NIAGARA PARKS

Garden at Home Series

Lessons from February 21, 2022 Session

What is a Tropical Plant?

Tropical plants grow naturally in tropical Latitude. Plants that require warmth and humidity year-round.
Examples include:

Spider Plants	Codiaeum Variegatum or Croton	Dieffenbachia or Dumb Cane	Dracaena (Fragrans, marginata, Janet Craig)	Ficus Bejamina or Weeping Ficus



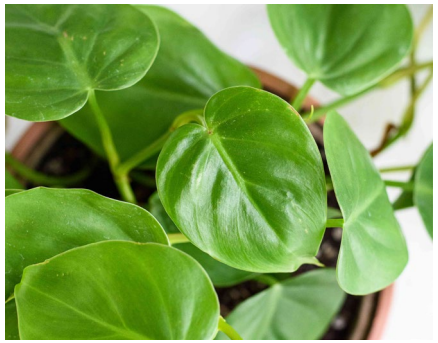


Tropical Plants Continued

Ficus Elastica or Rubber Ficus

Palms (Lady, Fan, or Butterfly)

Philodendron



Sansevieria or Snake Plant

Schefflera or Umbrella Tree

Chlorophytum or Spider Plants

They need:

- Bright light
- Average moisture

Watch out for:

- Chemical sensitive
- Brown tips

Propagate by potting pups

Codiaeum Variegatum or Croton

They need:

- Bright, indirect light
- Low-light will affect colour
- Average moisture

Watch out for:

- Temperature sensitive - No drafts or leaves will drop

Dieffenbachia or Dumb Cane

They need:

- Indirect light or Shade
- Average moisture to dry soil

Watch out for:

- Overwatered leaves will yellow
- Leaves drop if there is too much light
- Sap is an irritant

Dracaena (Fragrans, marginata, Janet Craig)

They need:

- Moderate to bright light
- Average moisture

Watch out for:

- Brown tips if moisture is inconsistent (too little OR too much)

Ficus Beja mina or Weeping Ficus

They need:

- High light
- Minimal nutrients
- Can tolerate poor conditions
- Drought resistant

Watch out for:

- They do not like change in location and will shed leaves
- Leaves will drop if too dry

Ficus Elastica or Rubber Ficus

They need:

- Indirect light
- Dry conditions

Watch out for:

- Yellow leaves if too wet

- These are great for living walls!

Palms
(Lady, Fan, or Butterfly)

They need:

- Indirect light
- Average moisture

Watch out for:

- Tips will brown if too dry

Philodendron

They need:

- Indirect light
- Average moisture

They are vine like and easy to care for.

Sansevieria or Snake Plant

They need:

- Full sun OR full shade
- Dry soil

These plants photosynthesize at night!

Schefflera or Umbrella Tree

They need:

- Bright light
- Average moisture

Watch out for:

- Temperature sensitive
- Avoid vents and drafts
- Leaves will drop if too dry or too cold

Spathiphyllum or Peace Lily

They need:

- Shade
- To be divided regularly

They are:

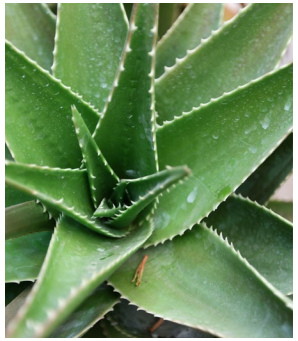
- Hydroponic
- Easy to care for
- Pot bound encourages flowering
- Flower gibberellic acid causes lots of blooms

What are succulents?

Succulents are thick, fleshy tissue plants that store water for arid climates

Examples are:

Agave



Aloe

Cacti

Crassula-Jade

Echeveria

Kalanchoe

What is the difference between Tropicals and Succulents?

Plants use light, carbon, and water through a process called PHOTOSYNTHESIS to create sugars for fuel. The carbohydrates created during photosynthesis are then converted to energy.

Most tropical plants are C3 plants – they only contain 3 carbons therefore, they can attach to an oxygen which causes photorespiration and during this stage the stomata opens, and the plant loses water.

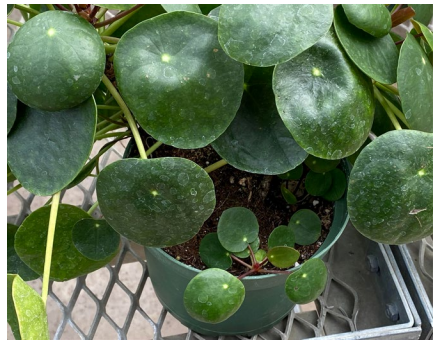
Most succulents are C4 plants – they have 4 carbons and therefore there is no fixing with oxygen and the stomata do not open. The plants retain their water. This allows succulents to survive in arid climates.

