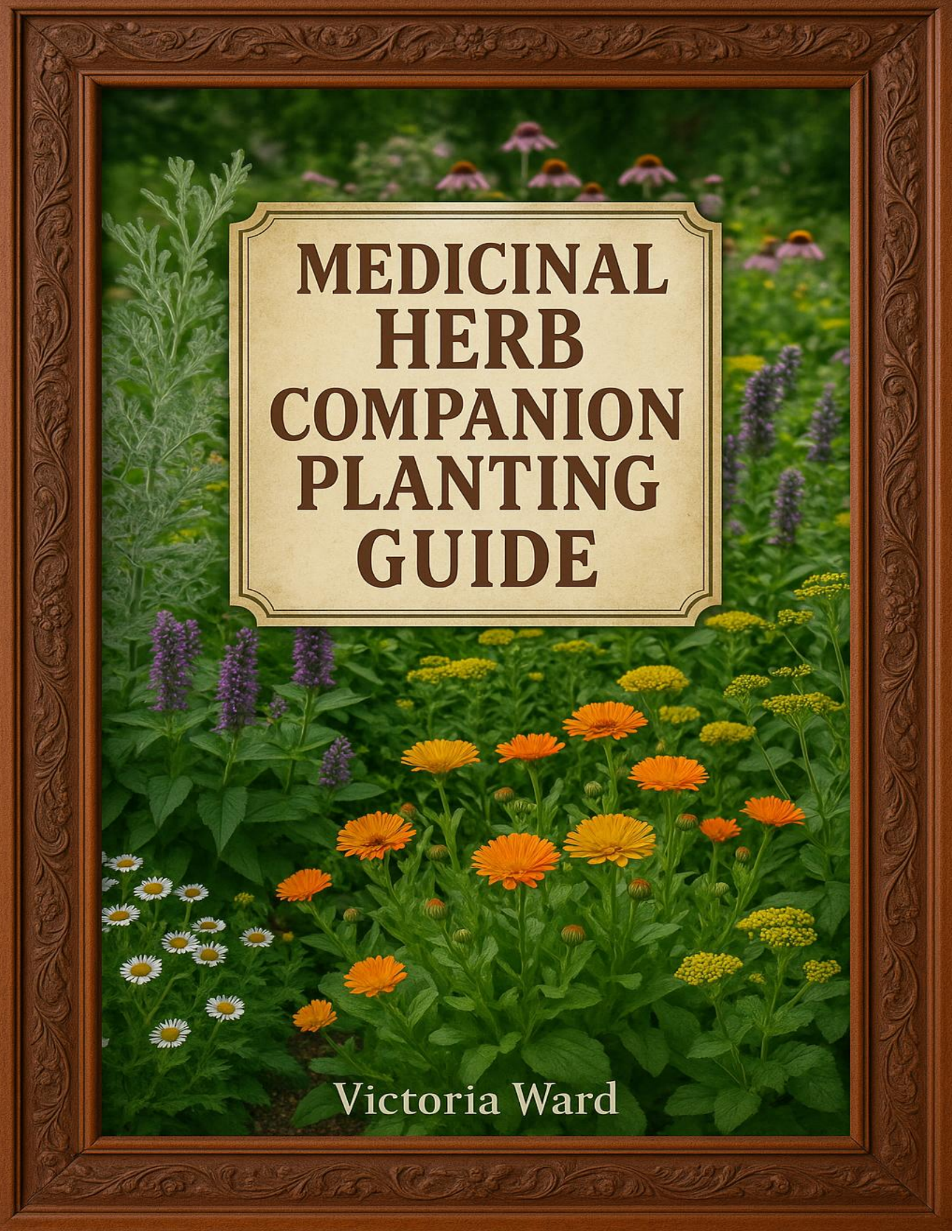
MEDICINAL HERB COMPANION PLANTING GUIDE
Victoria Ward

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Table of Contents

Introduction

Gardening is one activity that undoubtedly enhances our wellbeing, both physically and mentally. Whatever it is we choose to grow, we will reap the benefits of being outside in the fresh air and the optimism of planning and looking forward to the rewards of our endeavours.

As the world seeks greener alternatives to help rebalance the damaged ecosystems on our planet, we can contribute by managing our own spaces when growing fruit, vegetables and ornamental plants.

We can find alternatives to using the harmful chemicals in our gardens that would penetrate our soil and disturb the ecological balance.

