vegetable compost for four years and the quality of its produce, the health of the plants, and the colour of the flowers were well known over a wide area.

I received a short, non-committal reply, and the matter dropped.

By then I was longing for some outside proof, some chance happening that would prove the value of the solutions beyond all doubt; and my wish was to be granted in a two-fold manner.

I left home for a three weeks' holiday. Before leaving, I completed an experiment which I feared would prove a failure. I had a heap mainly of lawn-mowings, of which there was a surplus; they were put into a heap with about 25 per cent of dry leaves and soil, and not trodden down, as lawn-mowings make a poultice if they are pressed together. It had taken three weeks to build; I opened it before treating it, out of curiosity, and it smelt bad! I closed it, put in the solutions, left it, fearing the worst, and put it out of my mind.

During my visits, I went to a compost enthusiast, who took me straight out to see a new heap. It had been treated three weeks before (the month was August). It was not quite ripe, but it was getting friable, and it smelt very sweet.

'Now,' said my hostess. 'Come and open this heap. It was treated early in June, and it ought to 'be completely ready.'

I opened it. It smelt to heaven of decomposing cabbages! Awful! It looked slimy, green and yellow. The words burst out, 'This heap has not been treated.'

'But it *has*,' said my friend, aghast at both sight and smell. She called her gardener. 'Turner, you treated this heap, didn't you?'

In his slow Sussex voice he answered: 'No, marm, not that 'eap I didn't. I never touched that 'eap,' and on further enquiry it was proved that the heap had *not* been treated.

There was my first outside chance proof. The second was given on my return home! I went straight to the grass heap, left three weeks before as a slimy green mass. I plunged my hands into sweet friable compost, as good as anything I had ever seen.

It was the complete answer. From that day my confidence in the solutions has never wavered.

At this time, the solutions were seven in number, as honey had been added at the same strength, 1 in 10,000. It is a powerful activator. The seven were kept in separate bottles, and inserted separately -- a somewhat clumsy method.

Farmers were beginning to show interest and I realized that some simplification was necessary. I tried putting all the solutions together in one bottle. It proved absolutely successful, except that the honey was too lively and acted as a ferment. It had to be kept apart, till the final dilution for treating the heap; but the seven bottles were reduced to two, and the inoculation of the heap was accordingly simplified.

This led to a wider expansion and greater public interest. In 1938 Mr. L.F. Easterbrook,

the agricultural correspondent of the *News-Chronicle* and an enthusiastic Q.R. compost maker of some years' standing, wrote an article describing the method and its results, with warm appreciation: hundreds of applications for further details poured in.

I then began to wonder what the power was that speeded up disintegration and produced such good results. I knew I had been working blindly, and that further knowledge was essential, if the method were to be really established. A book on herbs (*Nature's Remedies*) came into my hands by chance and gave me the clue. I found that the plants used in the solutions held between them *the chief elements needed by plant life,* and it dawned on me that these elements were in *living plant form*, and would therefore be of greater value than the same elements given in static mineral form by chemical fertilizers. (Can a mineral grow?) The list included iron, lime, soda, potash, phosphorus, sulphur, ammonia and carbonic acid. Further research at the library of the British Museum confirmed, and added nitrates to the list of plant constituents.

A discussion with an expert herbalist revealed some interesting facts. For instance: very few plants have been analysed. The constituents of plants vary each year, not in kind, but in relationship to each other, according to the weather variations within the seasons. One year one constituent will predominate, the next year it may be another. I wondered might this not be a wonderful provision of Nature? The surplus, or lack of rain, sun or wind, in a given season, would have a definite effect on the soil; maybe cause a lack of some essential element. Therefore, Nature gives a little extra of this element to the plants, and as they disintegrate and return to feed the soil, they add an extra quota of the missing element, and so help to maintain its normal balance. If this were so, the practice of making a fresh vintage for the solutions every autumn, would be wise, as it would keep the compost heap closely adjusted to the need of the soil for the coming season.

This line of thought prompted new experiments, to see if a successful activator (solution) could be made by using any two or three of the herbs that supplied, between them, all the chief elements.

I found that yarrow and nettle made a perfect combination.

> *Yarrow* has: iron, lime, soda, potash, phosphorus, sulphur and nitrates.
>
> *Stinging Nettle* has: ammonia, carbonic acid, formic acid and iron.

The heaps treated with these two solutions, plus honey, gave very good results, so good that I was tempted to scrap the full formulae, and use only these two: then came a further and unexpected development.

I had long realized that the activator worked by radiation. By no other means could the injection of a solution of the strength of 1 in 10,000 (approximately one drop to one pint) affect a ton of solid material. The process of injection is as follows:

When the heap is finished holes are made with a crowbar. These holes are from twelve to twenty-four inches apart, and reach to within six inches of the bottom. Three ounces of the diluted solution are poured into each hole, which is then filled with dry soil.

The radiations start from these focal points, travel upwards and outwards and affect the whole heap. A London doctor, a pioneer in radio-therapy, visited me at this time, and was deeply interested in the heaps and the use of the solutions. He asked how they worked? I replied, 'By radiation; their vitality streams through the heap, conveying their living elements to every part of it, stimulating, vitalizing, energizing the whole pile, and all that is in it. I believe this vitality goes on into the garden, and into the plants that grow in it.' Then I added that vegetables should not be judged by size, but by their vitality, and there ought to be a 'vitality measuring' instrument for judging at every show! He laughed and said: 'I would like to test the solutions on my instrument, from the point of view of human health.'

He took a bottle of each of the pure essences, and wrote later that he found them to be the most *powerful factors for the destruction of human diseases*, and further, that each one affected a different disease, or group of diseases; and, please note, he was using their *radiations* only.

The outcome of the visit was twofold: First, I undertook to supply him with the essences, and have done so, in one form or another, ever since. Second: I reconsidered my decision to use only nettle and yarrow. They are the two essential herbs, but obviously, herbs possess some personal attributes as well as the elements they largely share. (They have been used in medicine from the beginning of time.) If these gifts are potent as regards human welfare, was it not possible that they might also be a safeguard against plant ailments?

It would be difficult to prove, and require far more knowledge than I possessed; but, with the possibility in mind, the full formulae could not be discarded.

Thus step by step the method has evolved, and last year, 1943-4, in its tenth year of existence, came what I believe to be the greatest step of all.

For two years I had been sending the herbs to the radiotherapist in the form of herbal powders. It had solved some technical difficulties and been very successful.

It struck me that if one could use the dry powder as an activator, it would simplify everything. There were difficulties to overcome; it took nearly a year to experiment, test, and get full and reliable results. But success came, and success beyond all expectation.

The activator now goes out in the form of a herbal powder, which is made of the seven ingredients *including the honey*. One grain weight (approximately enough to cover a sixpence or American cent) is dropped into one pint of water, shaken, and allowed to

stand for twenty-four hours. This is injected into the heap in the normal way. It produces first-rate compost, just as good, if not better, than the original essences. It has been practically tested by several Q.R. enthusiasts, and received a cordial welcome. I believe it marks the greatest step forward so far in the history of Q.R. compost, and it entirely fulfils the directions of the words that rang in my head at the beginning.

The simple mixture of the plants and honey (which is an essence from the flowers) provides a simple agent for quickly turning vegetable waste into compost.

'The Divinity within the flower was and is sufficient in Itself.'

Next:
3. The How and the Why of the Heap

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Common-Sense Compost Making

By the Quick Return Method

by Maye E. Bruce

Chapter 3

The How and the Why of the Heap

How does a compost heap disintegrate? If you know the answer to this question, you will be a hundred per cent successful in the making of one.

The compost heap is one great co-operative workshop of living entities. Heat, the natural heat of disintegration, plays an important part. It comes from the quick breaking down of living tissues, leaves, stems and flowers; intense heat for a few days; then, with the release of the plant juices, it tempers to a moist pleasant warmth, ideal for the life and action of countless millions of microscopic soil workers. I repeat, *countless millions*, in the space of one teaspoon; bacteria, fungi, microbes, microflora, each one working at the further transformation of the vegetable matter, dying themselves, adding their minute beings to the sum total of the humus in the heap. They are supplemented by larger life maggots, insects, and above all, worms, each with its own individual task; all working to turn the vegetable matter into food for new plant life. These beings need air. They must breathe; therefore, both aeration and the retention of heat are essentials for a successful heap.

The Bin

To achieve this, we use a simple wooden bin: a box with four sides and no bottom. It stands directly on the soil.

