

Scotts Miracle-Gro  
**150**  
YEARS  
AND GROWING

Gro More Good Hydro for  
Hunger Program Overview  
2020-2021



# No Kid Hungry and ScottsMiracle-Gro



Partnership goals: Up to 4.5 million nutritious meals over the next 3 years and indoor gardening in 20 schools per year

Enterprise-wide goal: 10 million kids connected to benefits of gardens and greenspaces over the next 5 years



# Hydro for Hunger grant program

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Applications open: February 11, 2020

Applications close: March 31, 2020

Timeline for use: 2020-2021 school year

Eligible organizations: NKH partner schools with feeding programs in WA, LA, NY

To apply:

<https://www.surveygizmo.com/s3/4857424/Gro-More-Good-Hydro-for-Hunger-grant-application>



# Hydro for Hunger grant program

2020-21 awarded schools will receive

- 2 Miracle-Gro® Twelve™ growing units
- Starter kit which includes
  - instruction guide
  - accessory storage bag
  - seed starting kit
  - transplanting kit
  - 2 Packets of Miracle-Gro® Twelve™ Plant Nutrition
- 1 stacking kit
- Additional plant nutrition and seed starting kits to cover the first year of use



# FAQs

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Q: My school is not in one of the three states mentioned. How can I get a grant?

A: We feature several other grant programs at [GroMoreGood.com](http://GroMoreGood.com) for which your school may qualify. Check back throughout the year, as new opportunities post when they come available.

Q: I've never used a hydroponic growing system before. Do I need experience?

A: The units being donated are designed to be very easy for anyone to use. ScottsMiracle-Gro also provides technical support and check-in calls to grantees throughout the school year.

Q: Can private or nontraditional schools apply for this grant?

A: Yes! We have awarded grants to charter, alternative and youth correctional schools in the past. As long as you are a No Kid Hungry school serving K-12 students in the listed states, you are eligible to apply.

More questions? Contact us at [smgfoundation@scotts.com](mailto:smgfoundation@scotts.com)





A photograph of several rows of young green lettuce plants growing in white hydroponic containers. The plants are vibrant green and appear to be in the early stages of growth. The containers are arranged in a neat, parallel fashion, creating a sense of depth. A large, semi-transparent white circle is overlaid in the center of the image, containing the text "Hydro 101".

# Hydro 101

# A Growing Category: A Younger Consumer

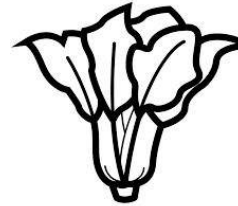
## Growth



Interest in growing indoors has **increased 60%** among millennial consumers.

Source: 2018 Indoor Omnibus Survey

## Plants



**9 in 10** consumers have interest in growing edible plants indoors

Source: 2018 Indoor Omnibus Survey

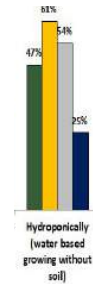
## How consumers want to grow indoors:

There is also interest in other **(less traditional)** methods of growing plants indoor - **especially among younger consumers**

Appealing for Millennial (and centennials)

**61%**

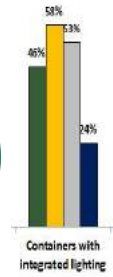
of millennials interested in Hydroponics



■ Total HH's ■ Millennials ■ Gen Xers ■ Boomers

**58%**

of millennials interested in Integrated lighting



Internal Research, Omnibus 2018



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# Barriers to Growing Indoors

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"Never sure how much to **water** my plants."

"Not sure if my plants are getting **enough light**."

"I don't know why my **plants fail**."

*Top Three Frustrations to Growing Indoors for Total US*  
*Source: Urban Gardening A&U Report*

Growing Indoors

"Not sure where to start or what I need."

"It's overwhelming."

Hydroponics





# What is Hydroponics?

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An alternative, high-performance method of growing resulting in faster growth, more yield, and less water use compared to traditional gardening. It can be used to grow nearly any plant, and is the fastest growing category in gardening.

## Soil-less growing

Hydro means growing plants without soil in water or soilless growing media like potting mix or coco coir.

## Not Just Water-Based

Traditional water-based hydroponics is less forgiving than growing in media. As a result, a hydroponic “super-mix” market has emerged to provide a more forgiving buffer. These growing media are free of any actual mineral soil (backyard dirt), and focus on drainage.

## High Performance Gardening

Nutrients are rapidly delivered directly to the plant’s roots which results in faster growth and more yield.

# Benefits of Growing Hydroponically

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Hydroponics allows you to grow crops **fuller** and **faster** than traditional gardening.

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One hydroponic grow can produce more than **10x** the yield of traditional soil-based gardening.

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Hydroponic growing is **year-round**, doubling the growing season.



# Redefining the Category with Miracle-Gro Twelve

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**Our Vision:** Provide consumers with a platform of frictionless solutions to help them succeed in growing indoors year 'round.

