

CULTIVATION | CONSUMPTION |
NON-COMMERCIAL PROCESSING



MEET MORINGA

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Presentation Outline

TOPICS FOR TODAY

How to grow Moringa

- About Moringa

- How & Where to grow

- Harvesting

Why eat Moringa.

- Nutrition & Health

- Consumption

- Recipes

Making Global Solutions Local.

- Expanding moringa cultivation & consumption in CA for sustainable social, environmental and economic outcomes



What is *Moringa oleifera* (moringa)?

ORDER: BRASSICALES

FAMILY: MORINGACEAE

COMMON NAMES: DRUMSTICK &
HORSERADISH TREE

PLANT TYPE: TREE, HERB,
VEGETABLE, ROW CROP

MATURE SIZE: 2'-40' TALL

SUN EXPOSURE: FULL SUN TO
PARTIAL SHADE IN HOT ZONES

SOIL: TYPE WELL-DRAINED, SANDY
OR LOAMY SOIL

SOIL PH: NEUTRAL TO SLIGHTLY
ACIDIC

BLOOMS: ALWAYS DEPENDING ON
GROW ENVIRONMENT

HARDINESS ZONE: 9-11 OUTDOORS
AND ON THE PATIO (POTTED) 4-8



Why Grow Moringa



EASY TO CULTIVATE

Moringa is low-maintenance and requires little care. Due to its adaptive cultivation it can be grown indoors and outdoors; in ground, as a row crop, and potted. The growth potentials are invaluable.

SUSTAINABLE

Restoring soil fertility, improving water-retention, erosion-resistance and organic content of soils, Moringa is a means to revitalize people & lands.

WHY MORINGA

It is one of the world's most useful plants. This fast-growing plant can be grown for human consumption, an on site source of nutrition for livestock, medicinal applications, composting, bio plant fertilizers, and water purification. This is one of the world's most beneficial crops.



PLANTING & PROPOGATE

Moringa can easily be grown from seeds. It can also be propagated using cuttings. Propagating with cuttings "ensures" that you will get an exact duplicate of the mother tree. Seeds can be directly sowed but it's best to start indoors to protect the seedling from the environment.





START SEEDS

Soak seeds in water up to 24hrs to speed germination. Fill a container with seed-starting soil mix, if starting indoors, and plant the seeds 1 inch deep. Seeds can be direct sown the same way. This plant prefers to grow in climate between 77-95 degrees Fahrenheit, they can tolerate extreme temperatures as high as 118 degrees, however they should be placed in a shaded area if temps are extreme.

GERMINATION

Germination should occur in 3-14 days. Harden off seedlings before transplanting outdoors.



WATER

Keep young plants and seedlings moist, but not wet. Occasional deep watering is better than frequent, light watering. These plants are drought tolerant when mature and established.



PRUNING

Moringa should be trimmed to encourage branching, increase growth, and simplify harvesting. If left to grow without pruning the main trunk will grow straight and tall producing leaves and pods only on the primary stem.

COOK WHAT
YOU'VE PLANTED





Why Eat It.

MORINGA IS A
NUTRIENT DENSE
SPECIALTY CROP

Almost all parts of the tree are edible or used as ingredients, especially the leaves and pods, in traditional dishes and herbal medicines. However leaves, pods, flowers and roots can be used as food and medicine.



NUTRITIOUS

Moringa is full of vitamins and minerals. The leaves have vitamin C, potassium, calcium, protein, iron, and amino acids. Moringa is low in fats and contains no harmful cholesterol.