Why wood? Because it is warm, alive, generally obtainable, and easily erected. But there *are* substitutes, and in these wartime days we may have to use them:

1. Oak staves of old barrels
2. Brick walls, with spaces for aeration, say five a side.
3. Turf placed grass downward, and freed of squitch.
4. Bales of straw built round the heap.
5. If no protection is available, build the heap like a haystack with straight firm sides. The inside will become compost. The outside six inches will act as protection; it will not decompose, but you can use it in the next heap.

Size of the Bin

Suit it to the size of your garden. Aim at filling it within two months -- the quicker the better; the fresh material shrinks tremendously, and a bin holds far more than you would think. Everyone is apt to start too big! It is far better to have two smaller bins than one large one, though you can always sub-divide a large one with light movable boards. A good general size is:

For a small garden: 18 in. x 18 in. x 2 ft. high.

For a medium garden: 3 ft. x 4 ft. x 3 ft. high.

For a large garden: 6 ft. x 6 ft. x 3 ft. high.

Site of the bin -- any aspect except north.

Protection Against Rain

This is important because:

1. Heavy rain will douse the heat.
2. A sodden and confined heap cannot breathe. It is the aerobic (i.e., air-breathing) microbes that produce compost; the anaerobic microbes exist without air, and the result of their activities is putrefaction. Therefore, it is important to have adcquate shelter to ensure both heat and air. Place a sheet of corrugated iron at a slant, so that air can pass under and rain run off it: or, as an alternative, make a shelter of stretched canvas or strong sacking.. Rubber is not advisable, as it is an insulator.

The Foundation

Good drainage is essential. If your soil is light, place the bin directly on it. If it is heavy, dig down about six inches and fill the space with rubble and a cover of soil on top. *Why?* Because the heap produces a lot of moisture, especially when plants are succulent. This

must be able to disperse, or it would saturate the compost and exclude the air.

Charcoal

It is advisable, though not essential, to scatter a few handfuls of charcoal on the floor of the bin. *Why?* Because charcoal absorbs unpleasant gases, and remains itself unchanged. For this reason, it is given in the form of charcoal biscuits to relieve indigestion. It is also used in filters, and, in increasing quantities, in gardens, especially as drainage for pots and seed boxes. It is easy to make. Build a small bonfire, with brash wood (old pea sticks) and when it is red hot, pour some water on it -- you will get charcoal.

Plate 2. In the compost yard: The main range of bins

Building the Heap (Materials)

Use any vegetable matter. Weeds, clearings of beds and borders, lawn mowings, cabbage leaves, vegetable peelings, tea leaves, coffee grounds, straw, old hay: animal. manure, if you can get it. *Don't* use meat refuse, skin, bones, fat, or cooked stuff. *Why?* Because if kitchen refuse other than vegetables, are admitted to the heap, you will get greasy water, greasy remains, in short--swill. Such grease makes a scum and keeps out the air, and that will lead to putrefaction. Also a daily libation of this refuse will over-balance your heap, and the result, again, will be putrefaction, smell and flies. In a large *farm* heap with manure, kitchen refuse *might* be risked, but I strongly advise against it.

People may say: 'But animals that die go back to soil!' Yes, of course they do, but most

wild animals do not die a natural death. They are the prey of others, right down the scale. Hunt for the body of a dead beastie, hunt through an acre of woodland -- you may find one, possibly two, but I doubt it, and we are dealing with an area of a few square feet!

Following this line of thought, I have heard of people getting offal and remains from the butcher's refuse, as a weekly offering to the compost heap; but again, to do so would be to over-balance the heap, and go beyond Nature's own scheme. One or two odd mice or birds buried in the heap will disappear, and be absorbed by the mass of vegetable matter and the work of the micro-organisms, but for a garden heap, I counsel no weekly offerings of flesh and *no* metal. Don't call it a rubbish heap, or it will be treated as one!

Plate 3. In a town garden: 'Lightly treading it down'

Weeds

Use *all* weeds, even seeding and rampant ones. Place seeding weeds in the centre where the heat will destroy their power of germination. Have no fear of rampant weeds. The

more they ramp, the more vitality they have to give to the heap. Better not put them near the top; in late autumn, they may grow to the light, but they will not root, and can easily be pulled out and used on the next heap. I am thinking of bind-weed, a bad ramper, but it disappears entirely in the heat of a heap. The only plants to avoid are heavy tough evergreens, i.e. old ivy leaves, old privet, and yew.

Use the green stuff as fresh as possible. The fresher it is the more vitality it holds. If you can't use it at once, throw a sack over it, to prevent sun and wind drying it up. If it seems shrivelled, spray it before adding it to the heap; cut your long stems into short lengths, six to twelve inches. *Why?* It releases the juices and the short bits pack better. Use a sharp heavy spade for this job, which is soon done. Incidentally, if a stem is too tough to be severed with a spade, it is too tough for the heap. Burn it.

Building the Heap

Build in layers four inches thick. Alternate layers of tough stuff with soft green weeds or grass, the one will help the other. If you have anima1 manure, or poultry manure, put a two-inch layer or less, in every foot. If you have none, throw in a scattering of soil. Introduce three dustings of lime. I repeat *dustings only*, at twelve, twenty-four, thirty-six inches.

Keep the heap level. It will tend to build up in the centre and sink at the sides; a light treading or packing with a spade will correct this. It will also break down crossing stems, which make air pockets.

Always keep some sacking on the last layer. This is very important. *Why?* Because sun and wind dry up and shrivel the exposed area, and heat, moisture and vitality escape from the heap. This heat can be intense, it reaches 160 to 180 degrees F. (71-82 deg C) for a short time, then dies down; it rises again when fresh material is added. To maintain a steady heat make new additions as often as possible. Decomposition is quicker, and the intense heat destroys weed seeds and disease.

The heap will shrink tremendously as you build it. As long as there is heat in it, you can go on adding fresh material. When it is full and firm, cover it with four inches of soil, let it settle for two or three days, then treat it with the 'activator'.

The Treatment

The activator comes in the form of a herbal powder (formulae, Appendix 2). Drop one grain (a pinch, as much as will cover a sixpence or an American cent) into a pint bottle of rain-water. Shake it well; let it stand for twenty-four hours. Shake again before using it. It will keep in solution for about a month or three weeks. If it smells sweet it is all right.

Inoculation

Make holes with a crowbar from approximately twelve to twenty-four inches apart, and to within three to six inches of the bottom of the heap; pour three ounces of the liquid into each hole. Fill them up with dry soil, and ram it down to prevent air pockets. Cover the heap with a sack, and forget it for a month.

Result

When you open it, burrow into it with a trowel. If it smells sweet (and it has a lovely smell) it is all right: dig further, breaking it up as you go. If rightly built it will be very rich dark soil.

Remember, it is impossible to give a *definite date* for the ripening of any heap. There are so many differing factors: season, weather, building materials -- one can only give an average and approximate time. Roughly speaking:

A spring and early summer heap takes four to six weeks. A summer heap six to eight weeks. An autumn heap eight to twelve weeks.

A winter heap moves very little if at all. The earth sleeps in winter and this seems to affect both growth and decay. You may make a wonderful heap of winter weeds, between 21 December and March: it develops no heat, it just remains as you put it in. *But* when you get some fresh spring growth, or, best of all, the first lawn-mowings, remove the top half of your winter collection, introduce a four-inch layer of the living green, and build. up the heap in alternate layers of winter weeds and fresh growth. That heap will decompose in about a month, and you will get the advantage of increased bulk with the help of the winter collection.

If, when you open your heaps, you find they are not entirely soil, there is usually a reason, and always a remedy.

1. You my find a sodden corner, or possibly a sodden layer. *Why?* Probably rain has seeped in, or it may be after a wet spell your plants were full of moisture which could not drain away. *Remedy:* Let it remain in the air for a few hours, it will soon disintegrate.

2. It may be that some stems or tough grass have not broken down. *Why?* Probably they were too wiry, too dried up; dry old grass is difficult. *Remedy:* Fork them into a loose pile in the open, and pour some compost or manure water (see below, The Manure Tub) over them; in a couple of days they will be fit to put on the garden.

Storing Ripe Compost

When the compost is ripe and you need the bin, you can stack it in a compact heap, with steeply sloped sides, covered with soil, so that rain will run off. It will go on ripening and come to no harm.

Autumn Leaves

Do not use fallen leaves in a mixed heap. A few odd ones don't matter, but a thick layer makes an impenetrable barrier and holds up the heap. *Why?*

1. Because their flat surfaces press tight together and exclude air.
2. Because they have already lost much of their vitality. They are half dead, or they would not have fallen, therefore they decompose more slowly than living green matter and they slow down the decomposition of the whole heap. They make first-rate humus, but it is better to make a separate leaf-stack, in the open. A surround of wire netting keeps it tidy. An occasional scattering of soil is all to the good -- do not tread it down. Leave it for six to nine months. Then turn it out, and treat it. In two months it will turn to a very rich black mould, like 100-years'-old leaf mould. Once you start a rotation, you need never be without it. It carries not only its own leafy smell, but the added aroma and richness of the Q.R. compost.

