



# Organic Gardening



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# Organic Gardening

## What is organic gardening?

- Nurture soil
- Biodiversity
- Companion planting
- Crop rotation
- Natural controls

## Why organic gardening?

- Health benefits
- Protect beneficial predators & pollinators



# Importance of soil

Living, healthy soil is critical  
Good soil is the foundation of  
a good garden  
The best food is grown in the  
best soil.  
Making your own compost is  
the best way of improving  
your soil



# Good soil is alive

A handful of soil contains **billions** of living organisms:

- insects, arachnids, worms
- nematodes
- protozoa
- bacteria
- Microscopic plant roots
- Fungal filaments



# Why keep compost and worm farms

- Keep organic material out of landfill,
- Cut down on food waste
- Help with climate change
- Improve your soil
- It's free!



# Compost or worm farm?

To break down organic matter:

- Compost uses micro-organisms
- Worm farms use worms



# Compost

## Mature compost

- Fully broken down
- Can be used safely in your garden
- Not many worms

## Immature compost

- Not fully broken down
- PH levels can vary
- Fresh animal manures can be too strong for many plants





# Where to use your finished compost

- Use it as a mulch around trees, shrubs, vegetables.
- Fruit trees and roses love compost
- Dig it into vegetable beds before planting
- When planting trees/shrubs mix it with local soil at the bottom of the hole
- Combine it with potting mix for use in pots or hanging baskets
- Sieve the compost to remove any twigs or stones





# Discount compost bin, worm farm or bokashi bin

50% off and free delivery

- Compost bin;
- Bokashi bin; or
- Worm farm

The Hills Shire Council residents

Order at:

[www.compostrevolution.com.au](http://www.compostrevolution.com.au)

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Recycle your food scraps  
— & —  
**CUT YOUR RUBBISH IN HALF**

Join the Compost Revolution

COMPOST BINS - WORM FARMS - BOKASHI BINS  
+ FREE DELIVERY!  
**50% OFF**

The advertisement shows a woman in a yellow shirt cutting a path between two green bins with red lids. The background is a green landscape with trees and a blue sky.

Get 50% off a compost bin, worm farm or bokashi bin plus FREE delivery from The Hills Shire Council to cut your waste in half.

After reducing your household food waste, recycle your scraps into soil and fertiliser in a home compost bin, worm farm or bokashi bin to reduce landfill and greenhouse gases. It's easy to do with our fun online how-to guides.

Just visit [www.compostrevolution.com.au](http://www.compostrevolution.com.au)

NSW EPA

Join the Compost Revolution

THE HILLS  
Sydney's Garden Shire

COMPOST BINS - WORM FARMS - BOKASHI BINS  
+ FREE DELIVERY!  
**50% OFF**

The advertisement features a black compost bin, a white bokashi bin, and a green worm farm on a green base. The background is a light blue gradient.

Call The Hills Shire Council on 9843 9555 for more information. Households are eligible for a discount on one compost bin, worm farm or bokashi kit only. This project is a NSW EPA Waste Less, Recycle More initiative funded from the waste levy.

# Improve your soil by composting leaves

- Collect leaves and make a pile
- 6-12 months to break down
- Produces leaf mould



# Composting leaves – humus



# Nutrients that plants need

## Major Nutrients - NPK

- Nitrogen (N) for foliage
- Phosphorous (P) for plant growth, flowers and fruit
- Potassium (K) for strong disease resistant plants

Secondary Nutrients such as sulphur, calcium etc.

Minor Nutrients – Trace Elements

# Nutrient Availability

- Even if you add nutrients to your soil, they may be inaccessible if the pH is not right
- Get the pH right first, then add the nutrients
- If you add nutrients then change the pH, you may overdose the plants.

