

# Beginner Gardening

*For All Ages*

*A Four Part Series – PART 2*

*By Skip Hein*

Growing with Rochester since 1929

[www.rgfc.org](http://www.rgfc.org)



Rochester Garden &  
Flower Club



# My Background

North Dakota State & University of Minnesota  
Degree in Agricultural Education

Minors: Soils, Agronomy, Animal Science  
& Ag Economics

Licensed - CCA Agronomist  
Horticulture, Greenhouse, Landscaping

Brainerd Vocational College  
Horticulture classes

RGFC & MSHS member over 9 years



# Goals

- Basic Soil Science Review
- Discuss Compost & Soil Amendments
- Discuss Soil Organic Matter (OM) & PH
- Discuss Basic Weed & Pest Control
- Make Gardening Easy, Productive & Relaxing

Like This.....





# SOIL – It Ain't Just DIRT

- Soil Type
  - Sand, Silt, Clay, Peat, Loam
- Organic Matter
  - % (4 - ?) (Sand to Peat)
- Water
- Air



# What Determines Soil Type?

## Relationship of Sand, Silt, Clay, Organic Matter

- Sandy Loam = Sand w/ Silt & Clay
- Silty Clay Loam = mostly Silt & Clay
- Clay Loam = mostly Clay w/ Silt & Sand

Determines Nutrient Holding Capacity!



# Role of Organic Matter in Soil

## Provides For:

Texture / Aeration

Capacity to Hold Water

Nutrients for Plant Growth

Drainage for Excess Water





# Compost – as Organic Matter

What is it?

Decomposed Plant Matter

Types:

Mature Compost

Immature Compost



# First Step In Site Preparation

- Outline and Clear Site
- Use 1 gallon Pressure Sprayer
- Follow the label
- Use PPE
  - Personal Protective Equipment





# Amending your Soil

- Raised/Container =  $\frac{1}{3}$  compost +  $\frac{2}{3}$  soil
  - or Soilless Material
- Traditional Gardens = See Above
  - Till 6 – 9 inches deep
- Fertilizer
  - Supplement in Spring
  - Regular = full balanced 10 – 10 – 10
  - Raised/Square = fall or spring 10 – 10 – 10



# Soiless Mix

Homemade / Purchased

- Peat Moss, Perlite or Vermiculite, Sand
- Great for Raised/Square/Containers
- Benefits:
  - Improved Drainage
  - Disease Free
  - Lightweight
  - More Control
  - Can be Reused



BIGSTOCK





# GENERAL PURPOSE FERTILIZER

*Apply to your gardens  
flowers, shrubs, and trees.*

APPLY ANYTIME in SPRING, SUMMER or FALL

FOR USE ON YOUR FLOWER AND  
VEGETABLE GARDENS, SHRUBS,  
AND TREES AS A GENERAL,  
ALL-PURPOSE FERTILIZER

10

10

10



MADE IN USA



**KEEP OUT OF REACH OF CHILDREN**

**WARNING** SEE BACK PANEL FOR FIRST AID AND  
ADDITIONAL PRECAUTIONARY STATEMENTS

Read label before use

NET WT 25 LBS (11.33 KG)



GENERAL PURPOSE FERTILIZER  
NET WT 25 LBS (11.33 KG)

10



# What Do Fertilizer #'s Mean?

- % of Nutrient Present
- Example: 10-10-10 = %N-%P-%K
  - Nitrogen
    - Ammonia based, slower release
    - Nitrate (Urea) – Faster release

“Promotes Growth and Green Color”

# Organic Nitrogen

- Promotes Root & Flower Growth
- Enriched with Iron
- Great for;
  - Bulbs
  - Flowers
  - Vegetables
  - Trees
  - Shrubs





# Example of Non Organic





# Read Ingredient Label

**29-0-4**

**GUARANTEED ANALYSIS**

<b>TOTAL NITROGEN (N)</b> .....	29.0%
29.0% Urea Nitrogen*	
<b>SOLUBLE POTASH (K<sub>2</sub>O)</b> .....	4.0%
<b>SULFUR (S)</b> .....	1.4%
1.4% Free Sulfur	
<b>IRON (Fe)</b> .....	1.0%
0.01% Water Soluble Iron	
<b>DERIVED FROM:</b> Urea, Polymer Sulfur-Coated Urea, Muriate of Potash, Iron Sulfate	
<b>CHLORINE (Cl) Max</b> .....	3.0%
*9.1% Slowly Available Nitrogen from Polymer Sulfur-Coated Urea	