Manure

Some compost makers believe that animal manure is *essential* to making a good compost. I do not agree. I have tested entirely vegetable compost, against compost made with manure, and found no difference in its effect.

After all, cow manure is just plants, composted by the cow. She is the best compost-making machine in the world! She breaks up the herbage by the combined heat of her body and the incessant chewing of the cud. She withdraws the vitality of the plants into herself, for her own needs (and ours), bones, blood, flesh and milk. She has seven stomachs to complete this work and should do it thoroughly. What she cannot assimilate, she returns to the earth as dung, i.e. composted plants. (Note that the smell of cow dung, and the smell of rotting lawn-mowings are almost identical.) But this cow-made compost is full of very strong animal digestive juices; if it is used in the garden *when it is fresh*, it burns plants, and introduces pests into the soil; but, if you wait two or three years, it turns to a beautiful black soil, like the best compost.

Now in the vegetable compost, we use the entire plant, with its vitality whole and unimpaired. We have learnt from the cow! We use both pressure and heat, but instead of the digestive juices we, use the herbal activator containing the chief plant elements, in *living* plant form. Moreover we beat the cow at her own game, as regards time! Instead of having to wait for two or more years, the vegetable compost is ready for the garden in six

weeks -- or less!

If it were true that animal manure is essential to good compost it would be a tragic outlook for millions of gardeners and smallholders. Even before the war, I found that between 85 and 90 per cent of gardeners were unable to get farmyard manure for their holdings.

I arrived at these statistics by questioning the audience, at every meeting I addressed. I called for 'Hands-up' from all who could get farmyard manure for their gardens. The average was always the same, with one exception -- a private meeting for farmers' wives in an entirely dairy country.

The lack of farmyard manure was so universal, that I decided on a drastic test.

I excluded all manure from the compost heaps designed for the flower garden, using *only* vegetable compost for four years, and I found that soil, health, and beauty of growth and colour were not impaired in any way. I further know from reports that purely vegetable compost has had, and is having, splendid results in all parts of England; and it is the greatest comfort to garden lovers, to know that they need not be dependent on something they can't get!

Instead of liquid manure, they can soak a trowelful of ripe compost in a pail of water, dilute it to tea colour and use it as a feed for the plants that need it. The response is amazing.

At the same time, while not *essential*, manure is a help. It has wonderful heating and activating qualities and once it is ripe it is the finest natural humus that exists. A farmyard manure heap treated with Q.R. activator becomes ripe and friable in a few weeks (again we help the cow!). For those who cannot get it in bulk, it is possible to make a little go a very long way. Thus:

The Manure Tub

Sink a tub, barrel, or box, in the soil, to within six inches of its rim. Fill it to earth level with fresh cow dung. (Most farmers will allow you to collect a few pailfuls, from gateways and byres.) Treat the manure with three ounces of the diluted solution; cover it with a wooden lid to keep out the rain. It will be fit to use in about three weeks, and you use it for liquid manure. A trowelful in a gallon pail of water makes a strong brew. One pint of this to one gallon of water is the best strength for tomatoes or any plant needing food. Further, a bucketful of this, or the stronger liquid, can be poured into a ripe compost heap and will add to its richness.

A curious point about manure treated this way is that though it loses its rank smell, it preserves its fresh appearance for years, and one barrelful will last a very long time.

Another method is to fill the sunk tub with *dry* cow-pats; treat them in the same way; cover them, and forget them for three months. When you go back to them they will have crumbled into the finest black soil, perfect for top dressing, but not for liquid manure.

This was a purely chance discovery. An order was misunderstood, and a tub, meant for fresh manure, was filled with these dry pats. Labour was scarce, time scarcer, so I left it, and treated the tub, just to see what would happen, and a miracle happened! Several experts who saw the results this summer pronounced it some of the best stuff they had ever handled and could not guess what its origin had been.

Poultry and Rabbit Manure

With the war, there has been a tremendous increase in domestic poultry and rabbit keeping; consequently many appeals come from compost makers for advice in handling poultry and rabbit manure.

While very light layers of poultry manure can be used directly on the compost heap, we find the most satisfactory way is to make a separate small heap, like a miniature dung heap. We use the droppings, the litter, straw and hay. The dry straw is thoroughly wetted *before* building it into the heap. For this we use the strong manure or compost water. We build the heap up to two and a half feet, protect it from heavy rain, throw a spadeful of soil over it at intervals, and treat it with the solution. It breaks down in less than a month, and looks like farmyard manure. We put this on to the compost heap in two-inch layers. It makes good stuff. Rabbit manure could be treated in the same way, either in a separate heap, or with the poultry droppings.

Farm Heaps

It is obviously impossible to have bins all over the farm; therefore, farm heaps must be built in the open, and, as farm material is brought in by the cart-load, instead of the barrowful, they must be of larger dimensions. A section eight feet long by six feet wide and six feet high is a useful size. One section can be completed before going on to the next; the sections can touch, and so make an ever-lengthening clamp. If the top is sharply ridged rain will not seep in. The procedure of building is the same as for the garden heap. Good drainage is necessary. Build in layers of four inches. If there is a mass of one material, break it by narrow layers of soil, or better still, manure. This should be available on the farm and can be used in two-inch layers throughout the heap. Material like old dry hay, tough grass, and above all, dry straw, should be saturated with treated manure water.

In Eire the Ministry of Agriculture advises soaking straw for twenty-four hours. A nursery gardener, who runs an 'intensive' garden with Q.R. compost, told me recently that he used a quantity of straw in his heaps, and soaked it overnight in a long bath filled with manure water. The results were first-rate.

If a farm is equipped with a urine tank, the tank itself can be treated. Soak some sand, or dry soil, in the diluted Q.R. solution, allowing one pint to each six cubic feet of tank space. Scatter the soaked sand over the surface. The sand will sink, and free the solution to do its work from the bottom. Straw soaked, or even sprayed with this urine, would make valuable compost, and break down very quickly.

In an all straw heap, include if possible two-inch layers of fresh green nettles or bracken. The green gives vitality; nettles, wetted and bruised, will raise heat more quickly than anything! Manure, if possible, otherwise soil in narrow layers, will steady the heap. Treat it; it will go to rich black mould, without turning, in from four to six months. It can then be spread with a shovel.

The method is very elastic and open to infinite variations. The three chief rules are:

1. Keep heat in.
2. Keep rain out.
3. Let the heap breathe.

Other Materials

While the foregoing is about compost making by the more ordinary materials, there are some people who may have unusual, yet priceless raw matter, within easy reach -- perhaps thousands of tons of possible compost -- going to waste.

An interesting example is the story of a friend who lives near the New River, the chief water supply for London. Twice a year water-men clean the river of water weed, mud and the heavy growth of its banks. The water weed, green and crinkly, has untold vitality. It cannot be used on the land for seven years, or it would start growing! It smells like pig manure; the river mud smells worse. The water-men pile it up in huge dumps and leave it. No one thought of using it, till my friend, a keen 'composter' and gardener, had the inspiration to try it.

The first heaps were made entirely of the water weed, in various stages:

1. The fresh weed as it came out of the river.
2. The slimy stuff, a week old from the bank; and
3. A very small proportion of the dry seven-year-old rotted stuff.

With these ingredients, a layer of lime, and some layers of soil, several heaps were made, covered with earth and treated with the Q.R. 'solution'. In fourteen weeks, they had rotted to a friable dung, not good enough for top dressing, but good for putting into trenches to retain moisture for peas.

The next experiments were an even greater success.

The heaps were made with water weed, straw, and chipwood bedding from a large stable. The water weed wetted the straw, while the chipwood bedding, which had horse manure in it, made a dry, steadying layer.

Several such heaps were built and treated, and in three to four months had turned to a rich black compost, of first-rate quality. It produced one and a half tons of onions, and six cwt. of fine peas on one-half acre of poor land, and this in a very dry season, a universally bad one for peas.

The original heaps of treated water weed are now, after fifteen months, good black compost, described as 'like Lincolnshire silt'. The *untreated* water weed dumps *seven years old* are not compost, but described as 'a useful rather dirty muck'.

Thousands of tons of this first-class potential manure are wasted -- and the land is hungry for it.

In every country there must be waste products, tremendous growths, overwhelming weeds, which could be turned to compost, with imagination and a little care. Anything within the vegetable kingdom will turn to soil, with pressure, heat and aeration -- and the earth needs all we can give her.

