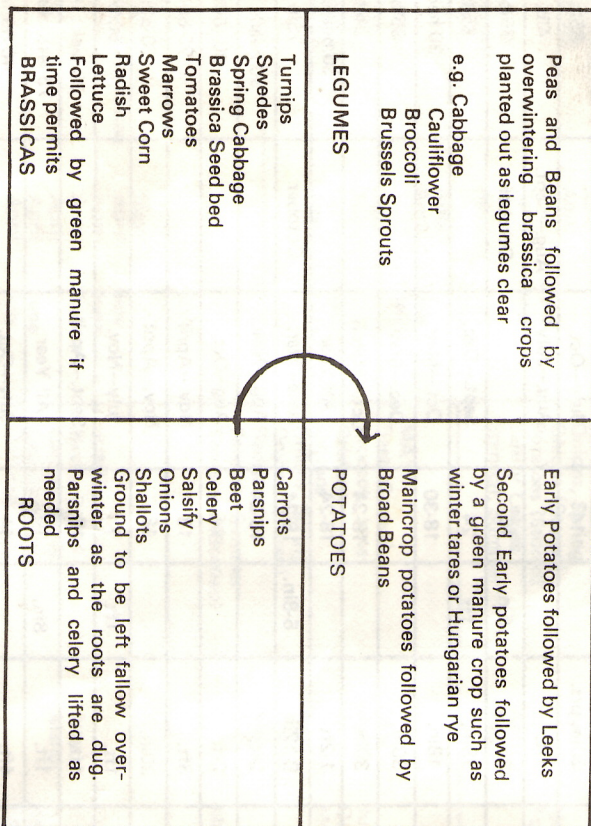


A FOUR PLOT ROTATION

The objects of growing on a rotation are to cater for the different requirements of crops and to avoid the build-up of soil-borne diseases: in particular clubroot disease of brassicas, and potato eelworm. Vegetables can be split into the four categories below. Each year the crops change position, moving in a clockwise direction. The legumes follow the potatoes, which in turn follow the roots. It takes four years to complete the cycle.



Since the brassicas occupy a mostly over-wintering position the remainder of the brassica bed can be filled with crops such as sweet corn, tomatoes etc. Note that turnips and swedes are members of the brassica family and do not go with the roots. Permanent crops such as asparagus, rhubarb, herbs, bush and cane fruit need to have an area of the garden permanently reserved to them.

There are many variations on the design above according to personal taste. Onions for example, can be put into the brassica or potato break though this is not without risk from diseases such as smut, white rot and other fungal disorders. There is scope also for inter-cropping and catch cropping between rows with quick growing vegetables such as lettuces, radishes, spinach etc. Your manure or compost should be applied to the potato section and any left over can go on the brassicas. Keep manure away from the Roots, though, because this will encourage them to become forked. Lime goes on the peas and beans break for it has been found that lime applied a year before brassicas are grown, is most effective in controlling clubroot.

If you have a small garden you may only have room for a 3 plot rotation, but the principles are the same as above. The really interesting question, which has yet to be answered concerns the technique of companion planting. Here plants are jumbled up together according to various 'likes' or 'dislikes' and rotations are largely ignored. The effect this will have on disease control, particularly on virulent organisms such as clubroot remains to be seen. At the HDRA Trial Ground we are carrying out research work into companion planting and will look with interest at this aspect.

Dig For Survival

By

LAWRENCE D. HILLS

10 P

SURVIVAL GARDENING

This is a fashionable idea today, but the first "survival gardens" were the minor's allotments which fed their families throughout the slump of the 1930's. The wisdom of the Jarrow unemployed, and the farmworkers who had to work overtime in their gardens to earn themselves a living wage, was always in using time to make space go further to feed families from small gardens.

Whatever the outcome of our present problems, it is certain that soaring wage and fuel costs and inflation will chase prices further and further out of reach of those who cannot force their incomes higher and higher, like donkeys chasing a carrot on a stick. But why not grow your own carrots?