POTENTIAL HEALTH BENEFITS

Moringa has many potential benefits
antidiabetic, anticancer, antiulcer, antimicrobial, and antioxidant. Moringa is low in fats and contains no harmful cholesterol. Anti-inflammatory
Blood sugar regulation
Indirect antioxidant
Cognitive health
Digestive health
Neurological and immune health

NUTRIENT CONTENT



Nutrition analysis	Pods (per 100 g)	Fresh leaves (per 100 g)	Dried leaf (per 100 g)
Moisture %	86.9	75	7.5
Calories	26	92	205
Protein (g)	2.5	6.7	27.1
Fat (g)	0.1	1.7	2.30
Carbohydrates (g)	3.7	13.4	38.2
Fiber (g)	4.8	0.9	19.2
Minerals (g)	2	2.3	–
Calcium (mg)	30	440	2003
Magnesium (mg)	24	24	368.0
Phosphorous (mg)	110	70	204.0
Potassium (mg)	24	24	1324
Copper (mg)	3.1	1.1	0.6
Iron (mg)	5.3	0.7	28.2
Oxalic Acid (mg)	10	101	0.0
Sulfur(mg)	137	137	870



LEAVES

Moringa can be consumed in many ways, juice, powder, or whole & raw. Fresh leaves can be cooked like spinach.

FRUIT

When pods are young and tender, the entire pod is edible. At this stage, pods are not fibrous. They are cooked the same as string beans.

SEEDS

Seeds can also be eaten green, roasted, powdered & steeped for tea or used in relishes & curries.

ROOT

The root is used as a spicy seasoning, much like horseradish.

Easy Recipes to Try



CHICKEN & MORINGA
LEAF SOUP

MORINGA HUMMUS

MORINGA GREEN
SMOOTHIE



Chicken and Moringa Leaf Soup with Coconut Milk

INGREDIENTS

- 2 LARGE CHICKEN BREASTS, THINLY SLICED
- 3 TO 4 CUPS FRESH MORINGA LEAVES, STEMS REMOVED
- 1 ONION, THINLY SLICED
- 6 CLOVES GARLIC, MINCED
- 1 TWO-INCH PIECE OF GINGER, PEELED AND FINELY SLICED
- 2 STALKS LEMONGRASS, FINELY SLICED (SUBSTITUTE GRATED ZEST FROM ONE LEMON)
- 2 MAKRUT LIME LEAVES, TORN (SUBSTITUTE WITH 1-2 TEASPOONS GRATED LIME ZEST)
- 2 TO 3 THAI CHILIES OR BIRD'S EYE CHILIES, FINELY CHOPPED
- 2 TABLESPOONS OF COOKING OIL
- 4 CUPS CHICKEN (BONE) BROTH
- 2 CUPS WHOLE COCONUT MILK
- 1-2 TABLESPOONS THAI FISH SAUCE (CAN SUBSTITUTE EQUAL PARTS SOY SAUCE AND RICE VINEGAR; OR SOY SAUCE AND LIME JUICE)

DIRECTIONS

1. HEAT THE COOKING OIL IN A POT. SAUTÉ THE GARLIC, GINGER, ONION, CHILIS, AND LEMONGRASS UNTIL FRAGRANT.
2. ADD THE CHICKEN STRIPS AND COOK UNTIL NO LONGER PINK.
3. ADD THE KAFFIR LIME LEAVES. STIR AND COOK FOR A COUPLE OF MINUTES.
4. POUR IN THE BROTH. SEASON WITH FISH SAUCE. BRING TO THE BOIL, LOWER THE HEAT, COVER AND SIMMER FOR 15 MINUTES OR UNTIL THE CHICKEN IS COOKED THROUGH.
5. POUR IN THE COCONUT MILK AND ADD THE MORINGA LEAVES, PRESSING THEM DOWN INTO THE LIQUID.
6. BRING TO A BOIL, AND THEN SIMMER FOR TWO MINUTES BEFORE TURNING OFF THE HEAT. AVOID OVERCOOKING MORINGA LEAVES TO REDUCE BITTER FLAVOR.
7. ADJUST SEASONING TO TASTE AND SERVE IMMEDIATELY.