Next:
4. The Compost and the Garden

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Common-Sense Compost Making

By the Quick Return Method

by Maye E. Bruce

Chapter 5

Effect on Human Health

Right feeding is the biggest single factor in good health -- but the food must be *right in quality* as well as quantity. (From *Organic Gardening* -- Rodale Press, U.S.A.)

These words are taken from the *Daily Mail*, written by the Radio Doctor, a well-known voice on the air.

'Good health' -- the feeling of wholeness, not the negative: 'I don't feel ill', but the positive, radiant, good health affecting body, mind and spirit.

Modern statistics show how rare it is.

From America: 'More than 4,000,000 -- i.e. one-third of its young draftees, were rejected, as physically or mentally unfit': and again: '95 per cent of Americans need some dental treatment'. (From *Organic Gardening* -- Rodale Press, U.S.A.)

The Peckham Health Centre, known as the 'Peckham Experiment', has published some startling facts. (From *The Peckham Experiment*, by I. Pearse and L. Crocker, George Allen and Unwin.) The Health Centre is a family club, under the supervision of *medical and biological experts*. The conditions of membership include a periodic ' ' overhaul of the entire family, with a service for subsequent consultation and advice. Social and recreative activities form an integral part of the scheme. The members were a cross-cut section of the community, and therefore a fair sample of the national health.

The statistics are startling:

Out of 500 families examined only 9 per cent of the individuals were 'healthy', i.e. 'without disorder'.

Out of a second list of 500, taken at random from a total of 1,206 families examined, only 10 per cent were healthy.

Pretty grim figures! What is wrong?

In *The Labouring Earth*, Mr. Alma Baker pointed out that general ill health was not confined to man. It is prevalent in domestic animals, and cultivated plants. If' men were ill, and stock were healthy, or if animals were diseased and plants had good health, there would be no common ground for judgment. But as all three lack good health, there must be a common cause. Unhesitatingly he states that the common cause is the soil. (*The Labouring Earth*, by C. Alma Baker, Heath Cranton.)

Again it is common sense! A devitalized soil cannot produce vital plants, and as the plant is the foundation of *all* food, whether animal or vegetable, if the *plant* is deficient in vitality *all* suffer alike.

Vitality is the one thing that man cannot give, clever chemist as he is.

There are many synthetic foods on the market to-day. Chemically speaking they may be perfect, but -- I wonder! Have they life? Vitality? If not, they cannot give it. To my mind, there is only one way of testing food, and that is testing it on *life*. It can't be judged by the chemist's test-tube, or even by the *immediate* response of the human body; it may act as a dope, or a stimulant. Its feeding properties can only be judged by its effect on living entities, viz.: the white rats and other animals of the biologist's laboratory and a long-term test on human beings.

If such a test were made obligatory for all synthetic food -- yes, and all artificially-fed vegetables -- the safety of human health would be better guarded.

In *Your Daily Bread* (by Doris Grant -- Faber and Faber), a delightful book, full of wisdom, knowledge, stories, and a keen sense of humour, the author says: 'Why cannot man leave good food alone? It seems impertinence on his part to think he can improve on the wonderfully intricate and involved designs of Nature by processing, bleaching, refining, de-vitaminizing, by taking live things out and putting dead things back, most of all by separating the wholeness of foods. We are finding only too surely that this interference brings sooner or later its own penalties. In fact, it has been said that neglect or contempt of natural laws is the sole cause of all our misfortunes'.

'Our misfortunes!' One of the foremost of our national worries is the low birth-rate. It hastened its downward grade in 1872 when the roller mills destroyed the wheat germ-and white bread came into being.

'The wheat germ oil contains Vitamin E. Vitamin E encourages fertility.' (*Your Daily Bread*)

One of the major surprises of the home front has been the *steady rise in the birth-rate* since the war started. May not the reason be that the 85 per cent national loaf *includes the wheat germ*?

This belief has been strengthened by the issue of the latest quarterly birth-rate statistics (September 1945). For the first time since 1942 the return shows a *fall* instead of a rise. Why? Last year, during the summer of 1944, the 85 per cent loaf was reduced to 82.5 per cent and later to 80 per cent. The difference in the bread has been obvious. It is now white, poor, and completely unsatisfying. We 'eat and eat, seeking for something that is not there'.

The change has caused grave anxiety amongst scientists and doctors, and was the subject of a lively debate in the House of Lords in February 1945. The debate, led by Lord Teviot, was deeply interesting. It touched many subjects from national health, in all its aspects, to the fertility of stock. It was barely reported in the Press, but it has been *printed in full* in the June issue of '*The Compost News Letter*'. (*The Compost News Letter*, Hon. Sec.: Dr. L. Picton, Saddlers Close, Holmes Chapel, Cheshire.) It is well worth reading. It reveals the details of the debasement of the loaf. I believe this debasement to be the immediate cause of the present decline in the birthrate. The following figures, gathered from *The Times* of 28th September 1945, confirm this belief.

In 1941 the birth-rate had dropped to 669,000. Between 1942 and 1944 it rose by 174,000. This rise coincides with the general use of the 85 per cent loaf. In the summer of 1944 the loaf was debased to 82.5 per cent and later to 80 per cent, and (I repeat) the quarterly birth-rate return of *September* 1945 records the first fall since the introduction of the 85 per cent loaf. (Official statistics of the numbers of poultry and pigs show a steady decrease till 1944, when both started a definite and startling rise. This again is no coincidence, once more the children's bread is being Cgiven unto the swine'.) This fact must be more than a coincidence. There are, of course, other contributory factors; one, that is generally accepted, is Nature's reaction to widespread destruction of life by the urge to create life in wartime, *but* this is not borne out by the facts of the 1914-18 war when the loss of life was heavier than the loss in the last war; the birth-rate in World War I dropped continuously during the war and only rose for a short period when it ended. One thing is certain. Nature is swift to respond or retaliate as man keeps or breaks her vital laws. Bread has not been called the 'Staff of Life' for nothing.

Surely in the name of common sense and national health, whole-meal bread will be obligatory in the future and the acknowledged peril of a falling birth-rate will be stopped.

Add to devitalized plants and denatured food, the long list of poison sprays used as insecticides and fungicides. Arsenic, a deadly poison, is widely used as an insecticide. It

has caused the death of millions of bees, is a menace to pollination and a loss to bee-keepers. Apples sprayed with arsenic are on the market, and much latent, yes, and active ill health must be caused by this insidious poison. Another danger is copper sulphate, used in Burgundy mixture for potatoes and tomatoes with the advice 'to wipe tomatoes before sending them to table!' There are many other poisons thus used.

Again it is common sense. If a poisonous remedy is strong enough to kill a pest, it is strong enough to harm a human being: not kill, but undermine his health: to say nothing of the harm done to the myriads of unseen soil workers, for no poison is wise enough to kill the pest, and spare the friend. All perish alike, to the detriment of the fertility of the soil. Feed the plant with natural humus, and it will give, as it was meant to give, full vitality to mankind.

Now for the other side of the picture. Are there any definite examples of improved health arising from fertile soil? There are -- plenty. Examples have been given in *The Living Soil*, by E. Balfour, the most outstanding and constructive book on the subject. Here are a few others:

A well-known landowner in Surrey adopted a system of composting, in place of artificial manures. The produce was given to pigs and poultry, with the following results:

1. Mortality among new-born stock practically ceased.
2. General health of the stock improved
3. A reduction of 10 per cent in the ration was obtained because of the *satisfying power* of the home-grown produce.

A large school with both day boys and boarders started the Indore method of composting for their vegetables, instead of using artificial manures. The results were both interesting and satisfactory.

Before the change-over, the school had suffered from epidemics of colds, measles, scarlet fever, and the like. After the adoption of compost-fed vegetables, illness was confined to sporadic cases, brought in from outside. In short, the disease resistance noticed in the plants was repeated in the humans who ate them. The 'common cause' is 'the fertile soil'.

In my own experience, several Q.R. compost users have written about the amazing improvement in the health of themselves and their households, since they started using the compost.

I have noticed the same improvement in my personal friends again and again -- after a few weeks' visit.

Here is another story.

At the Anthroposophical farm in Holland, the produce was sent to customers direct, and by a specialized system of delivery and order. Costs were higher than the current market prices. In time a certain family demurred at the extra price, and returned to the market stall. After some time they came back to their old allegiance, saying they had had to pay so much in doctors' bills since eating the market stuff, that it more than counterbalanced the higher prices paid for vital food!

These are a few of the practical effects. But the tide of public opinion is slowly rising, and with the weight of medical statements, and growing conviction, the truth will have to be faced that indeed:

Right feeding is the biggest single factor in good health, but the food must be right in *quality* as well as quantity.