This booklet is packed tight with the knowledge which has "Dug for Victory" in two World Wars, and made 10 - a week Old Age Pensions stretch on through mentally healthy and active 90s for thousands of retired farmworkers. Labour-saving gardens to save more time for watching colour television will come to an end when the motor-mowing has to stop. There are still too many cars for you to grow cabbages in the front garden though—keep them at the back where your house shields them from lead pollution.

Grow your vegetable OUR way—without chemical fertilisers which use scarce energy and cost scarce money, but with compost for the finest flavour and the skills which avoid persistent pesticides. See our leaflet on poisonless pest control and compost making for details. Like the present leaflet these are free for a stamped addressed envelope, given to you by the largest and keenest association of compost gardeners in the world. Our subscription is £3 a year and you will find more about us on the last page.

IF YOU ARE INTERESTED IN GARDENING WITHOUT CHEMICALS WHY NOT JOIN US?

We are an Association of amateurs who garden without chemical fertilisers or poison sprays, and much of this booklet is based on the experiences of our members and their experiments in their own gardens and on our Trial Ground. Anyone can join us, either just to read our Newsletters and reports or to take part in the experiments that win the knowledge we give away. Our subscription is £8 a year (£4 OAP's) and we shall be glad to send fuller details to anyone sending a stamped addressed envelope. We are the keenest most practical and helpful compost-gardener's association in the world and we look forward to hearing from you.

Henry Doubleday Research Association,
Convent Lane, Bocking, Braintree, Essex.

DATES AND DATA TO MAKE

YOUR SPACE GO FURTHER

BEANS LONGPOD. Sow in November and dodge blackfly. Pick first pods small and cook whole. Cut level with ground when they finish, hoe off weeds and plant brussels sprouts, which like firm soil, without digging.

BEANS WINDSOR. Not hardy, but more tasty, sow spring only.

BEANS FRENCH. Start picking when pods are four inches long, and keep picked. As soon as they are let go stringy they stop cropping. Sow twice: Second sow suits salting in crocks.

BEANS RUNNER. White-seeded kinds like The Czar and White Wonder to dry as butter beans. Grow them up strings to bungalow eaves, or those of sheds or garages. Need only a 6 inch wide bed.

BEANS TIC. British field beans, three times soya bean yield, and more tasty. Concentrated protein for vegetarians.

BEET. The June sowing is to store through the winter in peat. Cook's Delight is the best for both sowings. So sweet you eat it raw, like an apple or grated as required. Never bleeds.

BEET-SPINACH. Never pick more than a third of the leaves off any plant to give them a rest.

BROCCOLI-HEADING. Transplant these to a waiting bed, 4in. apart each way, so they can wait to fit in after early peas and beans in July.

BROCCOLI SPROUTING. Early White or Purple, sown April and ready to pick from February to May are best value. Eat the flowers raw in salad as well as cooked. A bargain in vitamins and minerals. Also clubroot resistant.

CABBAGE. Sow Summer Monarch cabbage in March, Autumn Monarch in April, Winter Monarch early May. Flower of Spring in June to eat in April. Try to sow as early in each month as you can.

RED CABBAGE. Delicious in winter, without pickling. Raw or cooked.

BRUSSELS SPROUTS. Stake these in windy gardens. Never leave stems in to grow "greens". Smash them with an axe back for the compost heap as they harbour cabbage aphids. Never pull up any cabbage tribe member with clubroot. Dig up and dump, spores and all, in your dustbin.

CARROTS. Sow short carrots every three weeks to eat raw, also in May and June for storing. These often miss carrot fly. Store in peat like beet, not thinner than 1½ inches across top.

CAULIFLOWER. Early Snowball can be sown in a frame in January. Plants sown then, bought in April, will be ready in July. Open grown sowings follow for autumn.

