Role of nutrients by apple growth stage

Bud Burst - Start of Flowering

- **Nitrogen, Potassium and Magnesium** – promote strong early growth of new plant tissues and maximum tree productivity
- **Phosphorus** – maximize root development and flower cluster formation
- **Calcium** – boost root and leaf growth and high yields
- **Boron** – maximize pollination and strong flower development
- **Manganese** – to maximize tissue growth
- **Zinc** – to optimize bud burst and early leaf development

Fruit Set - Fruitlet

- **Nitrogen** – in reduced amounts to maintain fruit fill
- **Potassium** – minimize fruit disorders
- **Phosphorus** – fruit set and development
- **Calcium** – maintain good fruit quality and minimize fruit disorders
- **Magnesium** – for reduced fruit drop
- **Boron** – improve fruit set

Fruit Fill - Maturity

- **Nitrogen** – in reduced amounts to maintain fruit fill and high sugars (excess can lead to rots and quality deterioration)

- **Potassium** – maximize fruit weight, TSS levels in the fruit and minimize disorders and sunscald (but at levels that don't compete with calcium)
- **Calcium** – maintain good fruit firmness and storage quality
- **Manganese** – alongside Phosphorus will promote fruit coloration

Post Harvest

- **Nitrogen and Potassium** – boost reserves for next season's early growth
- **Phosphorus** – maximize bud development and early rooting and new tissue growth in the following spring
- **Calcium** – maintain high levels in the tree
- **Magnesium, Boron, and Zinc** – replenish reserves and strengthen new buds