# Nutrients from fertilisers

- Mineral fertilisers
  - Bagged products – powder, pellets, prills
- Organic fertilisers
  - Compost
  - Worm castings
  - Bagged manure – cow, sheep, horse, chicken
  - Pelletised manure

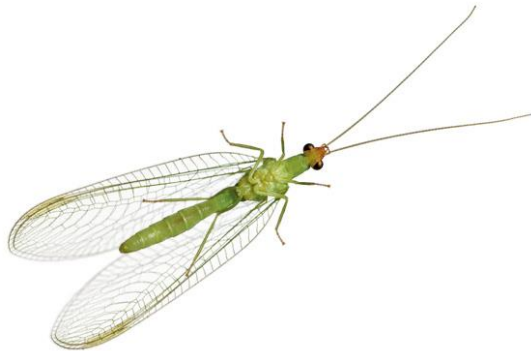


# Pest and Disease Control



# Do You Really Need To Spray?

- 90% of insects in the garden are beneficial or benign.
- Encourage beneficial insects
- Pollination
- Predators
- Lacewings & ladybugs
- Sacrificial plants



Look out for Lacewing Eggs in your garden



# Pros and Cons of Home Made Solutions

- Why make your own?
  - Cost
  - Convenience
  - Can be organic
  - Safety
- Disadvantages of Home Made
  - Effectiveness
  - Inconvenience
  - Perception that they are safe
  - You often need to reapply after rain or watering

# Important Safety Notes

- Home recipes use organic and/or common household items, they are still chemicals.
- Commercial alternatives.
- Make enough for one use.
- Don't use on windy days or around children and pets.
- Don't spray on hot days. A lot of sprays will burn your plants if used on hot days.
- To minimise the effect on bees, try to spray in the early morning or evening when the bees are not around

# Consider exclusion as a control method





# Exclusion net and shade cover

- For new seedlings
- For leafy greens in summer





# Exclusion net for fruit trees

Use fine mesh to exclude fruit flies



# Other Ways of Controlling Weeds

- Pull by hand
- Steam weeder
- Boiling Water
- Gas flame weeder



# Crop Rotation



# Crop Rotation

- Growing the same crop in the same patch year after year will produce poor yields
- Why rotate crops?
  - Reduce nutrient drawdown
  - Reduce build up of pests and diseases
  - Improve soil health
- How to rotate?
  - Start with a plan

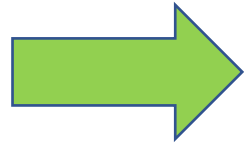
# Crop Rotation – have a plan

- Prepare a garden map showing where and when you plant your vegetables. A sketch will do.
- Keep this information for at least couple of years so that you have a planting history.
- This will help you decide what you can plant next.

# Crop Rotation – 3 Stages grouped into families

## **Legumes & above ground fruits**

Snow Peas  
Peas  
Beans  
Lentils  
Tomatoes  
Chillies  
Eggplants  
Cucumbers  
Zucchini