Most plants have their predators and diseases that will threaten to destroy all our hard work, and it is very disheartening to lose plants and produce. Thankfully there are methods we can use that will give our plants a chance to thrive without harming the environment and endangering wildlife.

By choosing tried and tested systems of companion planting we can nurture and protect our plants in a gentle way that contributes to improving our planet.

What Is Companion Planting?

When growing vegetables or farming crops, often for yield and ease of maintenance, one species of plant or vegetable will dominate the space, and this is 'monoculture' in practice.

Monoculture clearly has its advantages and has been the mainstay of modern farming practice since the early nineteenth century. This one-crop system became particularly prominent in the twentieth century due to rapid technological advances. It still is the prevalent farming practice which supplies most of the world's food today

Back in the 1800s farmers would produce multiple crops, mainly to feed their own families, but also with the hope to have sur plus harvest to sell.

This relied on having bumper harvests, monoculture began to emerge as a way to produce large amounts of produce to be able to satisfy market demand.

By 1945, monoculture had replaced the traditional practice of crop rotation which was the practice of growing different crops in succession on a piece of land.

Crop rotation preserved the soil to some degree, preventing disease development and nutrient leaching. Varying the crops grown in any piece of soil helped to retain some balance.

In more recent times, gardeners, vegetable growers and farmers alike, have been encouraged to manage land in a much more ecologically friendly way. The aim is to enhance biodiversity by providing food and habitat for beneficial species of birds, amphibians, reptiles and insects. A harmonious balance is restored naturally reducing the need for chemical interventions.

A way in which this can be achieved is by the practice of companion planting where different plant species are grown together in close proximity.

Companion planting is one way we can gently manipulate growing conditions, if we understand how plants interact with each other.

By growing combinations of plants that complement each other, we aim to provide mutual benefits that enhance the overall productivity and ecological balance. It is also worth learning about plant relationships to avoid the opposite effect, as some plants can actually be harmful to others.

The Origins of Companion Planting

Although trends have come and gone in farming and horticulture, the practices of companion planting have been evident for centuries [1].

The Three Sisters

One of the most famous examples of companion planting is the 'Three Sisters' system used by the indigenous populations of Central and Northern America.

This practice involved the planting of three crops, a combination of corn, beans and squash [2]. The corn provided trellis for the beans to climb up, the beans would fix nitrogen in their roots and stabilise the corn in windy conditions and the wide leaves of the squash plants would provide shade, keep the soil moist and prevent weeds from growing.

Corn and squash planted together

Records from the early sixteenth century describe this system being widespread across the United States and Canada.

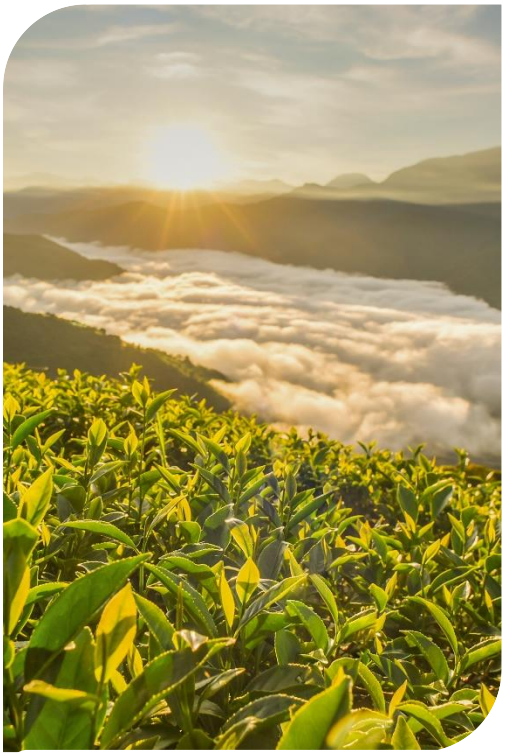
Ancient systems of companion planting have been evident worldwide, in ancient China farmers often planted garlic alongside their crops to detract pests.

In Chinese tea gardens, companion planting has been utilised since antiquity, often Fabaceae (pea) family and Rosaceae (rose) species were used.

These early Chinese horticulturists were way ahead of their time, they had an instinctive understanding of how companion planting would contribute towards enhancing their crops and preserving the ecological balance.

Mediaeval practices of food growing used companion planting to great effect, gardeners encouraged weeds and/or herbs to grow in their vegetable plot, leaving no soil uninhabited. They tended to eat more 'weedy' plants and used both these and herbs to great effect in their cooking pots.