MORINGA ENERGY BITES (VEGAN)

INGREDIENTS

- 1 cup oats
- 1/2 cup shredded coconut
- 2 tbsp cup agave nectar
- 2/3 cup heated almond butter
- 1 tbsp chia seed
- 1 tbsp Kuli Kuli Pure Moringa Vegetable Powder
- 1 tsp vanilla
- 1/2 tsp ground cinnamon
- 1 tbsp melted coconut oil

DIRECTIONS

1. In a large bowl, mix together the heated nut butter and coconut oil until smooth. Add agave nectar, vanilla, cinnamon, coconut, chia seeds, moringa, and oats and mix until well combined.
2. Place dough in the fridge for 10 minutes
3. Wet hands slightly and form dough tightly into 1" balls
4. Garnish each energy bite by pressing one almond in the center (optional)
5. Store in an airtight container in refrigerator or freezer until ready to enjoy.

MORINGA HUMMUS (VEGAN)

INGREDIENTS

- 14 oz can of chickpeas
- 1 clove of garlic
- 2 tbsp lemon juice
- 2 tbsp olive oil
- 1/4 tbsp Kuli Kuli Organic Pure Moringa Powder
- 1/4 tsp cumin

DIRECTIONS

Combine all ingredients in a blender or food processor and blend until smooth.

Option: You can also buy your favorite store-bought hummus and spice it up with 1/4 tbsp of moringa.

MORINGA POPCORN

(VEGAN)

INGREDIENTS

1/4 cup popcorn kernels
4 tablespoons olive oil

Seasoning:

1 tsp Kuli Kuli Organic Pure Moringa Powder
1 tsp garlic powder
1 tsp paprika
1/2 tsp salt
1 tbsp nutritional yeast

DIRECTIONS

1. Heat 2 tablespoons of olive oil in a pot on medium heat.
2. Add corn kernels, cover with a lid, and allow all kernels to pop.
3. While the popcorn is popping, combine moringa and spices in a small bowl and set aside.
4. Once the popcorn is ready, drizzle remaining olive oil and sprinkle with moringa and spices seasoning to your liking.

Option: You can also buy your favorite store-bought sea salt popcorn and spice it up by adding the moringa seasoning mixture

TROPICAL GREEN SMOOTHIE (V)

INGREDIENTS

1 tbsp of Kuli Kuli Organic Pure
Moringa Powder
1/2 cup diced frozen papaya
1/2 cup diced frozen mango
1/2 frozen banana
1 cup coconut water

DIRECTIONS

Place all ingredients in a blender,
and blend until smooth.

Makes a single 16 oz smoothie

MORINGA GREEN SMOOTHIE



GINGER BERRY BREEZE

INGREDIENTS

- 1 tbsp of Kuli Kuli Organic Pure Moringa Powder
- 1/2 cup berry blend (raspberries, blackberries, blueberries)
- 1/2 cup pineapple
- 1/2 cup vanilla yogurt
- 1 tsp of crushed fresh ginger
- 1 cup coconut water

DIRECTIONS

Place all ingredients in a blender, and blend until smooth. Garnish with fresh berries (optional).

Makes a single 16 oz smoothie

#MORINGAINSPIRED GREEN SMOOTHIE (V)

INGREDIENTS

- 1 tbsp of Kuli Kuli Organic Pure Moringa Powder
- 1/2 frozen banana
- 1/2 cup frozen pineapple (crushed or cubed)
- 1/2 avocado (pitted & peeled)
- 1 cup almond milk
- 1 tbsp agave syrup