CUCUMBER BURPLESS. The best outdoor cucumber. Bend two 20 inch lengths of 18 gauge wire into giant "staples" over each seed and stretch a polythene bag over them as a cheap "cloche" to give them a start. Remove when they are well up.

KALE, CURLY. Sow and transplant like cabbages. Pigeons eat kale least and it tolerates clubroot. Easy. Has most flavour cooked in milk.

KALE RAPE. Sow pinches of seed 2ft. apart and thin to the best. Asparagus Kale and Hungry Gap are nicest, cooked as above.

KHOL-RABI. Sow first week in April, May and June to eat at tennis ball sizes raw, sliced like biscuits, for four times their cooked vitamin C, or grate for nutty flavour in salad.

LEEKS. The best winter crop for any garden. Drop roots first down eight inch deep dibber holes, as you dig your early potatoes. Do not sow later than 1st week April, thinly, so they can wait in the rows for the room to clear for them.

LETTUCE. Sow Windermere or Webbs Wonderful first week March, and transplant thinnings to give six weeks lettuce from a single sowing. Sow again first week May, again June and July. Find by experience how many you need to sow just enough rows. Windermere lettuce average 1lb each. In August sow Winter Density, a cos, or Arctic King cabbage to last through mild winters. Buy plants of All The Year Round or what is available in March to plant for the first salads. Lettuce can be enjoyed all the year with a greenhouse, but Monarch cabbages are easier outdoor for salads.

MARROWS. Sow like the Cucumbers under polythene bags, in holes about as big as buckets filled with compost. Top with six inches soil. Courgettes are nicest but keep them picked at sausage size and fry whole. Grow pumpkins in the same way.

ONION SETS. These are best because sets miss Onion Fly, and finish faster leaving time to plant leeks and cabbage.

ONION SEED. The August sowing is of White Lisbon, to pull as spring onions. Buy a bunch of spring onions in late March and plant them six inches apart, to snip the tops off for salads, and eat the bulbs in June or July before sets are ready.

PARSLEY. French Parsley has the best flavour, lasts a second season and seeds itself. **PARSNIP.** Seed comes up slowly, sow radishes thinly along the rows to mark them for hoeing, eat the radishes and leave the parsnips to finish. The April sowing is for storing, smaller roots keep better. The February one is for those who eat theirs earlier.

PEAS. If you like peas sow Kelvedon Wonder, a good early, every three weeks from the first week in March to the last in July. They are ready sixty days from sowing. Laxtons Superb is best to leave to dry for pea soup, sown any time before June ends.

POTATOES. Those with large gardens can sow enough potatoes to eat round the year, but like lightening—they should never strike the same place twice, because of the eelworm and fungus risk. Only a quarter of your garden should grow them each year. The best for small gardens are the early kinds that keep if left in till the haulm dies in August. Duke of York is perhaps the best. Dig the first when the flowers are full open for scraping earlies. Maincrops yield more and keep longer. Desiree is firm, pink skinned and tasty as a maincrop. Maris Peer will lift early, keeps well, and resists scab and potato blight. If you used to grow potatoes well and now the foliage yellows early and the spuds are small, you probably have eelworm, so plant Maris Piper as a tasty maincrop, and Pentland Javelin as an early.

RADISH. Never sow 50 feet of radish row at once. Sow Cherrybelle the most lasting kind every 3 weeks, to supply about 1 x 10p shop size bunch per foot of row. In July or August sow Chinese Rose, to store like carrots and grate for winter salads.

SALSIFY. Dig every alternate row from October on for white parsnip-like roots rich in iron. Leave the rest to pick the wide, grassy leaves at six inches long from March to May as a "spinach" with asparagus flavour.

SAVOY. The new Savoy King is hardest and nicest raw for salads as well as cooked. This is the "crinkly kind of cabbage".

SHALLOTS. Though these can be pickled, they are best as a small, mild onion for cooking, to store in old nylon tights, and replant ones own offsets in early spring. They harvest in June rather than August, so can be followed by savoy or fange leeks.