Next:
6. The Activator

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Common-Sense Compost Making

By the Quick Return Method

by Maye E. Bruce

Chapter 6

The Activator

The Indore method mainly relies on animal manure for its activator; but we have to face the fact that the great majority of workers on the land cannot get manures.

Without an activator, the compost heap disintegrates slowly. Chemical activators break down the material, but destroy the working micro-organisms, and so do more harm than good.

I have urged the importance of retaining the natural heat of disintegration; in the pleasant atmosphere of subsequent moist warmth, the work of the micro-organisms proceeds apace. The quick breaking down of the fresh living plants, the disintegration of leaves, flowers, and stems, releases the life, the vitality, of the plants.

Life is eternal. It must go on.

Like all natural forces (water, electricity), it follows the lines of least resistance. With the enclosed heap, it cannot escape into the air. It turns back into the heap, vitalizing, energizing every part of it, all its internal activities.

Into this mass of pulsating life, we insert the herbal activator. (The Q.R. methods must not be confused with those connected with Dr. Rudolf Steiner. He first advocated the use of the abovementioned herbs in agriculture, as publicly stated by the Anthroposophical Society. The activator used in the Q.R. method is entirely different from the secret and private preparation made and used by the societies connected with Dr. Steiner's name. This note is inserted to prevent any possible confusion.) The herbal activator holds the

following ingredients, which contain among them the chief elements needed by plant life:

Yarrow
Iron, Lime, Potash, Soda, Phosphorus, Sulphur, Nitrates

Chamomile
Potash, Lime, Phosphorus, Sulphur

Dandelion
Iron, Soda, Potash, Phosphorus

Oak bark
Potash, Lime

Valerian
Formic Acid, Acetic Acid

Nettle
Oil, Formic Acid, Ammonia, Carbonic Acid, Iron

Honey
Glucose

The herbs and honey are reduced to a fine, very sweet-smelling powder. (For formulae see below, Appendix 2.)

The strength of the dose for treating the heap is: 1 grain (weight) to 1 pint of rain-water. (One grain will cover a sixpenny or an American cent piece.)

The grain is made up of seven ingredients, i.e. one-seventh of a grain of each!

How *can* it work? The answer is 'by radiation'.

Shake the bottle, as soon as the powder is dropped into it. The powder will rise, but nothing else will happen. Let the bottle stand for twenty-four hours. Shake it again. You will find a new activity, a bubbling, and a little foam on the surface. It has come to life. Smell it. The sweetness of the dry powder is in the liquid. Pour it into the heap, allowing about three ounces to each hole; the holes are made twelve to twenty-four inches apart, and penetrate nearly to the base of the heap. Fill up the holes with soil and ram it down (this is important to avoid air spaces).

The whole process takes about ten minutes. When you open the heap, in four, six, eight or twelve weeks, according to the time of the year, you will find it evenly composted, and

will discern in it the sweet smell of the herbal activator. How is this?

The water has released the living forces of the elements in the herbal powder. From the focal points at the bottom of the heap, these forces radiate upwards, and outwards; they diffuse yet more energy, more life, through the heap, and it is the energy and life of those *particular elements*, needed by plants, given *in plant form*, i.e. in the same rhythm of life that manifests in the vegetable kingdom.

But *why* bother with the powder, and the tiny dose? Why not use layers of the same weeds? Nettle and yarrow and the rest?

Why? Because the power in a large quantity would be so great that the radiations would pass out of the heap before releasing the forces they hold. The power when released would be great indeed, but it would develop in the upper air, and be lost to the heap.

With the minute dose, the elements within the radiations are able to develop and free their full power, *within the confines of the heap*. It is the same law that governs the fact that whereas a small dose of certain poisons will kill a man, a large dose will pass through him and leave him unscathed. It is the law of the 'power of the infinitely little'.

I cannot explain it further. All I *know* is that this minute quantity of herbs ripens, quickens, enriches the heaps without further turning, without interference, and after ten years of constant experience, I have *never* known it fail.

The Herbs

The list of herbs given is for the full formula, which is the one I use, and send out to all who want it, as explained in Chapter 2.

Experiments have proved that any combination of herbs will work as an activator if they contain, between them, the chief elements needed by plant life provided they are used in homeopathic doses. This fact may be of real value, for people who are unable to find all the herbs in the full formulae.

Further, I believe it is better, if possible, to use plants indigenous to each country. There must be many plants in every land that contain the essential elements. Very few plants have been analysed for their constituents. I suggest that scientific herbalists in every country should investigate this question , and issue a list of native plants, and their essential constituents.

Ideally speaking, every farmer, every gardener, should be able to make his own herbal activator. The full formula is given in Appendix 2. For those who have neither opportunity nor time to do so, the activator can be bought for a few pence (see Appendix 4).

The following combinations have been tested with success.

Honey is always included; it is a powerful activator -- *very* lively.

Nettle is an essential; it is the only plant I know containing carbonic acid and ammonia. Alternatives are:

1st: Yarrow Nettle Honey

2nd: Chamomile Coltsfoot Nettle Honey

3rd: Chamomile Dandelion Nettle Honey

Of these, the first is the best.

Radiations

With the radio in every home, the mysterious power of radiation is generally accepted. With the new radio discoveries of the war and its marvellous developments, people are beginning to realize that its possibilities are unlimited, and its powers universal. Once this power is admitted, may it not explain many of Nature's secrets? Is it not even obvious, once we know where to look? Can we not discern it in the waves of scent that greet us from garden and hillside and wood? In the silent S 0 S of the ant struggling with a burden too great for her individual effort, and in the amazing hurrying response? Might it not explain the action of the trace elements? Boron, for instance, beneficial at one in ten million. And might it not explain this delightful story of the bees:

A radio station suffered, throughout the summer, from an epidemic of bee swarms! They came constantly and clung to the door of the building. Why? Surely by the fact that a wave-length used by the installation was the wavelength of bees. They tuned in, and literally arrived 'in their swarms'!

In my book *From Vegetable Waste to Fertile Soil* (Faber and Faber) I wrote in 1940:

'When it comes to these fine radiations we are beyond the scope of material chemical analysis, and are within the sphere of physics -- in the region of emanations, vibrations, waves, energy, forces of nature all recognized by modern science. Do horticulture and agriculture really shut themselves off from these realities? A man of science, a physicist, must soon arise who will investigate these proven facts, to find an explanation and open the scientific door to a pathway of discovery, a pathway that, judging from the results of practical experiments, will lead to better health of soil, of plants, and of mankind.'

A few weeks ago I read a book called *The Secret of Life* by Georges Lakhovsky, a Russian-born, naturalized French citizen, a scientist, an engineer physicist. His

investigations on 'Radiations in relation to living beings' first appeared in 1923. His subsequent work with plants, animals, and man, his theories and conclusions have been presented to the French Académie des Sciences by Professor d'Arsonval, spoken of as 'one of the greatest scientists of our time'. He also sponsors the book. It has been translated into five languages. The English version is the latest, published in 1939. It is amazingly interesting, and so simply written, so clear, that the layman can understand and follow it.

In the book Lakhovsky develops the theory that

1. 'Every living being emits radiations.'
2. 'Every living cell is dependent on its nucleus, which is the centre of oscillations and gives off radiations'.

He states that the cell, essential organic unit in all living beings, is . . . an electro-magnetic resonator capable of emitting and absorbing radiations of a very high frequency.

To the question, What is life? he answers: '*It is the dynamic equilibrium of all cells, the harmony. of multiple radiations which react upon one another*.'

He holds that all disease comes from the dis-equilibrium (unbalancing) of the vibrations of the oscillating circuit, i.e., the nucleus of the cell. This can be effected by the stronger vibrations of an invading cell, i.e. a microbe. Health, resistance, can be achieved by strengthening the natural vibrations of the weaker cell by outside interference. He links all vibrations with the Cosmic Rays, in which he says: 'Every frequency finds its counterpart.' (By a simple device Mr. Lakhovsky succeeded in filtering the cosmic rays and used the device to cure plants of tumorous growths. He later developed this device into an instrument known as the Multiple Wave Oscillator. This instrument, based on his theory, has been tested and used by the leading medical faculties on the Continent. Since its inception in 1931, it has been installed in hospitals in France, Italy, Germany and Sweden. The book has many illustrations of the results of its use, especially in reference to cancer.)

He speaks of '*the individual frequency of each cell*', and states further 'that *each group of cells* has its own frequency, with its own characteristic vibrations'.

Do we find here the scientific explanation of the radiations in the compost heap? I wonder.