## **Greens and Brassicas**

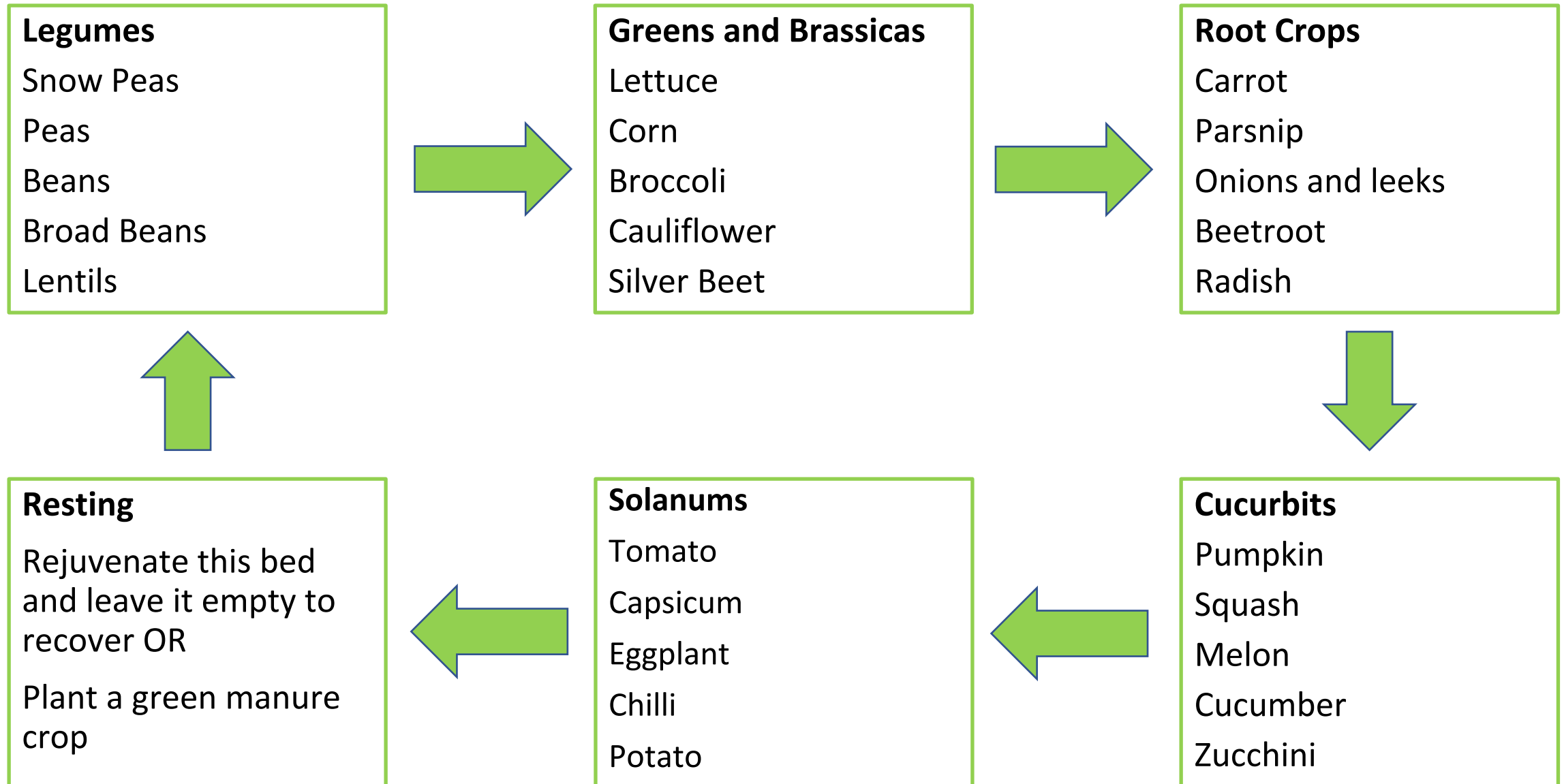
Lettuce  
Broccoli  
Cauliflower  
Silver Beet



## **Root Crops**

Carrot  
Parsnip  
Onions  
Beetroot  
Radish

# Crop Rotation – 6 Stages grouped into families



# Crop Rotation – exceptions



Asparagus



Rhubarb



# Crop Rotation

- Plant your vegetables in sequence
- Keeping your plants healthy is important
- Can be difficult in a small garden, but not impossible

# Succession Planting

- Extend your harvest by planting smaller amounts of the same vegetable several times during the growing season.
- Make efficient use of space
- Reduce over-abundant harvest
- Don't grow more than you can eat
- Give away any excess
- Preserve for future use



# Companion Planting



# What is Companion Planting?

- It's diversified organic gardening.
- It's when you plant two or more species side by side for specific benefits:
  - Disease resistance
  - Deterring pests
  - Improving growth
  - Enhancing flavour
  - Attracting beneficial insects
  - Fixing nitrogen.



# What is Companion Planting?

- It's encouraging pollinating and predatory insects, such as bees and ladybirds.
- It increases the biodiversity of your garden. This is important.
- Requires less use of chemicals to control pests and disease
- There are bad neighbours as well. Some plants really dislike each other, and shouldn't be planted together.



# Benefits of Companion Planting

- Encouraging beneficial insects and other creatures as part of your pest control
- Companion plants can provide shelter, nesting sites and food for predators and pollinators



# Examples of Companion Planting

- Imagine having a mass of flowers that provide nectar and pollen for the bees that will pollinate your vegetables.
  - Sweet alyssum, borage, calendula, cornflowers, cosmos, Queen Anne's lace, salvias, zinnia;
  - herbs such as basil, dill, garlic, chives, rosemary and oregano.



# Benefits of Companion Planting

Some plants have smells that deter or disorient pests.

- Chives and garlic;
- Peppermint, sage, basil, coriander, fennel;
- French marigolds, tansy, nasturtiums, nettles, and hyssop.