**F1612**

**GENERAL DIRECTIONS FOR USE**

This Superior® Professional Lawn Fertilizer + Iron is a professional quality turf chemistry, turf type, and intended use of the turf area. The best results with this product will be achieved if applied to the turf soon after application. Avoid mowing immediately following application to achieve uniform distribution. The use of a drop spreader is not recommended. Consult your turf manager to achieve application rates desired. You may need to adjust the setting depending on turf type and application method.

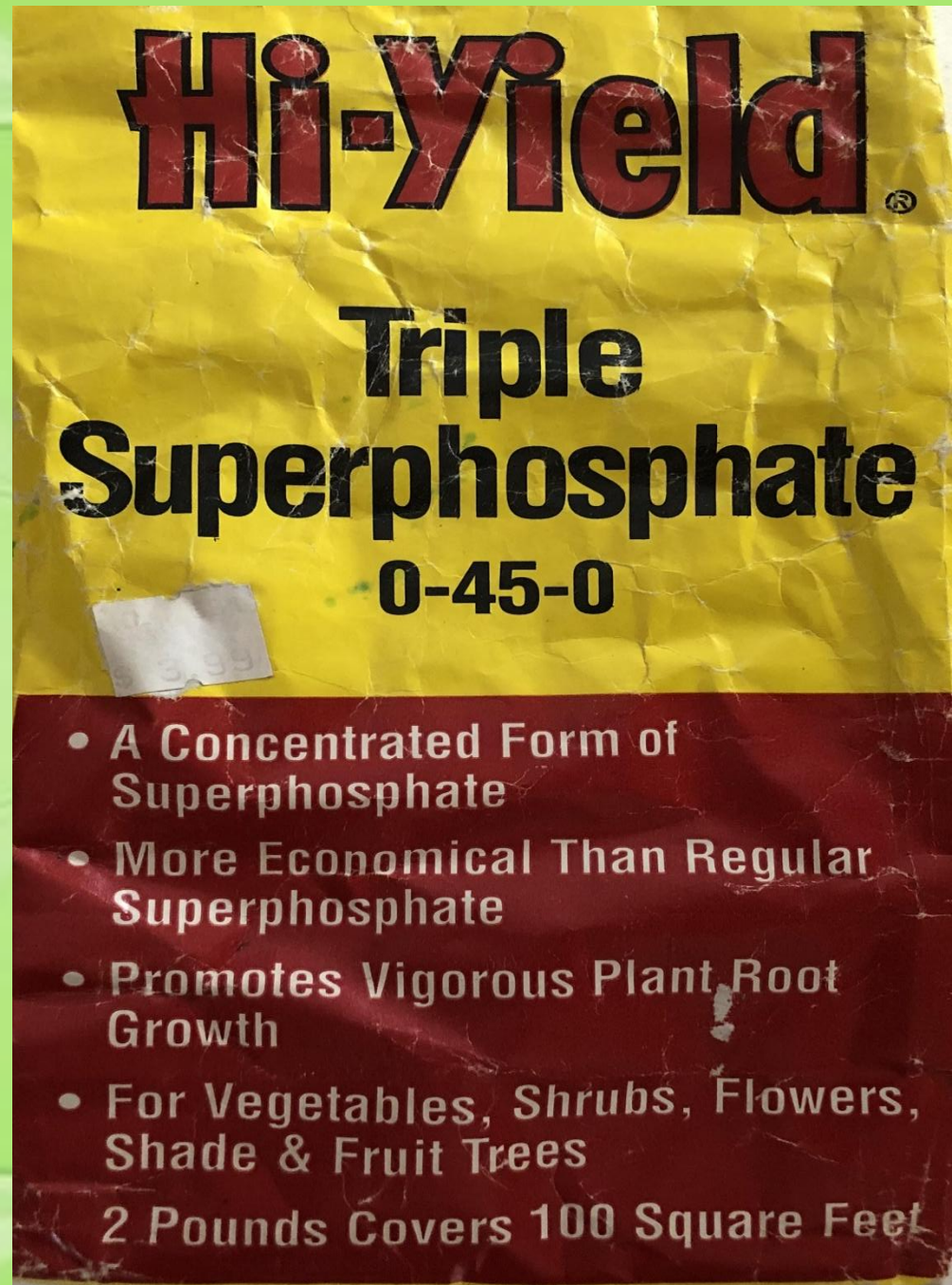
**DO NOT** apply near water, storm drains, or drainage ditches. **DO NOT** apply if heavy rain is forecast within 24 hours. **DO NOT** apply to flower beds, sidewalks, streets, or other non-turf areas. **DO NOT** apply to lawns in the driveway, sidewalk, or street back onto your lawn. **DO NOT** apply to flower beds, sidewalks, streets, or other non-turf areas.