(Georges Lakhovsky has been awarded the red ribbon of the Legion of Honour for his services during the war. The book is published by William Heinemann (Medical Book Dept.). Since writing this I have learnt that G. Lakhovsky escaped from France, but died in New York in 1943: a terrible loss to the world of science.)

Next:
7. The Conviction

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Chapter 7

The Conviction

In this chapter we come to the question: What is the conviction behind it all?

I will quote from my first book, *From Vegetable Waste to Fertile Soil*.

'The method is based on two main convictions:

1. 'That all growth is the effect of the interplay of living forces -- not the result of automatic chemical change. That these forces pass through soil, permeate atmosphere, are carried by the elements, and are behind the mystery, the vitality of plant growth.

   'With quick and controlled disintegration, these living forces are released and radiate into the heap. There they work in a vast co-operation with fungi, bacteria, earthworms, and other soil workers, and are returned to the earth strengthened by the herbal essences, ready for use once again for plants and in the same rhythm of life as the plants themselves.

2. 'There is life throughout the universe -- life, manifesting at a different rhythm in each of the four kingdoms.'

Those convictions remain unchanged but strengthened.,

One life manifesting in each of the four kingdoms, but at a different rhythm.

There *is* life in a stone, otherwise it would fall apart and become dust. But a stone cannot grow; the life within it must pulse at a different rate to life in the vegetable kingdom in which plants even in the lowest forms, such as lichens, grow, and die, to become humus -- i.e. vegetable manure.

There are many degrees, many links between the four great kingdoms, but always there are definite differences.

The plant grows; it has vitality, that same vitality which is the basis of all food; but it is restricted. Life gives it much, but it cannot move, it can express no emotion, it has little free choice, it must take what it finds within reach of its roots.

The animal kingdom is a step higher, life is fuller, manifesting in a more complicated way, with larger possibilities, swifter action, greater intelligence. The rhythm of life is quicker.

Then comes man -- with all his potentialities of body, mind, and spirit, of service and sacrifice, of invention and thought, often a battleground of conflicting desires, emotions, and aspirations.

There is a great gap between the plant and man; yet man is linked to the plant by the *vitality* that comes to him in food, either direct through vegetables, or via the animal; but to feed the plant *directly*, I repeat, for that is the operative word, to *feed* it *directly* with raw matter belonging to other kingdoms, either the mineral (salts) or animal (blood) is to introduce a different rate of life into its being, and thereby unbalance its own rhythm and impair its constitution. Feed it within the rhythm of its own kingdom and all will be well.

The basis of animal manures is plants in an advanced state of decomposition. It is the strong animal juices, digestive juices present in fresh manure, that burn plants and attract pests. Old manure, or composted manure, is one of the finest forms of humus, and plants feed mainly on the humus that they find in the soil.

Yet there is Life in all that exists, and *what is life*?

Do we not find the answer in the words of the Eastern sage as he writes of:

'The Divinity that sleeps in the stones, stirs in the plants, wakes in the animals, is conscious alone in man.'

The breath of God in all that is.

That is Life.

Next:
Appendices

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Common-Sense Compost Making

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Appendices

1.

Table 1. Building the Garden Heap	
Foundation	Good Drainage
Bin	Wood, if possible, or bricks, or turves, grass down
Air	*Essential:* spaces between boards, or holes in sides of bin
Size	From 18 in. x 18 in. x 2 ft. high to 6 ft. x 6 ft. x 3 ft. high

Time of building	Up to two months
Method	In 4 in. layers, kept flat: alternate tough stems with soft green
Materials	*All* vegetable waste 4 in.: a dusting of lime, three times. A few spadefuls of soil. An occasional 2 in. of manure. A final cover of 4 in. soil
Protection	Keep a sack on last layer ALWAYS
Shelter	Tilted corrugated iron sheet, or a stretched canvas cover, against rain
Treatment	Inject activator when heap is full and firm: 1 pint per 6 ft. area

Table 2. Building the Straw Heap	
Size	6 ft. wide x 8 ft. long x 6 ft. high, in sections
Layers	4 in. *wet* straw, 2 in. green matter or 2 in. manure, or a scatter of soil
Method	Build in open, like a rick, with straight sides, ridged top
Shape	Long clamp; build in sections
Cover	Soil
Treatment	Activator: 1 pint per 6 ft. area

Table 3. Manure Tubs	
1.	*2.*
Sink tub to within 6 in. of its rim	Sink tub
Fill with *fresh* manure	Fill with *old* cow-pats
Treat 3 oz. activator	Treat 3 oz. activator
Cover with lid	Cover with lid

Table 4. Leaf Heap
Stack in wire enclosure
Scatter soil every foot
Turn out in six months
Treat with activator -- 1 pint per 6 ft. area

Table of Failures, Causes and Remedies

After ten years of constant work there has not been one failure in this garden. A few have been reported, and invariably one of the following causes has been traced:

1. Loss of heat.
2. No aeration.
3. Misuse of activator.
4. Opening the heap before ripe.

Cause	*Reason*	*Result*
1. Loss of heat	1. No sacking laid on top layer	Dried out (a)
	2. No shelter	Rain drenched heap (b)
2. No aeration	1. No air spaces in walls of bin	Putrefaction (b)
	2. Too heavy treading caused tight packing	Putrefaction (b)
3. Misuse of activator	1. Not used	Heap not disintegrated (c)
	2. Kept over a year	
4. Opening before ripe	Opening by a fixed date	Not yet decomposed (d)
Remedies		
(a) Pour one gallon manure or compost water over it.		
(b) Fork into piles, let sun and air get to it, then wet with manure water.		
(c) Remake with fresh green layers and treat.		
(d) Wait -- a week or more.		

2. Formulae for Herbal Powder

	Material
1.	Wild Chamomile (*Matricaria Chamomilla*)
2.	Common Dandelion (*Taraxacum officinale*)
3.	Common Valerian (*Yaleriana officinalis*)
4.	Yarrow (*Achillea Millefolium*)
5.	Stinging Nettle (*Urtica dioica*)
6.	Oak bark (*Quercus robur*)
7.	Pure Honey

Method

Gather flowers and leaves before mid-day. Dry as soon as possible with slow heat, i.e. on hot water pipes or under a raised stove. When tinder-dry crush and pass the herbs through a fine wire sieve (a kitchen sieve) or a bag of book muslin. Keep each of the herbs separate.

Oak bark: Use the outside rough bark, grind or rasp it to a powder, pass it through the sieve.

Honey: Rub one drop of honey into one dram of sugar of milk till the honey is completely absorbed. (Sugar of milk is a pure product used to feed babies, obtainable at any chemist's or chain stores.)

For Stock Mixture

Take equal parts (say a level teaspoonful) of each of the ingredients, mix them thoroughly, keep them in a covered jar.

For Use

Stir again to ensure an even mixture, and liquefy as follows:

To Liquefy: Mix as much of the powder as will cover a sixpence, or one cent piece (approx. one grain) with one pint (20 oz.) rain-water. Shake well. Let it stand for twenty-four hours before using. It will keep good for about three weeks. Shake thoroughly before use.

Note: The two essential ingredients are yarrow and nettle. The others are used because of their prophylactic qualities; if unobtainable, any one of them may be omitted.

3. Directions for Treating the Heap

(Size of heap up to 6 ft. square)

Make holes with a crowbar to within six inches of the bottom of the heap, and twelve inches to twenty-four inches apart.

Pour three ounces of the solution into each hole. Fill up the holes with dry sifted soil, and ram it down to prevent air pockets. Insert the solution as soon as possible after the heap is finished.

Important: Always shake the bottle well before use.

A convenient way of carrying the solution is in a one-pint beer bottle (20 oz.).

Dose for Manure Tub, 3 oz. of Solution

Please note, that the method is very elastic, and allows much latitude every way: *exact* measurements and *exact* doses are not essential, and the amounts must be fitted in to the size of the heaps.

An 18 in. square area would take three holes.
A 4 ft. x 3 ft. area, would take five holes.
A 6 ft. x 6 ft. area, would take seven holes.

4. Price of Powder Activator

For those who cannot make their own activator, the powder is available at the following prices:

For: 2 heaps, 1s., 4 heaps 2s., 6 heaps 3s, 8 heaps 4s. and so on. It is sent out in multiples of two.

It is made fresh every autumn. This is important (see Chapter 2).

The powder can be had from:

Miss Bruce,
Hillhouse,
Sapperton,
Cirencester, Glos.

who will be delighted to answer any questions or help in any way.

NOTE:

Q.R. Compost Activator is still being made in England by **Chase Organics** and can be ordered online.