# Benefits of Companion Planting

Some plants provide nutrients:

- Lucerne
- Clover
- Lupins
- Thistle
- Dock
- Comfrey



Thistle



Lucerne



Comfrey

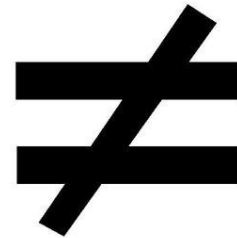
# What to Grow with What

- Many combinations succeed because they differ in height, maturation period and rooting habit:
  - Potatoes with leafy vegetables, followed by green beans & Chinese cabbage
  - Kale with radishes, followed by celery and tomatoes
  - Spinach, followed by broad beans and tomatoes
  - Double rows of corn alternated with single rows of capsicum
  - A double row of garlic with spinach down the centre
  - Strawberries with watermelon
  - Cabbage-family crops with leaf lettuce or radishes

# What *Not* to Grow with What

Just as some plants are wonderful companions, there are others that need plenty of space between them

- Garlic doesn't get on with asparagus, climbing beans, peas or the Brassica family
- Celery & carrot
- Parsley & mint



# Summary

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- Biodiversity
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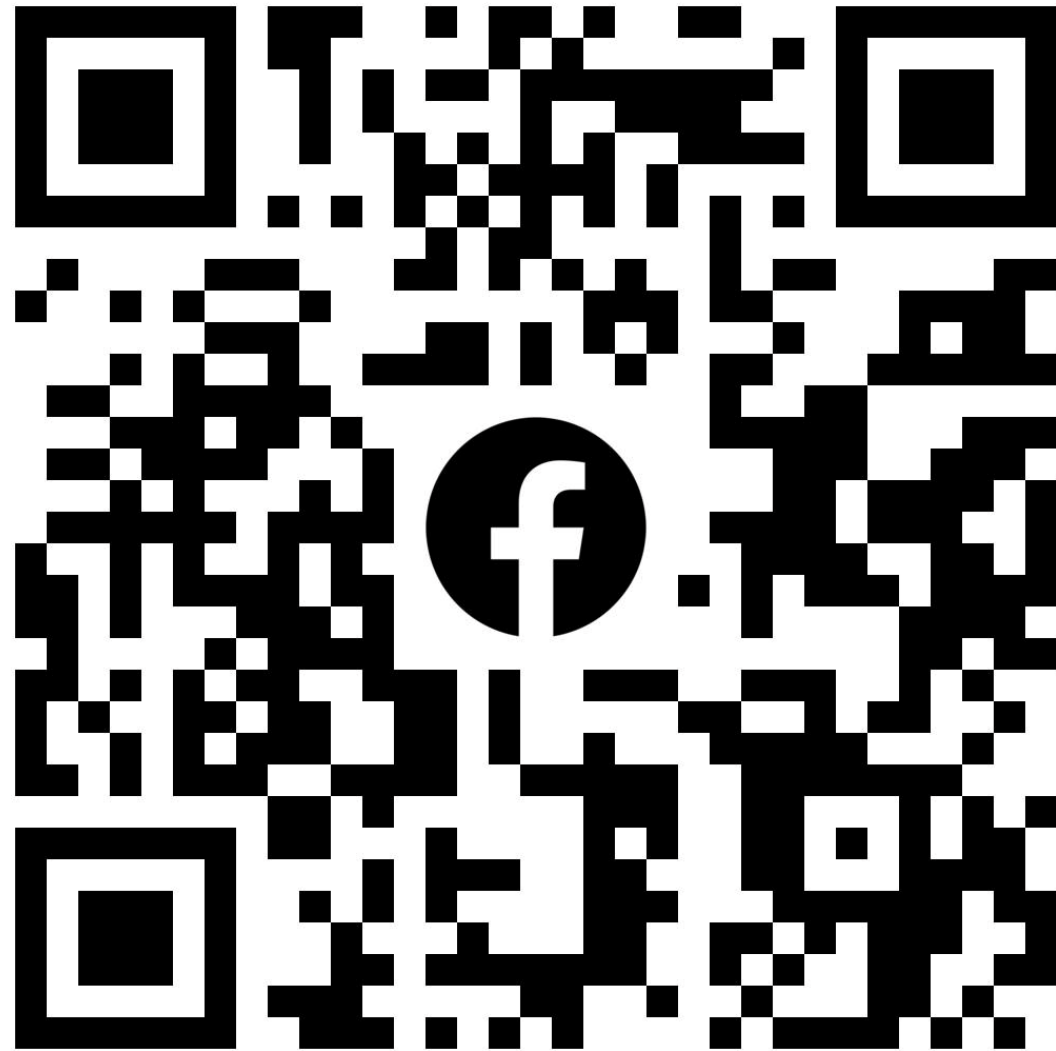
- Health benefits
- Protect beneficial predators & pollinators