They were not afraid to mix it up and usually grew at least two or three crops together.



Companion planting used in a Chinese tea field

Through the renaissance period, interplanting remained common practice and was becoming more organised. Effective combinations were planned out, such as growing aromatic herbs with fruit.

The ancient Egyptians chose to use plant combinations that they believed held magical properties and would protect against evil spirits [3].

Early practices were often deeply intuitive and bound up with religious rituals and ceremonies. Traditional and indigenous practices are rooted in a deep respect for nature and appreciation that all living things are interconnected.

The Philosophy of Companion Planting

In more recent years, a very scientific understanding has been applied to companion planting, as we can now understand the chemistry and biological processes that explain why certain plants work together in combination and, conversely, why others do not.

The more 'pseudoscientific' approaches are fascinating, but often considered to apply human characteristics to plants.

This anthropomorphised interpretation connects plants according to the four elements namely earth, air, fire and water to find suitable companions. The zodiac signs would also guide selection [3].

The idea of plants as 'companions' was taken quite literally to mean that the selected plants really did 'love' each other.

Common Nettle, Urtica dioica

The concept of plants living in relationships or forming a community is not misapplied, however different their methods are to our own, plants undoubtedly do communicate and function in a mutualistic way and not simply as individual species.

Pioneer species demonstrate this beautifully; the common nettle *Urtica dioica* is a pioneer plant which will colonise bare soil before any other plant species. Its residency breaks up the soil with its extensive, thick root system, not only

preparing the soil for later inhabitants, but also sending out chemical signals through its roots, to let other plants know their new home is ready.

Permaculture practices in gardening emerged in the 1970s, the proponents of this approach were huge fans of mixed cropping and celebrated the 'polyculture' approach [4].

Biodynamic gardeners embraced holistic gardening methods and extolled the concept of nature working together.

They saw a dynamic interrelationship between soil, plants and animals and strived to encourage a natural balance. In biodynamic practices, planting is synchronised with lunar cycles, relying on natural patterns to optimise productivity.

Folklore companion planting embraced 'sensitive crystallisation', a sophisticated technique rooted in biodynamics, whereby patterns created by dried plant extracts were interpreted to establish an affinity between plant species [3].

Systems of Companion Planting

More recently, companion planting has become increasingly science-based, it has been applied to modern agriculture and used to promote ecology.

Farmers have now moved away from monoculture as the norm, embracing polyculture and intercropping.

Symbiotic relationships are key to its success and there are several ways in which companion planting can be used to increase productivity.

Intercropping

This is a simple system based on planting a few species in alternate rows [4]. Garlic and tomatoes are a classic example, just like bananas are often grown with coffee in the tropics.

Plant Association

Observing how plants coexist in natural conditions informs this approach which involves choosing species that thrive together in the wild.

Nurse Plants

These are also known as 'pioneer species' and are plants that pave the way either physically or chemically for other species to germinate and grow.

Physically, pioneer plants may function to break up heavy soils or block out harmful elements to protect seedlings such as sunlight or wind. They can create a microclimate in which to nurse young, vulnerable seedlings.

Pioneer species send out chemical signals to attract other plants, this is how woodlands are created.

In the formation of woodlands nettles prepare the foundations then signal to the next plant species to take their place, each providing benefits to the next.

Eventually tree cover is established, almost any land left alone would go through this transitional process eventually resulting in fully fledged woodland [4].

Polyculture

This term describes more complex systems of intercropping such as hedgerow planting between agricultural crops.

Polyculture illustration

The Benefits of Companion Planting

There are several benefits to companion planting:

Physical Benefits

As touched on previously, physical benefits include- soil preparation, reducing compaction, providing physical barriers from wind, shade and strong sunlight. Temperature moderation can also be achieved this way.

Soil Preparation and Conditioning

Cover cropping and nitrogen fixing - cover crops include Oats, Buckwheat and Clover [5].

Nitrogen fixing can be achieved by planting crops such as beans, potatoes, peas and corn.

Breaking up soil - buckwheat and turnips excel at penetrating impacted soils.

Weed Management

Plants used to manage weeds are considered a 'living mulch' that will cover the ground, crowding out weeds or preventing their germination.

These plants need to be fast growing, robust and ground-covering to out - compete weeds, examples include clover and comfrey.