This product may stain driveways, walkways, streets, porches, and other non-turf areas.

# Phosphate

Development of

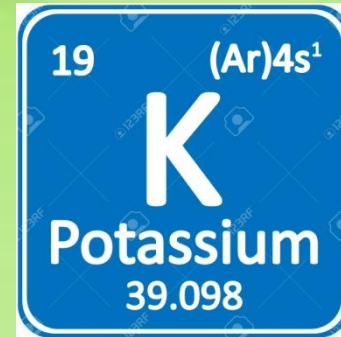
- Seeds
- Roots
- Fruits
- Flowers





# Potassium

- **Promotes**
  - **Healthy Stems**
  - **Healthy Leaves**
  - **Disease Resistance**





# Aluminum Sulfate

- Soil Acidifier – 3 #/100sf
- Reduces soil PH 1 point  
– 7 being neutral
- Helps Release Micro  
Nutrients
- Mainly used in Clay Soils





# Water Soluble Fertilizer





# Read Label

## Miracle-Gro® Water Soluble All Purpose Plant Food 24-8-16

### GUARANTEED ANALYSIS

F 1198

Total Nitrogen (N) .....	24%
3.5% Ammoniacal Nitrogen	
20.5% Urea Nitrogen	
Available Phosphate ( $P_2O_5$ ) .....	8%
Soluble Potash ( $K_2O$ ) .....	16%
Boron (B) .....	0.02%
Copper (Cu) .....	0.07%
0.07% Water Soluble Copper (Cu)	
Iron (Fe) .....	0.15%
0.15% Chelated Iron (Fe)	
Manganese (Mn) .....	0.05%
0.05% Chelated Manganese (Mn)	
Molybdenum (Mo) .....	0.0005%
Zinc (Zn) .....	0.06%
0.06% Water Soluble Zinc (Zn)	

Derived from Ammonium Sulfate, Potassium Phosphate, Potassium Chloride, Urea, Urea Phosphate, Boric Acid, Copper Sulfate, Iron EDTA, Manganese EDTA, Sodium Molybdate, and Zinc Sulfate.

Information regarding the contents and levels of metals in this product is available on the Internet at  
<http://www.regulatory-info-sc.com>



# SOIL TESTING

- Kits @ County Extension
- Full Test
  - includes OM & PH
- Request:
  - Recommendations for:
    - Vegetables
    - Flowers



# Types of Garden Tools





# Weed & Pest Control





# Hope Your Gardens Look Like This!



# Beginner Gardening – Series 2

Soils, Fertilizers, Amendments Resource:

Ellis “Skip” Hein: [sphein1120@gmail.com](mailto:sphein1120@gmail.com)

Handouts:

- \* **Soil Preparation – Building the Soil**
- \* **Soiless Soil Mix & Potting Soil Recipe**
- \* **How to Make Compost**
- \* **Acidity Test**

Go to [www.rgfc.org](http://www.rgfc.org) and download or print off





# Gardening for all Ages

## Series Schedule



### Series 3: Plant Selection and Care

By Pamela Hein

*Monday, March 15th at 6:30 pm*

### Series 4: Preserving Your Harvest

By Pamela Hein

*Monday, April 12<sup>th</sup> at 6:30 pm*

**Invite a Friend to Signup! [rgfc@rgfc.org](mailto:rgfc@rgfc.org)**



# My Wish For all Young and Mature Gardeners.....

May the sun  
always shine on your face,  
May the wind always be at your back,  
And May the Good Lord Hold  
You in the Palm of His Hands!

