

Powered by S.M.A.R.T.[™]



S.M.A.R.T. (Stress Metabolic Abiotic Relief Technology) from Miller Chemical, is a novel calcium based input chemistry involved in controlling the transport mechanism of calcium and other nutrients into and out of cells, as well as the transport of photosynthetic products from leaves to storage tissues such as fruits, or to synthetic sites, such as those involved in the production of amino acids, proteins or other carbohydrates necessary for cell function. **S.M.A.R.T.** technology reduces the impact of plant environmental stress which is a major contributor to cell membrane leakage and cell wall structure. We use the term “plant stress” in a general sense since there are a multitude of causative agents of stress but they all induce similar negative effects in the plant. At a cellular level plant stress induces the production of reactive oxidative substances (ROS), that if not reduced or controlled, leads to cell death. This is often expressed as loss of flowers, reduction in chlorophyll development, poor fruit set, fruit drop and a reduction in fruit quality.

S.M.A.R.T. is combined with various calcium sources, to create the products **CELL FORCE** and **CELL FORCE MAX**, liquid foliar calcium products combined with boron, designed to improve plant available calcium for the fortification of the cell wall and neutralization of ROS.

CELL FORCE Formulations May Produce the Following Benefits:

1. **CELL FORCE** is beneficial during environmental stress conditions where conventional calcium fertilizers are difficult for the plant to absorb and transport calcium.
2. **CELL FORCE** can increase “fruit set” - optimizing cellular calcium and boron through flower initiation strengthens fruit set and production.
3. **CELL FORCE** lifts “brix potential” - environmental stress has an effect on many soluble cations. Regular use of **CELL FORCE** increases cation nutrients such as potassium, magnesium and boron which help to build sugars in fruits and vegetables.
4. **CELL FORCE** can increase “plant solids” - optimum calcium utilization produces more cells which develop leaves, stems, flowers and fruit with dense dry matter and plant tissue.
5. **CELL FORCE** reduces “calcium disorders” – using **CELL FORCE** during periods where the plants demand for calcium is highest will lift calcium levels enough in cells to reduce disorders such as blossom end rot, internal browning, bitter pit and hollow heart.
6. **CELL FORCE** improves “shelf life” – healthy cells resist breakdown prior to and after harvest. This cellular resilience reduces cell oxidation which slows necrosis and decay.

S.M.A.R.T. is an advancement of Miller Chemical's expertise in plant metabolism and stress tolerance currently available in Express Technology based products (Nutrient Express[®], Sugar Express[®], Greenstim[®], Millerplex[®], etc...)