Available from:
Chase Organics (G.B.) Ltd. -- The Organic Gardening Catalogue
http://www.organiccatalog.com/catalog/

See: **QR COMPOST ACTIVATOR, large, medium or small**:
http://www.organiccatalog.com/catalog/index.php?cPath=60_171_173

How to use Q.R. Compost Activator -- Chase Organics

5. Herbs -- and Where to Find Them

Wild Chamomile	
Flower	A delicate daisy with a protruding yellow cone. This cone is *hollow inside like a horn*. This is an important distinguishing mark; in all the other species the cone is fleshy
Height	From one to two feet. Branched in growth
Leaves	Bright green, delicate, fern-like
Grows	In cornfields, roadsides, rough fields: will grow easily by seed in light soil
Season	June to September
Common Dandelion	
Flower	Bright yellow, large many-petalled daisy
Leaves	Flat, long-toothed, deep green
Flower Stems	Bare, hollow, with milky juice
Grows	Everywhere. A very common weed
Season	From April to September
Common Valerian	
Flower	Pale mauve, small, grow in a many-flowered flattened cluster
Height	From one to four feet, branched stem
Leaves	In pairs up the stem; they are united at the base, and are cut in segments opposite each other. The root leaves grow singly, but are cut in segments
Grows	On damp banks, hillsides, and in ditches
Season	June to August
Common Yarrow	
Flower	Flat heads of daisy-like flowers, white or pale pink
Height	From one to two feet, branched stem
Leaves	Finely dissected, alternately arranged on stem
Grows	On waysides, fields, dry banks: very common
Stinging Nettle (this must not be confused with the dead-nettle family, *Labiatae*)	
Flower	Green, hanging in clusters from the axle of the leaves
Height	From two to five feet

Leaves	Heart-shaped, toothed, dark green. The whole plant is covered with stiff hairs, that sting when touched
Grows	On waste ground, roadside, in hedges, everywhere

6. Alternative Plants and their Constituents

Hollyhock (Althea Rosea)
Iron, Soda, Potash, Phosphorus, Lime, Sulphur

Walnut (Juglans Nigra)
Iron, Phosphorus, Potash, Sulphur

Strawberry (Fragaria Vesca)
Lime, Soda, Phosphorus

Yellow Dock (Rumex Crispus)
Iron, Sulphur

Marigold (Calendula Officinalis)
Lime, Sulphur

Sage (Salvia Officinalis)
Potash, Lime, Soda

Elder (Sambucus Nigra)
Iron Potash Soda

Chicory (Cichorium Intybus)
Iron, Potash, Lime, Soda

7. Some Useful Hints

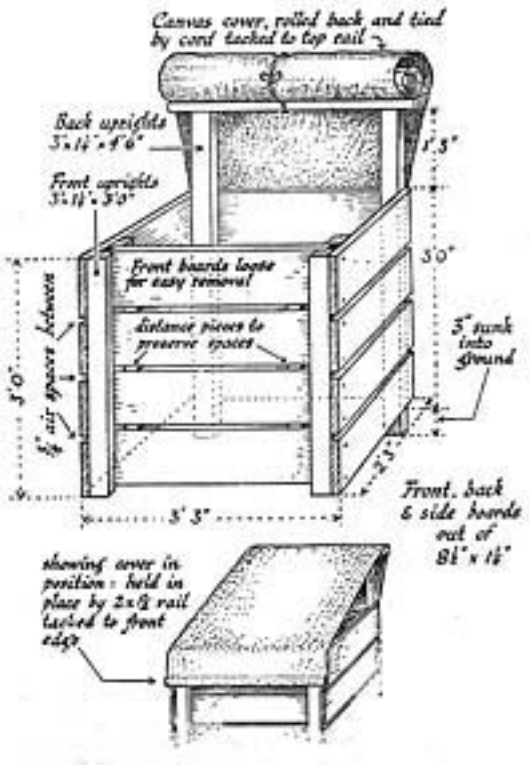
To increase heat:
Bruise and wet some nettles, put a layer in the heap.

To clean Fruit Trees:
Take two handfuls of dried horsetail (*Equisetum Arvense*) and simmer in a gallon of water for twenty minutes. Use one pint in one gallon water and spray, and in bad cases scrub your fruit trees. It is a wonderful cleanser. Strain and bottle any liquid left over.

To kill American Blight:
Use the horsetail liquid at full strength, dab or brush it on to the colonies.

To kill Aphis:
Dry and powder bracken leaves. Soak one dram (weight) in six ounces of water. Let it stand for twenty-four hours, strain and bottle. Use one dram in one gallon rain-water. It should tinge the water green. Spray, or better still, wash the leaves attacked by aphis.

8. Plan for a Small Bin



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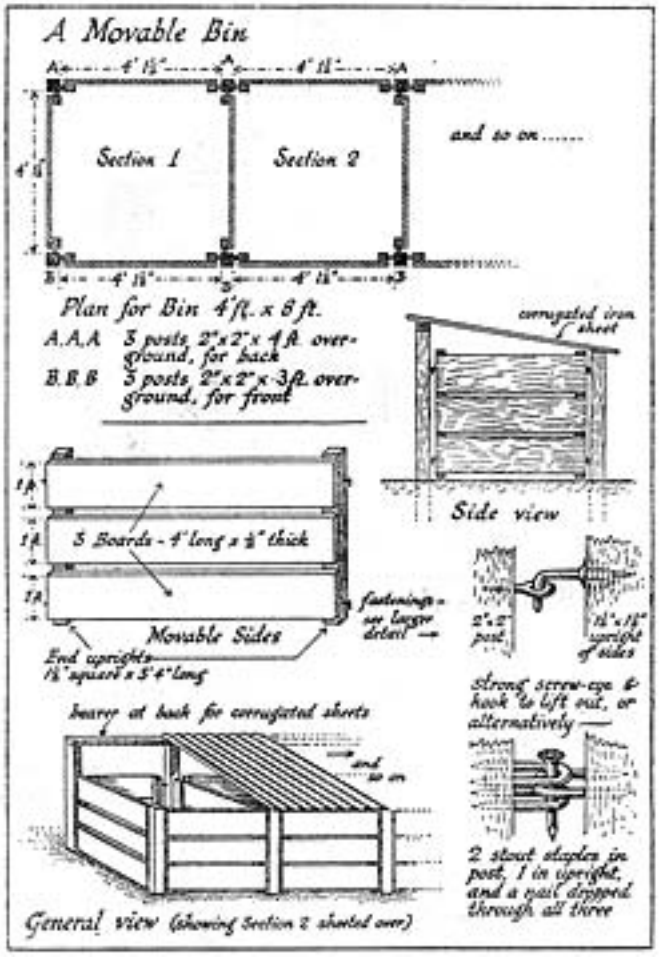
9. Plan for a Movable Bin



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Method of Erection

The posts can be permanent if desired. The sides are made light and easily moved and fixed. The first heap can be completed in section 1 and the other sections added on as required. Note that of the 4 ft. 1-1/2 in. between the posts, 1-1/2 in. is to allow space for the hook and eye or staple fastening.

The movable bin has been designed to meet the need of a bin which is easy to erect, and dismember, and moreover which is light, efficient, and capable of infinite expansion. It would be useful in outlying places, in farms or gardens.

The general layout is a series of square sections, with light movable sides which are hooked on to four equidistant corner posts. Each section is independent but additional ones can be added to any length required, i.e. a 4 ft. section could be expanded to 4 ft by 8 ft., 1,2 ft., 16 ft., and so on. The corner posts could be permanent if desired. They are firmly driven into the earth; the back ones are 4 ft. and the front ones 3 ft. above ground. This allows for the slope of the protecting cover. The sides are light panels made of 1/2 in. boards 1 ft. wide nailed at each end to two upright spars, 1-1/2 in. square and 3ft. 4 in. in height. There should be a 1 in. space between the boards for aeration. They should not be *less* than 2 ft. nor *more* than 4 ft. long.

Note. A space of three quarters of an inch should be allowed each side between the panels and the stationary posts to allow for the fastenings.

The fastenings are strong, screw-in hooks and eyes. Two hooks on each side of the panel at top and bottom. The corresponding eyes in the stationary posts.

The sides can very easily be dropped into place and with the two fastenings remain rigid. For full details see plan, above.

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How to use

Q.R.
Quick Return Herbal Compost Activator

100% Organic Origin

The quickest, easiest, way to convert waste vegetable matter into rich, sweet-smelling, organic compost.