Clover, Trifolium
Being used for weed management

Pest Management

'Trap-cropping' describes a planting arrangement where one species of plant will be placed with another in the hope it will be more favourable to pests and predators, luring them away from the main crop.

'Masking strategies': the companion plant will deflect attention from the main crop or hide them from trouble. A classic example of this strategy is tomatoes planted with basil.

Physical barriers will impede the movement of predators such as rabbits or deer, hedgerows being the main example.

Disease Management

Companion planting is used to suppress soil borne diseases including bacterial disease.

Pollinators

These are plant species that will be attractive to bees and enhance pollination.

Biological Control

Companion planting can be used to create a habitat for pest eating and beneficial species to thrive in. By planting species that attract the right kinds of predators a natural biological control can be encouraged. Pest-prone plants can be combined with other species that provide nectar and pollen.

Herbal Liquid Fertilisers

Comfrey is an invasive cover crop that will occupy vast swathes of land, it is however highly valued as a fertiliser that provides season-long nutrition.

What makes comfrey so beneficial to other plants are the long tap roots that reach deep into the earth to draw up goodness that then travels to the leaves. It makes an excellent mulch as the leaves will decompose quickly, delivering nutrients to the soil.

Diluting comfrey leaves in a large bucket with water is an easy way to make a plant feed.

Companion Planting with Herbs

Mostly herbs are being grown as botanical pesticides to support vegetable and fruit production. The table below covers some of the recommended combinations and the ones to avoid [6]:

CROP	COMPANION	INCOMPATIBLE
Amaranth	Corn, Onion, Potato	Brassica
Artichokes, Cardoon	Brassicas, Cucumbers, and Prostate Cucurbits	Potatoes
Asparagus	Basil, Cilantro, Parsley, Tomato, Comfrey	Alliums
Basil	Most Vegetables	Rue
Beans	Most Vegetables, Herbs, Marigolds	Allium, Gladiolus
Beans, Bush	Irish Potato, Cucumber, Corn, Strawberry, Celery, Summer Savory	Allium
Beans, Pole	Corn, Marigolds, Summer Savory, Radish	Allium, Beets, Kohlrabi, Sunflower
Beets, Chard	Brassicas, Alliums, Lettuce	Pole Beans
Blackberries	Grapes, Tansy	Raspberries

CROP	COMPANION	INCOMPATIBLE
Blueberries	Clover, Strawberries, Yarrow	Tomatoes
Borage	Squash, Strawberries, Tomatoes	-
Cabbage Family (Brassicas)	Allium, Aromatic Herbs, Beets, Celery, Chamomile, Chard, Clover, Spinach	Dill, Pole Beans, Strawberries, Tomato
Carrots, Parsnip	Allium, English Pea, Lettuce, Rosemary, Sage, Tomato	Dill, Fennel
Celery	Allium & Brassicas, Bush Beans, Nasturtium, Tomato	-
Corn	Beans, Cucumber, English Pea, Irish Potato, Pumpkin, Squash	Tomato
Cowpea	Beans, Carrots, Corn, Cucumbers, Radishes, Turnips	Garlic, Onions, Potatoes
Cucumber	Beans, Cabbage, Corn, English Pea, Radish, Sunflowers	Aromatic Herbs, Irish Potato
Eggplant	Basil, Beans, Catnip, Lemon Grass, Marigold	-
Fennel	Nothing	Everything
Ginger	Basil, Tomatoes	-

CROP	COMPANION	INCOMPATIBLE
Gourds	Corn, Sunflowers	-
Grapes	Basil, Beans, Chives, Clovers, Mustard, Oregano, Peas	Cabbage
Lettuce	Carrot, Cucumber, Radish, Strawberry	-
Melons	Amaranth, Beans, Chamomile, Corn	Brassicas
Onion (Allium)	Beets, Brassicas, Carrot, Lettuce, Summer Savory	-
Okra	Peppers, Squash, Sweet Potatoes	Beans, English Peas
Parsley	Asparagus, Tomato	-
Pea, English	Carrots, Radish, Turnip	-
Peanut	Eggplant, Melon, Squash, Sunflower	Allium, Gladiolus, Irish Potato
Peppers	Basil, Clover, Marjoram, Tomato	Brassicas
Potato, Irish	Basil, Beans, Brassicas, Horseradish, Marigolds	-
Pumpkins	Corn, Marigold	Cucurbits, Tomato, Sunflower, Rosaceae