SPINACH. The February sowing of summer spinach is the most useful because first the thinnings and then young leaves can be picked for April salads. Each sowing takes 6-8 weeks to grow and gives three weeks pickings, so sow at three week intervals. Sow winter (or "prickly seeded") spinach in August to pick all through winter. New Zealand spinach never bolts, it is a strong trailing plant. Pick the tips with about three inches of stem for cooking. All three are rich in oxalic acid, which locks up all their iron and calcium and more, so spinach is a nutritional bad bargain, though very easy.

SWEDES. The May sowing is for summer eating, the July to store no larger than cricket balls, or they are woody in stews.

TOMATOES. If you have a heated greenhouse sow in Feb-Mar, otherwise buy Tomahinger or Outdoor Girl, which ripen best off the plants picked green. Bottle them ripe to enjoy round the year, cut up in plain water. Bring to 180°F in 90 minutes, leave them at this for 20 minutes, tighten lids and store in a dark cupboard to hold their vitamin C up to three years.

TURNIPS. These are best eaten at golf ball sizes, cooked or grated raw. Tennis ball size will store through winter. Tokyo Cross is the best for raw eating, but always small.

WHAT YOU COULD BE EATING IF YOU HAD SOWN IN TIME

	SOWN	PLANTED		SOWN	PLANTED		SOWN	PLANTED		SOWN	PLANTED
JANUARY			APRIL			AUGUST			NOVEMBER		
Beet (Stored)	May	August	Beet (Stored)	May	July	Beans, Windsor	March	March	Beet	May	June
Broccoli (Heading)	April	July	Broccoli, Late	May	Oct.	Beans, French	May	April	Broccoli	April	June
Brussels Sprouts	May	June	Cabbage	June	Augst	Beans, Runner	May	June	Brussels Sprouts	April	June
Cabbage	June		Leeks	April	August	Beet, Fresh	April	May	Cabbage	April	June
Carrots (Stored)	June	June	Onions, Spring	August	March	Cabbage	March	May	Carrots	April	July
Kale	April	July	Onions (Stored)	April	March	Cauliflowrs	April	June	Leeks	April	March
Onions (Stored)	April	June	Potatoes (Stored)	April	April	Cucumbers	May	April	Onions	April	April
Parsnips (Stored)	March		Salsify Leaves	March	April	Khol-rabi	April	May	Parsnips	April	June
Potatoes (Stored)	April	April	Spinach, Summer	Feb.	April	Lettuce	April	April	Potatoes	April	July
Savoy's	April	June	Spinach, Spring	March	March	Marrow/s, Courgettes	April	March	Salsify	April	April
Shallots (Stored)	Sept	March	Onions (Stored)	March	March	Lettuce	April	April	Savoy's	April	July
Spinach, Winter	July		Radishes	March	Feb.	Peas, Maincrop	June	April	Shallots	April	Feb.