Q.R. -- the natural method

Made in England by

Chase Organics (G.B.) Ltd.
Riverdene Estate Hersham Surrey KT1 2 4RG
Te1: 0 1932 253666

Chase Organics (G.B.) Ltd. -- The Organic Gardening Catalogue
http://www.organiccatalog.com/catalog/

See: **QR COMPOST ACTIVATOR, large, medium or small**:
http://www.organiccatalog.com/catalog/index.php?cPath=60_171_173

Quick Return compost activator is a powder which, when mixed with water, will rapidly and easily reduce to a rich humus all your waste vegetable material. The solution made from Q.R. powder acts directly upon the vegetable matter and all you need to do is to build a heap as explained in this booklet, adding the Q.R. solution whilst you build the heap. Nothing could be simpler or easier.

All waste vegetable matter must be rotted before it can be used for growing crops. Unless

treated with Q.R. solution there will be big losses of nitrogen and other plant nutrients during the process of rotting. Q.R. prevents these losses and quickly produces a friable material which will invariably grow much heavier crops than will untreated vegetable waste. The finished compost from a Q.R. heap is a fine, crumbly, dark material which is sweet-smelling and very pleasant to handle and use.

To "Activate" Compost

Q.R. solution will break down more rapidly the waste materials and give the finished compost a finer texture, and, above all, "balance" the compost so that it will grow heavier and healthier crops.

How to Mix Your Q.R. Solution

First make a solution by taking one small teaspoonful (level, not heaped up), of Q.R. powder and mix it with one pint of water (preferably rain water). A one-pint bottle is useful for this purpose. After mixing, shake well and let it stand for a few minutes. One pint of solution is sufficient to treat a compost heap three feet square by three feet high, and should be used in proportion for larger heaps. The solution will keep for several weeks, but should be discarded as soon as it begins to smell sour. Use as directed in the following paragraphs:- Activating The Heap, Septic Tanks and Urine Tanks, Deep Litter Houses and Stockyards.

Approximate Metric equivalent -- one gramme of Q.R. powder is mixed with half a litre of rain water to activate one cubic metre of compost neap.

Q.R. is very economical to use. You will find the amount we recommend is amply sufficient for its purpose ... so, please use the suggested quantities to get the best results in the most economical way.

How to Make Good Compost

It is easy to make good compost if the principles are understood. The value of your compost will depend on three things: the materials, the method of building the heap, and the activator used. Q.R. Activator will make the most valuable compost of all, richest in nitrogen ... and make it quickly.

It is quite unnecessary to use any animal manure at all if you use Q.R. One of its virtues is that it will break down purely vegetable waste into rich, sweet-smelling compost of much higher fertilizing value than untreated farmyard manure.

Waste vegetable matter is broken down into compost in the heap by the action of bacteria. These bacteria must, therefore, be introduced into the heap in the form of soil or old

compost. Only an occasional sprinkling is required, as Q.R. stimulates bacterial growth so rapidly that decomposition spreads quickly through the whole heap. Bacteria increase more rapidly at high temperatures, so keep the heap warm. Bacteria also need air, so keep the heap open by mixing the material used. The heap should not be allowed to become too tightly packed down through oversaturation with water; on the other hand, a certain proportion of moisture is essential so do not let the heap dry out. In hot, dry climates, make sure that all your materials are thoroughly moist before putting them on the heap. In short: make your heap warm, build it quickly, keep it covered, not too wet or dry, and not airtight.

Materials to Use

Grass mowings; annual weeds; pea, tomato and bean haulms; lettuce and cabbage leaves; prunings; old stalks of perennial flowers; weeds; cabbage stumps (best cut short lengths and crushed); uncooked vegetable waste from the kitchen (not metal); tea leaves; coffee residues; vacuum cleaner dust; hedge clippings; etc. etc. In fact, any vegetable matter which is not too tough to be cut with a spade. A proportion of sawdust can be included, but not too much -- up to 10 per cent. Animal manures of all kinds may also be added to the heaps, if available. Also, these wastes where available:

Citrus; banana; pineapple and sugar cane refuse; coconut fibre; tobacco stems and leaves, etc.

Every bit of waste vegetable matter (apart from wood or branches of trees) can be turned to good use.

Nourish your soil with sweet smelling Q.R. organic compost and remember, a Q.R. heap does not attract flies and other pests.

Building the Heap

First mark out the size of your heap -- either square or oblong. Build directly on the soil. Good drainage is essential. Never build on concrete. The easiest way to keep a heap in good shape is to build each layer from the outside and work in towards the centre, instead of building from the centre outwards. Place the first forkfuls right round the edges so that the walls of each layer assume an ever-increasing thickness until the centre is completely filled in. Perennial and seeded annual weeds should be in the centre of the heap. Build in four to six inch straight layers (10 to 15 cms.), Alternating tougher fibrous stuff with lawn mowings, coffee residues and succulent weeds. Another method is to mix the material on the ground before building the heap. Should you have only one kind of material, divide the layers with a scattering of soil. Cut long stems into 12-inch lengths; this releases the juices and they pack better.

The quickest results of all are obtained if the materials are shredded before use and this is strongly recommended for large commercial heaps; though the small truck or yard gardener does not usually have equipment suitable for this purpose. Grass cuttings and coffee residues should always be mixed with more fibrous types of materials when building the layers in the heap so as to ensure adequate aeration.

Activating the Heap

Activate the heap as you build it by lightly sprinkling Q.R. solution over the surface of each four-inch to six-inch layer (10-15 cms.). Cover the sprinkled layer at once with fresh material. Add a scattering of soil on top of every foot (30 cms.) of fresh material. Some gardeners also give a light dusting of garden lime, but this is optional. The heap will sink, so keep adding to it. Always keep the last layer covered with sacking or similar material; in this way the damp heat is prevented from escaping. Keep the sides of the heap straight till it is about three feet high. Then finish by rounding off the heap in a dome shape on top. Preferably cover with a little soil to keep out the rain. Remember ... aeration is essential. The micro-organisms and other soil workers must breathe.

A healthy soil contains countless millions of beneficial micro-organisms whose work it is to restore fertility. Q.R. compost is an ideal culture medium in which these micro-organisms can proliferate; first in the compost heap and later in the soil when the Q.R. compost is applied. Q.R. organic compost is the natural way to restore health and fertility to an impoverished soil.

Care After Building

Keep the heap warm, as bacteria increase more rapidly at high temperatures. The rise in temperature in a heap depends on the protection afforded and the speed of building. The damp heat escapes quickly; hence the importance of a sack over the top of the heap. When the heat reaches the surface, it is a sign that the micro-organisms are working on the top layer; if you add a fresh layer, even a small one, they pass instantly into it and within twelve hours the new addition will be as hot as the layers below. Had you waited a week, the micro-organisms would have withdrawn and your new addition would take days to re-start the heat. If the heap is soggy and smelly, it needs air. Open it out, loosen it, add a few spadefuls of top soil and re-activate it with Q.R. solution. If it is dry and grey with powder, loosen it, add soil, re-activate with Q-R. solution and drench with compost solution (a trowelful of ripe compost to a gallon of water). This is the best and easiest way of dealing with a new heap.

A spring or summer heap will be ready in about four to six weeks; a late summer or autumn heap in about eight to twelve weeks. Remember, a heap breaks down very slowly during the winter months. Test the heap, when you think it is ready, by digging out a trowelful of compost; if it smells sweet, the heap is ready for use.

Treat stockyards and deep litter poultry houses. Q.R. will prevent smell and greatly improve the end product.

Treat household septic tanks and animal urine tanks. Q.R. removes smell and produces a balanced liquid manure which can safely and profitably be applied directly to crops.

Septic Tanks and Urine Tanks

Smell may be entirely removed and the contents, by treating with Q.R., be made fit for direct application to growing crops. Make up a Q.R. solution, using a teaspoonful of powder for every cubic yard or metre of tank volume. Shake up this powder in a pint of water and soak a few handfuls of sand with the solution. Scatter the sand over the surface of the tank; as it sinks it will release the Q.R. throughout the whole volume of the tank. Alternatively, make up a pint solution with a teaspoonful of powder and flush down toilet. Repeat once a week.

Deep Litter Houses and Stockyards

Make up a Q.R. solution at normal strength, allowing one pint for every 50 square feet (5 sq. metres) of surface area. Mix this with sufficient water to allow the whole area to be wetted by watering with a rosed can. Repeat once a month. The resulting compost will be much richer than if the material had been left untreated, and with the Q.R. humus you will be able to grow heavier crops.

Using a Bin

It is easier to make good compost in a bin, as the walls will keep out the rain and keep in the heat. The bin, in effect, is a box without a base and can be made to any design according to the material available, but remember that aeration is essential. Therefore, leave spaces between the boarding. A roof to the bin may be provided in districts of heavy rainfall, a sheet of corrugated iron is quite suitable.

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Common-Sense Compost Making

By the Quick Return Method

by Maye E. Bruce

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