What are some trendy house plants?

Want to Keep up with the Kardashians? Check out some of these on trend plants!

Alocasia Z Amazon Ica or Alocasia Poly or African Mask	Begonia Rex/Cross	Bromeliads	Pilea or Friendship Plant



Trending Plants

Strelitzia or Bird of Paradise

Ficus Lyatra

Monstera Deliciosa

Alocasia Z amazon lca or Alocasia Poly or African Mask

They need:

- Indirect light
- Dry soil

They have:

- Fleshy thick leaves that hold water
- Soft and sensitive roots

Begonia Rex/Cross

They need:

- High humidity
- African Violet soil mix (sand/sphagnum moss)
- They like a more porous soil

Watch out for:

- Don’t overwater
- Prone to fungal diseases such as botrytis and mildew

Bromeliads

They need:

- Medium light
- No deep pots
- Orchid mix of bark and moss

Watch out for:

- Sensitive to metal

Pilea or Friendship Plant

They need:

- Bright light

Pilea are:

- Easy to grow
- Propagated by pups

Strelitzia or Bird of Paradise

They need:

- Bright light
- 3 – 5 years to be mature to flower
- Will flower in the late winter

Watch out for:

- Brown tips if over watered

Ficus Lyatra

They need:

- Bright light
- Average moisture

Watch out for:

- Browning on leaves if there is a lack of humidity or the sap is exposed to air
- Sensitive to chemicals

Monstera Deliciosa

They need:

- Bright light and shade
- Average moisture
- Brown/yellow dry soil

Watch out for:

- Toxic!

Taking Care of House Plants

Plants are AUTOTROPHIC which means they produce their own food through the process of photosynthesis. Plants have several cultural requirements for photosynthesis to take place. If plants are not grown under proper conditions, they become weak and are also more susceptible to pests and diseases. Understanding each plant's specific needs will lead to few pest and disease problems.

What are some cultural requirements needed for plants?

Light

Plants use light to make glucose. Leaf cells called CHLOROPLASTS contribute to glucose production. Chloroplasts contain the green pigment CHLOROPHYLL.

The natural habitat of most tropical plants is on the shady floor of the rainforest. However, each plant requires different light levels. Typically, house plants require indirect light in a brightly lit room.

Insufficient light will cause a plant to stretch. This is called PHOTOTROPISM. This is the plant stretching to collect light. Plants will let go of unused chloroplast cells that aren't getting light, and the plant will stretch and bend.

Too much light will cause a plant to burn.

To create more light in a darkly lit room, paint the walls a light colour to reflect the light. You can also use artificial lights to help your plants. Or choose a room with south facing windows.

Remember: Plants require time to acclimatize when entering new light levels. Ferns and Ficus may shed some leaves.

Water

Water transports nutrients from the soil throughout the plant and assists with photosynthesis.

Always water the soil, not the plant. Submerge the pot in water. Water is absorbed by the plant's roots. Always probe the soil. The top layer will dry out the fastest.

Misting the plant will create more humidity.

Pubescent plants do not tolerate water on their foliage.

Wilting is caused by too much or too little water.

Most plants require water once a week or once every two weeks depending on the plant and the home's humidity

Temperature - (Heat and Humidity)

Promotes photosynthesis, plant growth, and production of flowers or fruit

Plants prefer temperatures between 20 to 30 degrees

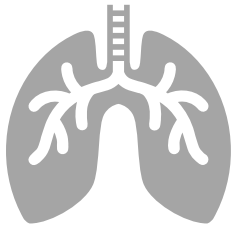
Humidity is very important for regulating temperature, water retention and respiration in plants. The ideal humidity is 60-90%. The average home in the winter is 30%.

If humidity is too high, a plant will stop absorbing nutrients and taking in water. If humidity is too low, the stomata closes to preserve water. This makes the plant absorb more nutrients and water which leads to frequent drying out and burnt, brown leaf edges.

How do I increase humidity?

1. Mist plants
2. Create microclimate and group plants together
3. Use a humidifier
4. Keep plants in the kitchen or bathroom
5. Keep trays at the bottom of pots and fill with pebbles and water

How do I decrease humidity?