CROP	COMPANION	INCOMPATIBLE
Purslane	Basil, Beets, Cabbage, Carrots, Corn, Lettuce, Turnips, Radish	Beans, English Peas
Radish	Cucumber, English Pea, Lettuce, Nasturtium	Irish Potato
Spinach	Celery, Faba Bean, Strawberry	Hyssop
Squash	Nasturtium, Corn, Marigold	-
Strawberries	Borage, Bush Beans, Lettuce, Pyrethrum, Caraway	Irish Potato
Sugarcane	English Peas, Cowpeas	Sorghum, Johnson Grass
Sunflowers	Beans, Corn, Cucumber, Melons, Peanuts	Potatoes
Sweet Potato	Okra, Peppers, Sunflowers	Sorghum, Johnson Grass
Tomato	Alliums, Asparagus, Basil, Carrot, Cucumber Marigold, Nasturtium, Nettles, Parsley, Rosemary	Pole Beans
Turnip, Rutabaga	English Pea	Irish Potato, Fennel, Cabbage Family
Watermelon	Nasturtium, Marigold	Irish Potato, Mustard

Bad Partnerships

Not all companion planting is beneficial as you can see from the table above, there are certain plants that do not make good neighbours and are simply incompatible for the following reasons-

- Competition - some plants with similar root structures will out-compete their rivals for water and nutrients
- Disease - unhealthy plants, or those prone to disease will pose a potential threat to the plants around them
- Pests - certain plants may be very attractive to pests and predators, so much so that they encourage large amounts
- Allelopathy - chemical warfare

Allelopathy

Some plants release biochemicals that stimulate the growth of other plants and others will seek to eliminate the competition by the same means. They use their particular chemical output, whether from root systems or dropped leaves, to create adverse conditions for other plants.

They make excellent weed killers releasing chemicals that suppress or even kill other plants.

These allelochemicals are often in a gaseous form. Black Walnut *Juglans nigra* is a splendid medicinal tree but it releases a chemical called juglone that inhibits the respiration of other plants, literally suffocating them.

Black Walnut, Juglans nigra

Selective use of allelopathic plants can provide excellent weed control [7].

Tips for Successful Companion Planting

It is easy to become overwhelmed with rules, but the key to any kind of gardening is to enjoy it.

- Knowledge is power - read around the subject, there are lots of excellent resources. Learn about the successes and failures of others
- Experiment - do not be afraid to experiment, how wrong can you go?
- Don't spend a fortune - sow your own seeds, split plants - losses are easier to bare if you haven't spent a fortune on plants
- Keep a regular check on your plants - getting to know your plants and spot early signs of trouble is invaluable. Plants really are the best teachers
- Enjoy your garden - gardening should not feel like a task

Herbs as Companions to Ornamental Plants

Although we most commonly associate companion planting with vegetable growing, it can be used to enhance the growth of ornamental plants too.

The old-fashioned cottage garden often combined perennial flowers with herbs, fruit and vegetables all mixed together for aesthetics and to gain all the benefits of companion planting.

Examples include:

- Roses and garlic - garlic deters pest

- Marigolds - provide great company to most plants
- Lavender and roses - lavender deters pests

Classic Herbal Companion Plants

Below are ten of the most useful medicinal herbs to plant as companions in the garden, most of which are incredibly easy to grow, have many health benefits and look fantastic too.

Amaranth (*Amaranthus hypochondriacus*)

'Love Lies Bleeding' as Amaranth is colloquially known, was celebrated by ancient civilizations including the Aztecs, Mayans and Incas as a highly nutritious and valuable herb. It was hailed as a very sacred plant that was key to religious and ritual ceremonies.

The flowering herb is used medicinally, and it is primarily an astringent herb used for internal haemorrhages affecting the stomach, womb and bowel. Amaranth can be gargled for sore throats and used externally to treat leg ulcers.

This plant is hepatoprotective (liver protector), antioxidant, hypoglycaemic, neuroprotective, antidepressant, anti-inflammatory and antimicrobial. Amaranth seed is used in cosmetics and the plant has great value as a 'pseudo-cereal' crop and would have been a staple food of our ancestors much like Quinoa and Buckwheat.

Amaranth has attracted much scientific and industrial interest due to its valuable biological properties which stem from a rich phytochemical profile [8].

This plant is either an annual or short-lived perennial with showy foliage and tall flower spikes. It is easy to grow and tolerates most soil types and growing conditions.