Swedes (Stored)	July	May	Onions (Stored)	March	May	Potatoes, Early	June	May	Spinach	April	May
Tomatoes (Bottled)			Spinach	Feb.		Radishes	March	May	Tomatoes (Bottled)	July	
Turnips (Stored)	June		Tomatoes (Bottled)	May		Spinach	March	June	Turnips	August	May
						Spinach, N.Z.	May	May			
						Tomatoes, Outdoor	May				
						Turnips	May				
FEBRUARY			MAY			SEPTEMBER			DECEMBER		
Beet (Stored)	May	July	Beet (Stored)	May	July	Beans, French	May	May	Beet (Stored)	May	June
Broccoli, Early Sprouting	April	June	Broccoli, Late	April	Oct.	Beans, Runner	May	May	Broccoli	April	June
Brussels Sprouts	April	August	Cabbage	June	March	Beans, Windsor	March	March	Brussels Sprouts	April	July
Cabbage	June	June	Lettuce	August	March	Cabbage	April	May	Cabbage	April	June
Carrots (Stored)	April	July	Onions, Spring	March	March	Carrots, Maincrop	April	May	Carrots	April	June
Kale	April	March	Onions (Stored)	March	Feb.	Cauliflowrs	April	April	Kale	April	July
Leeks	April	April	Potatoes, Early	March	March	Cucumbers	June	May	Leeks	April	March
Onions (Stored)	Sept.	April	Potatoes, Spring	April	March	Khoh-rabi	June	April	Onions	April	April
Parasnips (Stored)	April		Peas, Early	April	April	Lettuce	July	March	Parasnips	April	July
Potatoes (Stored)	April	April	Radishes	April	April	Marrow/s Courgette	July	April	Potatoes	April	July
Spinach, Winter	Sept.	April	Spinach	April	May	Onions	May	March	Salsify	April	April
Salsify	July	May	Tomatoes (Bottled)	May		Peas, Maincrop	May	March	Savoy's	April	Feb.
Swedes (Stored)	June					Potatoes, Early	July	May	Shallots	April	June
Tomatoes (Bottled)						Radishes	July	June	Swedes	June	May
Turnips (Stored)	June					Spinach	March	July	Tomatoes (Bottled)	July	
						Spinach, N.Z.	May	May	Turnips	July	
						Tomatoes, Outdoor	June				
						Turnips	June				
MARCH			JULY			OCTOBER					
Beet (Stored)	May	June	Beans, Broad	Nov.	March	Beans, French	May	May			
Broccoli, Sprouting	April	June	Beet, Fresh	March	March	Beans, Runner	May	June			
Brussels Sprouts	April	June	Cauliflowrs	March	April	Beet	June	May			
Cabbage	June	Sept.	Khoh-rabi	April	April	Broccoli	March	March			
Kale	June	Sept.	Lettuce	April	March	Brussels Sprouts	April	June			
Parsnips (Stored)	April	April	Onions, Spring	April	March	Cabbage	April	June			
Potatoes (Stored)	April	April	Peas, Early	April	March	Cauliflowrs	April	June			
Salsify Leaves	April	May	Radishes	May	April	Leeks	April	June			
Tomatoes (Bottled)	June		Swedes	April	May	Lettuce	August	August			
Turnips (Stored)	June		Tomatoes (Bottled)	March	May	Onions	March	March			
						Parsnips	April	April			