Ventilate

Use a dehumidifier

Avoid overwatering plants

Soil – Niagara Parks Recipes

	Soil Recipe	Light Levels	Watering	
			Winter	Summer
Tropicals	3 part: bark with a bit of charcoal 1 part: peat moss or potting soil 1 part: perlite 1/2 part: vermiculite 1/2 part: pumice (clay pellet)	As much as possible without being direct	Once to twice per week	Check Daily to every other day
Succulents	1 part: potting soil (hummus) 1 part: Coarse Sand (builders) or perlite **Add a bit of charcoal for pH Note: More arid…the additional of pumice (clay pellet) helps	As much as possible , in certain cases not direct	Once per week	2-3 times per week
Cactus	1 part: Potting Soil (hummus) 1 part: Coarse Sand (builders) or perlite **Add a bit of charcoal for pH Note: More arid…the additional of small gravel will help	As much as possible	Once per month Can supplement with mist every other week	once per week
Extra	Note: Drainage should always be considered, if plants are planted in enclosed pots, add a bit of gravel material at the bottom of pots to allow for water to pool below the soil.	Note: consider repositioning plants to follow seasonal light quality changes	Note: Consider Humidity and Temperatures	

Nutrients

Nutrients are important for colour, flower or fruit production, growth, and root development

Plants need macronutrients, such as:
Nitrogen
Phosphorous
Potassium-calcium
Magnesium
Sulfur

Plants also need micronutrients, such as:
Iron
Boron
Zinc
Copper
Molybdenum
Chlorine
Manganese

Nutrients Continued

Plants require less nutrients in winter as there is less daylight.

N – Nitrogen — Used for plant growth and chlorophyll production

P – Phosphorous — Used for flower and fruit production

K –Potassium — Used for root development

Basic Tools to get started

Soilless media with good drainage

Plant material

Fertilizer

Garden gloves (felted)

Trowel

Containers

What’s wrong with my plant?! – Pests

Aphids

Mealy Bugs

Scale

Spider Mites

White Fly

Pests - Aphids

Small, pear-shaped sap sucking insects that are located on the underside of leaves and stems

Can be green, brown, or black

Spread disease

How to tell if you have Aphids:

- Leaves will appear curled and distorted
- Leaves will produce a honeydew sap which makes them shiny and sticky
- Spotty, yellow discoloration on underside of leaf

How to deal with Aphids:

- Cut back infested area
- Spray with a hose
- Spray with soap and water or alcohol and water

Pests – Mealy Bugs

Small, oval, white, cottony sap sucking insect that appears on stems, leaves, and nodes.

Warm weather insect

How to tell if you have Mealy Bugs:

- Plant has stunted growth
- Yellow foliage
- Plant will appear weak and start to die back

How to deal with Mealy Bugs:

- Clean off with a cloth
- Hose down plant
- Spray with soap and water or alcohol and water

Pests – Scale

Small, oval, brown sap sucking insect with external armor-like shell that appears on stem and leaves

How to tell if you have Scale:

- Yellow foliage
- Stunted growth
- Die back of plant

How to deal with scale:

- Use the same strategy as Mealy Bugs or Aphids

Pests – Spider Mite

Small, sap sucking mites or insects located on the underside of leaf

Loves dry and arid climates

How to tell if you have Spider Mites:

- Speckled, yellow leaves
- Cobwebs
- Plant cannot photosynthesize and dies off

How to address Spider Mites:

- Mist plant
- Keep plant moist

Pests – White Fly

Small, white, gnat-like insect usually found on underside of leaf

How to tell if you have White Fly:

- Pale coloured leaves
- Cloud of white flies

How to address White Fly:

- Control outbreak by misting underside of leaves

Powdery Mildew

White, powdery fungal growth on leaves

Dealing with Powdery Mildew

- Avoid excessive watering
- Remove infected areas
- Increase air flow

Root and Stem Rot, Botrytis or Pythium

Soft brown or black roots

Rotting of stem at soil line

Wilting

Dealing with Root and Stem Rot

- Avoid excessive watering
- Repot
- Use new, sterile soil

Burnt Leaf Tips or Chemical Reaction

Burnt Leaf caused by:

- Too much fertilizer
- Underwatering/Overwatering
- Inconsistent watering
- Low temperatures

Chemical reaction caused by:

- Too much fertilizer
- Metal or decomposing pots

Thinning, Few Flowers or Excessive Growth

Thinning, Few flowers or excessive growth	Caused by poor lighting or too much nitrogen
Yellowing Leaves	Caused by overwatering, poor light, low humidity, poor drainage and/or low temperatures
Leaf Curl	Caused by sap sucking insects or calcium deficiency
Chlorosis	Fading leaf colour or interveinal fading of leaf colour. Caused by nutrient deficiency in nitrogen or iron
Wilting	Caused by insect damage, too much water/not enough water or draft

We LOVE Plants!

They DETOXIFY the Air

- Remove toxins like formaldehyde, Benzene, Ammonia
- Best plants for removing toxins:
  - Ficus
  - Spider plant
  - Boston fern

They REDUCE Stress

- Therapeutic
- Help concentration
- Create mindfulness