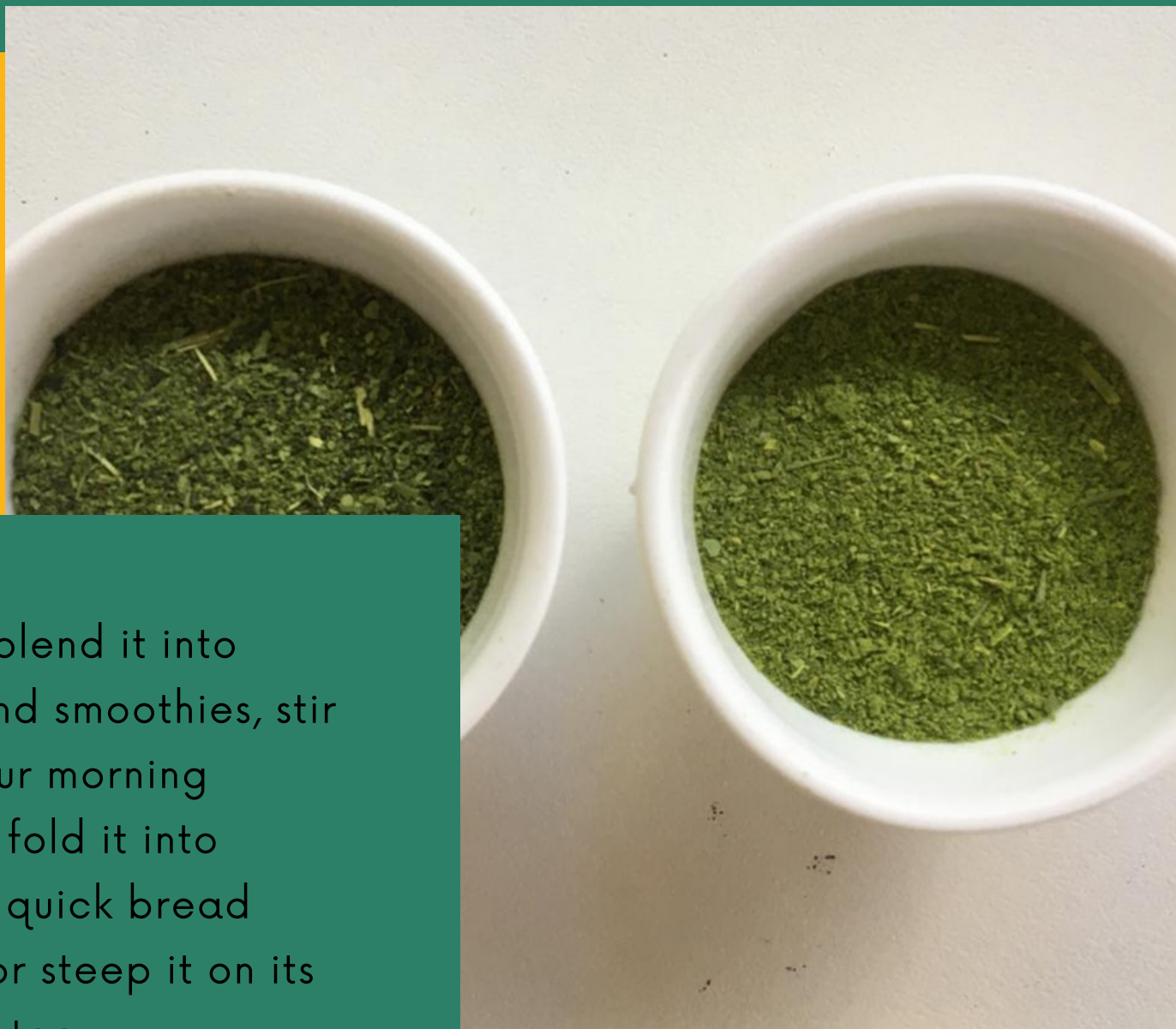
DIRECTIONS

Place all ingredients in a blender, and blend until smooth. Serve over ice and garnish with pineapple (optional).

Makes a single 16 oz smoothie



You can blend it into shakes and smoothies, stir it into your morning oatmeal, fold it into muffin or quick bread batters, or steep it on its own as a tea.





MORINGA PROCESSING

**MORINGA IS BEST USED
FRESH.**

CHOPPED LEAVES

Moringa leaves can be chopped as you would with any other leafy green.

POWDERED LEAVES

For Moringa powder leaves can be processed in two steps (1) drying and (2) grinding.



MAKING GLOBAL SOLUTIONS LOCAL

Expanding moringa cultivation & consumption in CA for sustainable social, environmental and economic outcomes.

