GROW
NEXT GEN

Plant Inhibition Simulation
Student Reference Sheet

Lipid Synthesis Inhibitor

- Lipids are the building blocks of cell membranes
- Lipid synthesis occurs primarily at the root and shoot meristems
- Lipid synthesis inhibitors prevent the development of new lipids for membrane repair, replenishment, and growth
- New lipids are required for new cell division

Amino Acid Synthesis Inhibitor

- Amino acids are the building blocks of proteins
- The amino acid chain is referred to as the primary structure of a protein
- Amino acid synthesis inhibitors prevent the development of new amino acids
- New protein production is prevented by the lack of available amino acids

Cell Membrane Disruptors

- Cell membranes in plants are dependent on proper functioning of the Electron Transport Chain (ETC) in the photosynthesis process
- Cell Membrane Disruptors convert the byproduct H2O2 into OH-
- Cell Membrane Disruptors overload cellular processes and cause an over-bonding of OH- which causes breakdown of areas on the cell membrane and leakage of cellular contents

Seedling Growth Root Inhibitors

- Seedling Growth in the roots is highly dependent on rapid cell division in the root meristem
- Seedling Growth Root Inhibitors prevent cellular division in meristem regions of target plants by preventing microtubule formation
- Root elongation and lateral root formation is prevented by this process

Seedling Shoot Inhibitors

- Seedling Shoot Growth is dependent on the rapid cell division in the apical meristem of the growing stem
- The apical meristem is responsible for elongation of the stem
- Specific site of action is unknown
- Seedling Shoot Inhibitors prevent the elongation and further growth of the seedling shoot