Home Decor



Food



Health & Wellness



# Introducing the Miracle-Gro Twelve Indoor Growing Systems

Quality, Aesthetic, Simplicity



Indoor Growing System

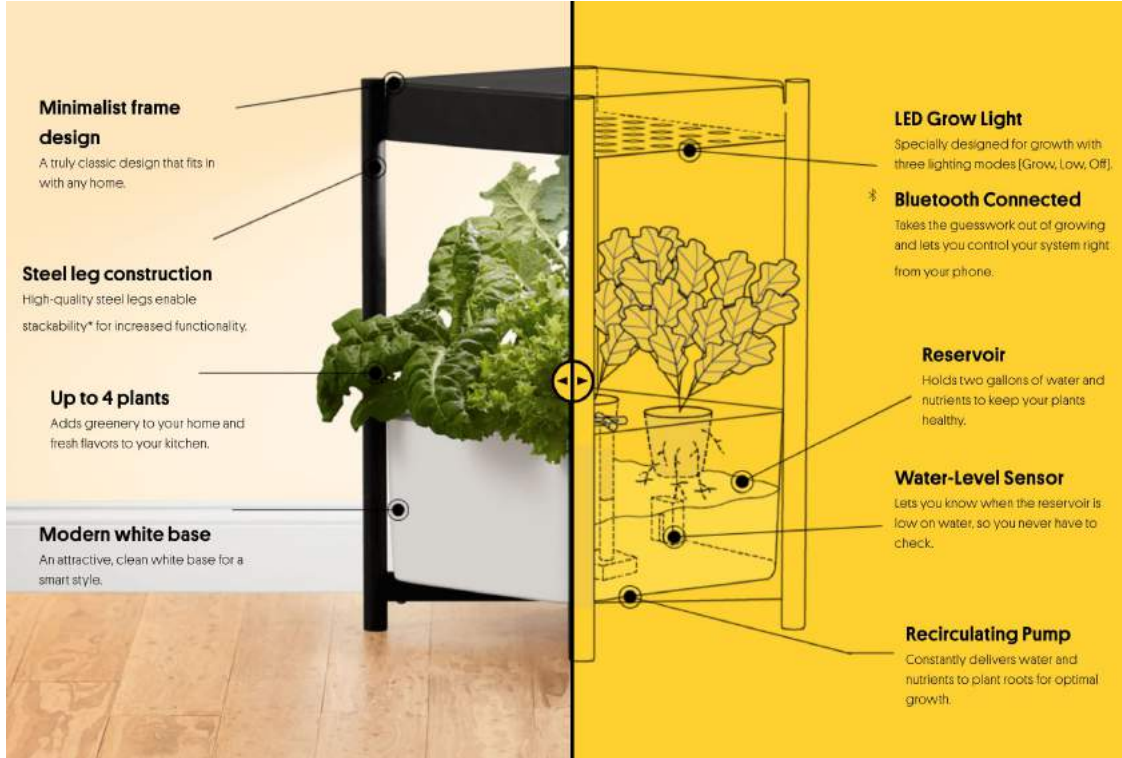


Sola Edition



**Fresh is Always Within Reach**

# Taking the Guesswork Out of Growing



All-in-One nutrient with pH balancer



Start from Seed or Bonnie transplant



Subscription replenishment of plants

Connected - Bluetooth Enabled (App supported)







# Smoothie

by  Twelve

A background image showing rows of young green lettuce plants growing in white hydroponic containers. The plants are vibrant green and appear to be in a well-lit, indoor growing environment. The containers are arranged in a grid pattern, and the focus is sharp on the plants in the foreground, with a slight blur on the ones in the background.

# The Science Behind Year-Round Hydroponics

# The science behind hydroponic growing - Lighting

## Photosynthetically Active Radiation (PAR)

- Portion of the light spectrum that plants utilize for photosynthetic processes
- 400-700 nm wavelengths

## Photosynthetic Photon Flux Density (PPFD)

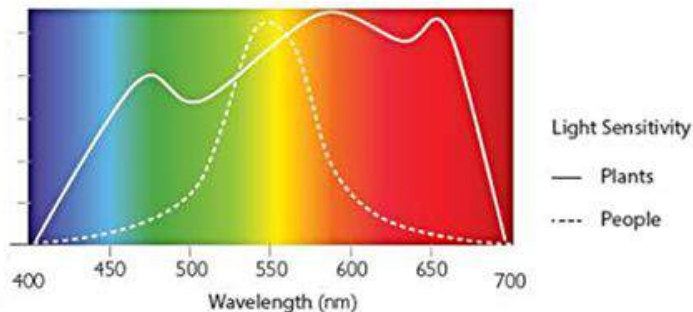
- Number of photosynthetically active photons that reach a surface per second
- $\mu\text{mol}/\text{m}^2/\text{sec}$

## Daily Light Integral (DLI)

- Cumulative number of total photosynthetic photons that reach a surface daily
- $\text{mol}/\text{m}^2/\text{day}$



- DLI is how much plant usable light is being delivered to a crop
- Some plants require higher light inputs than others



# The science behind hydroponic growing - Lighting

Plant Light Requirement	Plant Examples	Professional DLI (mols/m <sup>2</sup> /day)	Consumer DLI* (mols/m <sup>2</sup> /day)
High	Tomatoes and Cucumbers	22-30	15-20
Low	Herbs and Leafy Greens	12-14	6-8

