AUXIN TRANSPORT: A MODEL BASED ON VISUAL ESTIMATION OF A CROP PLANT'S PGR ACTIVITY

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The configuration or architecture of a plant is greatly influenced by auxin transport. Auxin transport in turn, influences the 4 other main plant growth regulators, Cytokinin, GA, ABA and Ethylene. In particular, ABA down-regulation (visually, reduction in dark green color) in horizontally-grown tissue allows the plant tissue to be GA-dominant.

This GA-dominant physiological effect of a crop such as with cucurbits, does not appear to be expressed in a plant that is grown vertically either in nature or experimentally, but is expressed in crop production where the plants are grown horizontally. Auxin transport, in vertically-grown plants, as evidenced by visual evaluation, appears to be more predictable and uniform.

We propose that any excessive internode extension in general, is primarily a result of inadequate ABA in plant tissue, allowing Gibberellins to dominate in the tissue.

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