As a companion plant it is especially recommended to grow with corn, onions, peppers, aubergines and tomatoes [8]. There are several ways in which Amaranth can be of great benefit in the garden:

- Soil preparation: Amaranth loosens the soil, particularly beneficial for root vegetables
- Increased pest resistance - most notably for tomato plants
- Attracts pollinators - pollinators are drawn to the flower spikes
- Food for birds: birds love Amaranth seeds [8]

Balm (*Melissa officinalis*)

Lemon Balm is an aromatic herb and member of the mint family producing green foliage and tiny yellowy-white flowers that all have a lovely lemony scent when rubbed.

This lovely herb has been used medicinally for centuries. It is antispasmodic, antidepressant, antihistamine, antiviral and a nerve relaxant. Lemon Balm may be indicated for dizziness, migraine, nervous head and stomach and insomnia.

Lemon Balm is a hardy, perennial plant that is incredibly easy to grow, it can grow practically anywhere and may become a nuisance as it self-seeds everywhere. It is not at all fussy about soil or conditions.

It supports fruit trees, most vegetables and other herbs.

Lemon Balm attracts pollinators and the strong citrus odour helps to keep pests away. Its ability to grow anywhere helps to keep other weeds at bay.

Basil (*Ocimum basilicum*)

This mediterranean native is a highly nutritious, aromatic herb, Basil contains high levels of vitamin A and C making it not only delicious but highly antioxidant.

Medicinal actions of Basil include antispasmodic, carminative, sedative, stomachic, antibacterial, vermifuge and antidepressant. Basil can be used for digestive issues and to lift mood and ease nervous irritability.

Basil is either a short-lived perennial or annual depending on climate, it is not hardy and thrives in hot, sunny conditions. It is very easy to grow from seed and also easy to root from cuttings.

As a companion plant, Basil compliments tomatoes particularly well, grow Basil with peppers, aubergines, potatoes, beans, cabbage and beets.

Several studies have been carried out assessing the benefits of growing Basil and tomatoes together, findings include -

- Basil supports healing in tomato plants- volatile compounds released by Basil prime the wound response [9]
- Basil is a functional plant providing biological control- Basil improves pest control, this particular study noted its success in aphid control [10]
- Basil provides positive allelopathic benefits- Basil was found in this case to be more beneficial to tomato growth than standard fertilisers [11]

Borage (*Borago officinalis*)

Borage is a hairy leafed annual with beautiful blue, star-shaped flowers and cucumber-tasting leaves. The seeds are an excellent source of essential fatty acids and are used as supplements and in cosmetic products.

Borage is adaptogenic in action and is very supportive to the adrenal glands. It is demulcent, emollient and refrigerant, soothing and cooling.

Considered an antidepressant herb, Borage is indicated for depression where one is suffering mental exhaustion from long-standing stress.

Borage is a tender annual plant that will need to be sewn after the risk of frost has passed. It is easy to grow and is a prolific self-seeder that will soon spread itself about.

Borage has the following benefits as a companion plant-

- Borage is a 'dynamic accumulator'- Borage can gather nutrients from the soil, particularly potassium
- Improves soil quality- use Borage as mulch around other plants
- Reduces weeds
- Aids water retention
- Attracts pollinators

If you like to grow strawberries then planting Borage amongst them can be highly beneficial, one study found that Borage significantly increased the yield

and quality of the fruit. An incredible 35% increase in fruit was recorded where Borage was used as a companion [12].

Dill (*Anethum graveolens*)

Dill is an aromatic herb with carminative, stomachic and antispasmodic properties making it a remedy of choice for flatulence, infant colic and bad breath. It is also used to increase the milk of nursing mothers.

This annual plant is a beautiful ornamental plant that can be grown from seed directly outside. Do not allow Dill plants to dry out too much as they tend to bolt.

Dill can grow quite tall providing a physical barrier between crops and predators [13].

Attracts beneficial predators such as hoverflies, ladybirds and spiders that feed on many pests [14].

It grows well with asparagus corn, cucumbers, onions, lettuce and brassicas but should not be grown alongside carrots or tomatoes. It is one of the few plants that can be grown with Fennel.

Garlic (*Allium sativum*)

A highly valuable medicinal and culinary herb with a notable history, Pliny of ancient Rome advised Garlic for over sixty health complaints.

Garlic has been valued as a medicine by most ancient civilisations including China, Egypt, India and Greece.

