SweTree Technologies

Innovators in Forest Biotechnology

Arginine Fertilizer

The most important nutrient for plants is nitrogen. In the form of inorganic ammonium nitrate it constitutes the largest component in most commercial fertilizers. Several lines of evidence suggest that organic sources, the foremost being amino acids, may constitute potential sources of nitrogen. Based on our patents, we have developed a series of plant nutrition products, arGrow, for plants in nurseries. We have shown in many studies that arGrow treated plants form much improved root systems at the same time as the nitrogen levels can be kept at an optimal level. This can not be done with ammonium nitrate based fertilizers. The stem diameter of the plant is also larger. The improved root systems together with the optimal nitrogen level in the plants leads to a faster establishment and growth when planted in the forest and a higher average survival rate can be expected. In the longest running test we have seven year data showing a 40 % larger wood volume in the arGrow treated plants compared to the plants treated with ammonium nitrate.

In addition, in forest plant nurseries, the inorganic nitrogen is not readily adsorbed to the peat. This leads to an undesired leakage into the environment and a constant need to add more fertilizer. We have shown that arGrow is strongly adsorbed to the peat thus giving an environmental advantage as well as making it possible for the plant to more efficiently use the nitrogen in the nutrition.

Presently arGrow is being used in one of the main forest nurseries in Sweden for the majority of the production, approximately 15 million plants. It is also being tested in other nurseries in Sweden, USA, Canada, Uruguay, China, New Zeeland and Australia.

arGrow provides the following main benefits:

- Much better developed root systems which leads to faster establishment in the forest and better growth and survival
- Environmentally friendly
- Simplified nutrition management