NOTES FOR THESE LISTS

This is written for beginners and to remind experienced gardeners who can easily forget and have a gap. It assumes you have no frame or greenhouse, so where there is a planting time but no sowing one it means you should have bought plants. Times are approximate, you may be able to sneak things earlier or later in the South.

VEGETABLE TABLE

VEGETABLE	Seeds or roots per 50ft. row	How long Seed keeps	When to Sow	When to Plant	Depth to Sow or Plant	How far apart	Between rows	Thin to	Weeks till eating	Ready for eating	When to Harvest	Good Crop for 50 foot row As picked or dug
Bean Broad, Longpod	½ pint	2 years	November		3in.	4-6in.	2-2½ft.		24	June		40lb.
Bean Broad, Windsor			Feb-April		3in.		3ft.		20	June-July		40lb.
Bean French	½ pint	2 years	May-July		2in.	6in.	3ft		14	July-Oct.		75lb.
Bean Runner	½ pint	2 years	May-June		2in.	9in.	30in. prs.		14	July-Oct.		85lb.
Bean Tic, for Drying	2oz.	2 years	November		2in.	1ft.	1ft.			Aug.-July	Aug.-Sept.	4lb.
Beet	1oz.	5 years	April-June		1in.		8in.	6in.	16		October	75lb.
Beet Spinach	¼oz.	5 years	March-April		1in.		18in.	1ft.	24	Sept.-Dec.		85lb.
Broccoli Heading	¼oz.	5 years	April-May	May-July	½in.	18in.	18in.		18-30	Oct.-May		30 heads
Broccoli Sprouting	¼oz.	5 years	March-May	May-July	½in.	2ft.	30in.		18-30	Dec.-May		35lb.
Brussels Sprouts	¼oz.	5 years	March-April	May-July	½in.	20in.	30in.		18-24	Oct.-March		36lb.
Cabbage, Green or Red	¼oz.	5 years	March-June-Aug	May-June	½in.	1-2ft.	1-2ft.		18-24	All Year		30 heads (75lb.)
Carrot	¼oz.	3-5 years	March-June		1in.		8-12in.	6-8in.	15-24	June-Mar.	October	75lb.
Cauliflower	¼oz.	5 years	April	May-June	½in.	2ft.	2ft.		15-24	Aug.-Nov.		30 heads (50lb.)
Cucumber (Burpless)	20 seeds	7 years	April		½in.	2ft.	2ft.		14	Aug-Oct.		80 (60lb.)
Kale, Curly	¼oz.	4 years	April		1in.	30in.	3ft.		18	Nov.-April		70-80lb.
Kale, Rape	¼oz.	5 years	April-May		½in.	2ft.	30in.		18	Nov.-April		70-80lb.
Khol-rabi	¼oz.	4 years	July	July	1in.		1ft.	1ft.	14	July-Nov.		50lb.
Leek	¼oz.	3 years	Feb-April	May-Aug.	1in.	8in.	1ft.		16	Sept.-April		75 leeks (40lb.)
Lettuce	¼oz.	4 years	March-Sept.		½in.		1ft.	8in.	10	All Year		75 lettuces (75lb.)
Marrows	14 seeds	6 years	April-May		1in.	3ft.	4ft.		14	July-Oct.		40-60 fruit
Onion Sets	100 bulbs (¾lb)			March	2in.	6in.	1ft.		24	All Year	August	45lb.
Onion Seed	¼oz.	4 years	March or Aug.		1in.		8in.	6in.	24	All Year	August	50-60lb.
Parsley	1oz.	2 years	Feb or July		1½in		1ft.	6in.	14			All you want
Parsnip	¼oz.	1 year	Feb-April		1in.	3in.	1ft.	1ft.	26	Winter	November	50lb.
Peas	1 pint	2 years	Jan-July		3in.	1ft.	2-4ft.		14	June-Sept.		30lb.
Potatoes, Early	7lb.			March-April	6in.	15in.	18in.		12	July	August	60lb.
Potatoes, Maincrop	7lb.			March-April	6in.	15in.	27in.		25		October	100lb.
Radish	¼oz.	4 years	Feb-Aug.		½in.		8in.		5-6	April-Oct		40 bunches
Salsify	¼oz.	2 years	April		1in.	1ft.	12in.	8in.	18	Nov.-March	Leave in	20-30lb.
Savoy	¼oz.	5 years	March-April	May-June	½in.	12-18in.	2ft.		18	Oct.-Feb.		40-50
Shallot	2lb.			Feb-March	2in.	8in.	1ft.		24	Winter	June	30-40lb.
Spinach, Summer	1oz.	2 years	Feb-Aug.		1in.		1ft.	8in.	8	May-Sept.		35lb.
Spinach, Winter	1oz.	2 years	August		1in.		1ft.	6in.	10	Oct.-March		35lb.
Spinach, New Zealand	1oz.	2 years	March		1in.		2ft.	1ft.	14	June-Oct.		30-40lb.
Swedes	¼oz.	2 years	May-July		1in.		1ft.	1ft.	20	July-March	November	40-60lb.
Tomatoes, Outdoor	¼oz.	3 years	April	May-June		2ft.	3ft.		14	Aug.-Oct.	October	av. yr. 80lb.
Turnips	¼oz.	2 years	Feb-June		1in.		1ft.	6in.	6	May-March	As required	50lb.