Garlic is antibiotic, bacteriostatic, antispasmodic, anti-parasitic, anti-viral, antiseptic, fungicidal, anti-thrombotic, choleretic, diaphoretic, hypoglycemic, hypotensive and an antihistamine.

It is used in medicine to prevent high cholesterol, lower blood pressure, for respiratory infections and catarrh and to treat internal parasites.

Garlic is a hardy perennial belonging to the *Allium* family, plant the cloves in autumn on a warm, sunny site in well-drained soil to harvest in summer.

Garlic makes an excellent companion to other plants, it is a natural fungicide and can benefit carrots, potatoes, spinach, fruit, peppers and tomatoes.

In a 2024 trial Garlic was intercropped with tomatoes and provided excellent aphid protection, significantly reducing the aphid population. Often its pungent aroma will detract pests [15].

Another of the *Allium* family, onion combines well with Garlic as pest control intercrops to protect cabbages [16].

Lavender (*Lavandula officinalis*)

Lavender is a key medicinal herb with centuries of use behind it as a remedy, cleansing agent, perfume and food flavouring. The essential oil is one of the most popular choices for relaxation and promoting sleep. It is a deservedly well-loved garden shrub with beautiful flowers and sublime scent.

Its uses are numerous, and the actions of Lavender include- antidepressant, antispasmodic, antiseptic, carminative, rubefacient, sedative, anticonvulsant and antimicrobial.

Lavender is indicated for nervous headaches, neuralgia, rheumatism, depression, sluggish circulation, insomnia, colic, exhaustion and stress.

This shrubby plant is a mediterranean perennial of varying hardiness depending on the variety. It is fairly easy to grow, enjoys full sun and free-draining soil. It will grow well from cuttings planted in the spring.

The beautiful Lavender flowers attract many pollinators including bees and butterflies and is a useful companion to beans and tomato plants. Being highly fragrant, Lavender can deter pests and works well when planted with carrots and leeks.

Lavender plants were grown alongside Rosemary and Basil in a trial to test growing with Sweet Peppers. Intercropping in greenhouse conditions did provide pest protection from aphids, the study highlighted the importance of proximity in these conditions [17].

Marigold (*Calendula officinalis*)

Marigold is an age-old herbal remedy, highly valued for its many medicinal uses. It is one of the most versatile and important herbal remedies, being safe and effective used internally and externally.

This wonderful flower is an immune-stimulant, anti-inflammatory, anti-fungal, antispasmodic, anti-hemorrhagic, antihistamine and antibacterial.

It has many uses and is a healing herb being recommended after any type of surgery, enlarged lymph nodes, gastric/duodenal ulcers, jaundice, gallbladder issues, menstrual problems, wounds, sore and chapped skin. The marigold flower is bright and cheery and a wonderful addition to any part of the garden.

It is an annual grown from seed or bought as seedlings or plant plugs. It should be planted out after the risk of frost has passed and enjoys sunny conditions in fertile soil. Marigolds are excellent companions to most plants, they have an allelopathic action and exude chemicals from their roots, these are largely beneficial to other plants, but some recommend planting in pots.

Here are a few of their benefits [14]:

- Deters pests from tomato plants- the odour deters tomato nematodes, whiteflies and aphids
- Attracts pollinators
- Anti-fungal - prevent fungal disease
- Deters cabbage worms
- Repels Mexican Black Beetle
- Repels cucumber beetle
- Repels potato beetle
- Repels Asparagus beetle

Mint (*Mentha spp.*)

There are many species of Mint available and all have similar medicinal and culinary applications. Often in herbal medicine *Mentha piperita* or Peppermint is the variety being used, Spearmint or *Mentha spicata* is also a very popular choice as a remedy.

The actions of Mint include - digestive, carminative, antispasmodic, diaphoretic, antiemetic, mildly sedative, emmenagogue, peripheral vasodilator, antiseptic and insect repellent.

Mint is used in herbal medicine for digestive disorders, nausea and sickness, poor appetite and catarrh. There are many lovely mint species to choose from, delicious scents and varying forms and flowers. It is very easy to grow, a hardy perennial that may become rampant. Mint is not too fussy about conditions, preferring moist conditions. Grow from cuttings.

