



# Winter Apple Tree Care Starts in the Spring

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# Eight Important things to do to help get your Apple trees through the Winter

- Fertilizing your tree
- Fruit Spurs
- Cell Division ( Manage Crop Load)
- Thinning
- Fall Maintenance
- Sun Scald
- Ground Moisture
- Root Stock Injury

# Fertilizing your Apple Trees

- Your tree requires the correct nutrition to survive a North Central MN Winter.
- Have your soil analyzed to make sure you have the correct nutrients to support growing Apples
- At a minimum apply 9-23-18 Granular Fertilizer in April around the drip line of the tree

# Fertilizing your Apple Trees

- Never Apply any Fertilizer after July 1<sup>st</sup>
- The Tree needs to begin the Deactclamation process ( Start Hardening Off )

# Fruit Spurs Silver Tip



# Fruit Spurs

- Start monitoring your Fruit Spurs in March and April as they become more visible.
- Fruit Spurs will only be on 2-4 year old wood
- Your Fruit Spurs for next spring are being determined this spring
- If tree has many Fruit Spurs you should be more aggressive pruning in March and April.

# Fruit Spurs Green Tip



# Full Bloom





# Cell Division Fruit

- What is Cell Division Fruit? A Physiological Process when the tree is analyzing how much fruit is on the tree. Based on how much Fruit is on the tree will determine
  - Fruit Size
  - Next Years Crop Load
  - How Hardy the tree will go into winter

# Cell Division Fruit

- Did you realize that your tree is deciding in the spring 20-30 days after petal fall how many apples it will have next year?

# Cell Division Fruit

- If you over crop your tree you will have the following:
- Small Fruit that has poor quality
- Little if any energy will be put into developing fruit spurs for the next season
- The tree will go into winter as a stressed tree because all of its energy went into making all the small poor quality fruit!

# Thinning

- What do you need to do?
- Manage How many Fruit spurs are on your tree, each spur will have 6 flowers one king and 5 subordinates. 20-30 days after petal fall the tree is deciding how many apples are on the tree. If you had great pollination you will need to thin your tree. Thin your tree in spring when the fruit is no larger than 15mm to 1 king fruit per fist for best quality fruit and you will have balanced your trees annual production and the tree will not go into the winter stressed.

# Fruitlet 10 mm



# Fruitlets 15 mm



# Thinning

- If you wait until the fruitlet is 20-25 mm the Physiological Process (Cell Division) has processed.
- You missed your window of opportunity!

# Cell Bulking Fruit

- Cell Bulking..... now that you have thinned your tree correctly the apple will start to get larger this is cell bulking.



# Apical Bud

- Apical Bud will set in August ..... now is the time to train new growth in September

# Fall Maintenance

- Pick up any fallen apples under the tree
- Mowing the grass short in the fall around your tree is very important to keep the meadow voles away from your trees.
- Install Hardware Cloth or tree guards
- Meadow Voles/ Rabbits love the bark of a young apple tree. They will find your tree and they will girdle the trunk if not protected

# Fall Maintenance

- Deer
- Install fence around the tree or the deer will eat apical buds on the end of each branch this will be a pruning nightmare if not managed



# Sun Scald

- Sun will heat up the trunk of a young tree in March and April. Nutrition will move from the rootstock to the tree during the day and at night when the temperature drops below freezing the cells will rupture
- What should you do?
  - Paint 50% latex and 50% water up to the first or 2<sup>nd</sup> scaffold branch
  - Install White tree protectors

# Sun Scald Protection



# Ground Moisture

- Watering your tree
- More trees drown from over watering
- Test your soil for ground moisture.... You should make sure your trees goes into the winter moist to wet not dry.

# Rootstock Injury

- Never put winter protection mulch around tree prior to the ground freezing this will encourage the meadow voles to make a home at the base of your tree. Wait until the ground is froze then apply mulch if we don't have at least 3-4" of snow.



# Rootstock Injury

- Protecting the root system from the cold temperatures
- Did you realize that if the roots get to 15 degrees or less you will have rootstock injury. The majority of the feeder roots are in the top 12" of soil.
- You need to attempt to keep the ground temp above 20 degrees.

# Meadow Vole Control