\*Consumer DLI target estimates per University of Florida





# The science behind hydroponic growing - Lighting



## Miracle-Gro Twelve Lighting Facts

- LED panel delivers light spectra (PAR) necessary for photosynthesis by combining red and blue spectra
- Fixed 16" high panel delivers spectrum/intensity for leafy greens and herbs
  - PPF:  $\sim 180 \mu\text{mol/s/m}^2$  at 16" distance
  - Intensity increases as plants grow taller
- Day length set to 14-hours
  - Day positive (> 12 hours)
  - 1 hr 'ambient' or 'off mode'

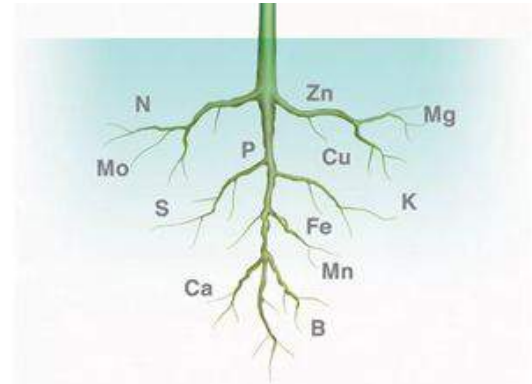
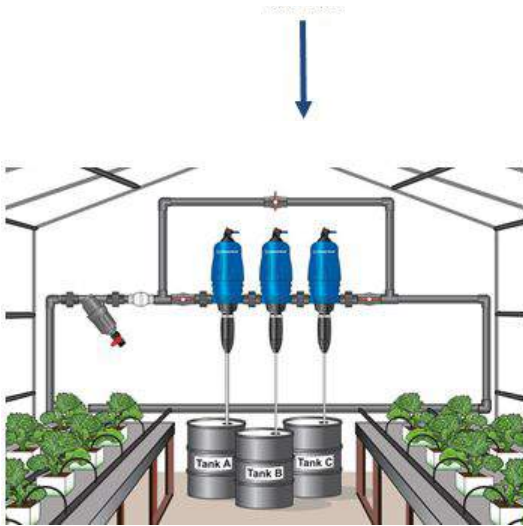




# The science behind hydroponic growing - Plant Nutrition

## Background

- Hydroponic Growing - Nutrient solution has to provide ALL plant essential nutrients
  - Compatibility Limitations
    - Calcium + Phosphate = Calcium Phosphate
    - Calcium + Sulfate = Gypsum



**Macro Elements**  
N - Nitrogen  
P - Phosphorous  
K - Potassium

**Secondary Elements**  
Ca - Calcium  
Mg - Magnesium  
S - Sulphur

**Micro Elements**  
Fe - Iron  
B - Boron  
Zn - Zinc  
Cu - Copper  
Mn - Manganese  
Mo - Molybdenum

- Typically, Hydroponic Growing & Pro Greenhouses use 2+ Concentrated Stock Tanks
  - Compatibility Limitations
    - Tank A - Monoammonium Phosphate
    - Tank B - Calcium Nitrate & Potassium Nitrate
    - Tank C - Magnesium Sulfate



# The science behind hydroponic growing - Plant Nutrition



Nutrient	Diluted at 1 tsp/gal
Total N	143.8
N-NO3	131.1
N-NH4	12.7
P2O5	116.3
K2O	238.2
P	51.5
K	196.9
S	51.9
Ca	103.1
Mg	39.4
Cl	0.0
Fe	1.8
Mn	0.7
Zn	0.2
B	0.3
Cu	0.2
Mo	0.048
Co	0.0
Na	1.9
Si	0.0

## Miracle-Gro Twelve Plant Food Facts

- Fertilizer form is a dry water-soluble powder
- Contains essential plants nutrients
  - Nutrients may not be claimed on label due to being below registration limits
- Highly soluble to ensure nutrients are readily available
- Concentration of each nutrient within acceptable range for plant growth
- Feeding monthly will sustain growth (1 packet / 2 gallon reservoir)

# The science behind hydroponic growing - Water

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## Miracle-Gro Twelve Water Reservoir Facts

- Built-in pump continuously circulates water and nutrients over plant roots
- Circulating water ensures oxygen is maintained in the water
  - Roots respire
  - Helps prevent water from becoming stagnant
- Use tap or filtered water
- Clean out reservoir between uses
- Keep cover plates while in use to prevent growth in water (light + water + nutrients = growth)



# The science behind hydroponic growing - Plants



## Miracle-Gro Twelve Plant Facts

- Growth rate tends to be quicker due to ideal growing environment (light, water, nutrients)
- Start from seed or transplant
- For seeds, add fertilizer once first leaves emerge

### Seed Starter



### Starting from seed

- Use preformed spongy “plug”
- Preformed hold to place seeds
- Net cup used to hold plug

### Transplant Starter



### Starting from transplant

- Transplant into coco coir liner to prevent soil from entering reservoir







**THANK YOU!**

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