The benefits of mint as a companion plant include [14]:

- Repels pest - including aphids, ants and rodents
- Enhances flavour - improves taste of cabbage and tomatoes
- Attracts pollinators
- Attracts useful predators: parasitic wasps that prey on aphids
- Living mulch - provides a valuable mulch

Mint grows well with many plants, particularly cabbage, cauliflower, tomatoes and beet.

As a living mulch, Mint can be an excellent cover crop reducing soil erosion, preventing water and nutrient loss and outcompeting weeds [18].

Nasturtium (Tropaeolum majus)

Nasturtiums are the only member of their genus, Tropaeolum which consists of over eighty species of both annual and perennial species of this cheery plant.

Nasturtiums are South American natives that soon became popular medicinal plants in Europe, the famous herbalist John Gerard first received Nasturtium seeds from Spain and discussed them in his 1597 herbal.

Nasturtiums are fully edible and possess antibiotic, antitussive, diuretic and expectorant properties.

Nasturtium has many benefits as a companion, many relating to its ability to trap pests [14]:

- Protects beans for pests - Nasturtium traps beetles and aphids keeping them away from bean plants.
- Protects cabbage - the cabbage white butterfly prefers to lay its eggs on the Nasturtium. The caterpillars accumulate on the plants, which can then be removed.
- Protects cucumber plants - Nasturtiums trap beetles, whiteflies and aphids.
- Protect potatoes by trapping a common pest affecting potato plants, the potato beetle.
- Apple trees - Nasturtium can repel the apple moth

They are used to treat respiratory conditions including emphysema, bronchitis, colds and influenza. It is suggested they can benefit alopecia sufferers by external application. They can be sown in the spring and are quick and easy to sow. They come in a range of colours and forms, some are bushy whilst others will climb.

Grow Nasturtiums with beans, cabbage, cucumber, potatoes, apples and other fruit trees.

The Harmonious Medicinal Herb Garden

If you are planning a medicinal herb garden, there will be decisions to make on how you want it to look and which plants to plant where. Many people follow traditional designs, but this may not be possible depending on the limitations of space and budget.

Much consideration can be given to how you arrange the herbs, do you choose to group ones with similar actions or think about grouping according to body systems? Aesthetic considerations are important too, as the medicinal herb garden can be truly beautiful. Select plants that enhance the appearance of your garden by complementing each other in colour and form.

If you are in need of guidance on how to arrange the plants, following the principles of companion planting could help steer your selection.

The outcome of choosing this method could result in a medicinal herb garden producing effective and powerful medicines, that have been grown in symbiotic harmony with other herbs.

When working with plants as medicines we are taking advantage of secondary metabolites produced by the plant. Secondary metabolites are organic compounds produced by any lifeform that are not directly involved with normal growth, development and reproduction.

The role of secondary metabolites is to provide defence for the plant such as antibiotic or antifungal compounds. They are phytochemicals that are important to healthy functioning and nutrition, which we then consume ourselves to gain these benefits.

Companion planting herbs alongside vegetables makes use of the secondary metabolites produced by the herbs, these will in turn alter the chemical profile

of your vegetables. It stands to reason that companion planting in the medicinal herb garden will enhance the power of our medicines [19].

Symbiotic relationships are at the heart of companion planting, and when making our medicines we are continuing the process of sharing benefits across species, from plant to plant, then from plant to human.

An example of how companion planting can enhance the medicinal properties of herbs is the planting of herbs that will stimulate the essential oil production of other plants. Planting Chamomile German and Yarrow in herb gardens has been found to increase the essential oil yield in other aromatic species such as Lavender and Rosemary.

Planting combinations of plants with similar growing requirements will make herb garden planning easier. Plant Mediterranean herbs together as they appreciate well-drained soil and sunny conditions, examples include Basil, Rosemary, Sage and Oregano. Chamomile and Dill complement each other well, as does Hyssop and Lavender.

Echinacea and Lavender are stunning in combination, enjoying a similar situation and complementing each other in terms of their form and colour.

Roses and Garlic have been found to work well together in studies mentioned earlier.

Although Fennel is not compatible when it comes to growing alongside fruits or vegetables, both Dill and Thyme work well with Fennel in the herb garden. However, there are limited choices to grow alongside Fennel, as it can be problematic with other plants [14].

Improving the soil microbiome in which our medicinal plants are grown will increase their potency as medicines [20].

A healthier and biodiverse soil will enable the plants to produce optimal levels of secondary metabolites, Chicory and Yarrow are two herbs known to improve soil health, both are traditionally grown in herbal leys [21].

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