# Community Environment Centre, Annangrove

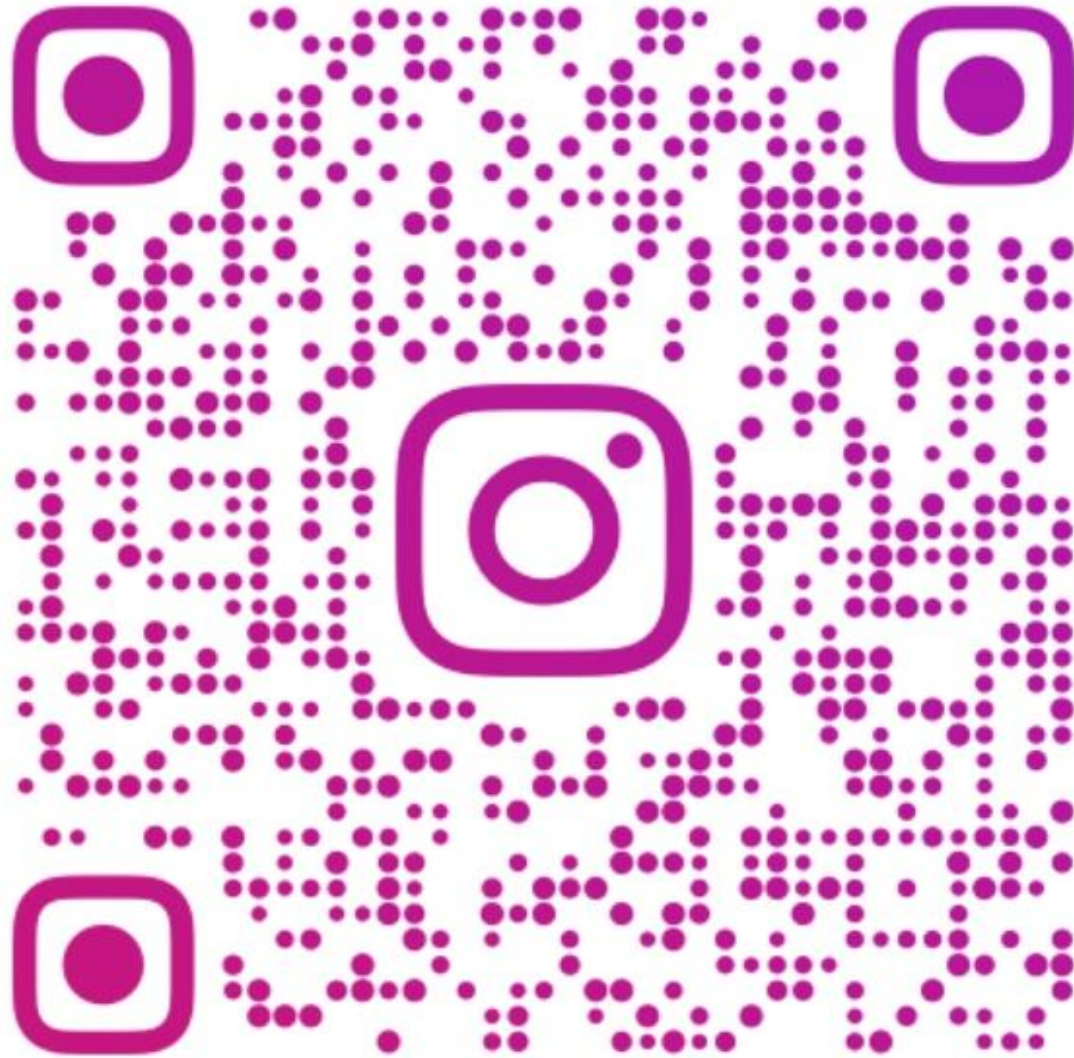


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