



All Natural Land
Care Supplies

OMRI™
L i s t e d

STRESS-X

Stress - X Powder is a dry soluble extract from *Ascophyllum nodosum* seaweed. Liquid seaweed (reconstituted from Stress - X powder) provides plants with trace elements and natural growth hormones that greatly improve health, growth and resistance to stress related problems.

There are 16 trace elements considered essential to plant life and few, if any, are available in conventional fertilizers. Most soils have an abundance of these micronutrients, but they are in rock mineral formations that are relatively unavailable

to plants. The trace minerals in seaweed are naturally chelated (bonded) within organic compounds that are more easily broken down by plant and soil systems. Plants are very sensitive to doses of trace elements and there is a fine line between too much and not enough. Seaweed, like other living plants, contain a natural balance of these elements making it an ideal supplement. Seaweed also contains mannitol, a natural chelating agent that can help plants and soil organisms "unlock" unavailable minerals from the soil.

Trace minerals are a relatively small benefit from using Stress-X compared to the advantages of natural growth regulators in Stress-X. Hormones such as cytokinins, gibberellins, alginins, and auxins help plants in numerous ways: **Stress** - Research has shown that plants treated with growth regulators from seaweed are less susceptible to environmental stress conditions. In many cases, trial plants still grow under extremely stressful conditions. Tests show greatly enhanced tolerance of stress from drought, heat, and from internal physiological stresses such as germination and flowering. Recent research shows this to be especially true for recreational turf. **Growth and Development** - Experiments have proven that seaweed significantly improves the growth and development of all parts of a plant, from the roots to the flowers. Some tests show increases of 2-3 times the root dry matter content compared with control plants (those plants not treated). **Seed germination** - In all cases tested, the speed of germination and the percentage of seeds germinated were significantly increased whenever seaweed extract was applied. **Diseases** - Scientists have noted that seaweed, due to its cytokinin content, positively affect the resistance of plants to diseases. The applied cytokinins apparently allow the plant time to increase its resistance to the disease. **Insects** - As early as the 1940's, there were reports that the hormones in seaweed could be valuable in controlling certain insect pests. Experiments have shown that seaweed can increase certain plants' resistance to aphids, flea beetles, mites and nematodes. Non-scientific trials noted increased resistance to

INCREASES STRESS TOLERANCE
IMPROVES GROWTH AND DEVELOPMENT
ACCELERATES SEED GERMINATION AND ROOT GROWTH
STRENGTHENS NATURAL PLANT DEFENSES
STIMULATES BIOLOGICAL ACTIVITY

other insect species as well. **Shelf life** - Research on various types of fruits and vegetables grown with applications of seaweed extract indicate a significantly longer shelf life than the controls with which they were compared. **Senescence** - It is suggested that the hormones in seaweed inhibit senescence (aging) of plants and their produce. Retarding the

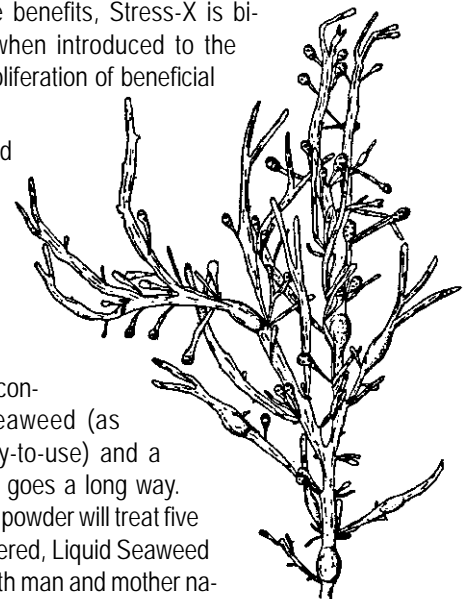
rate at which a plant ages has incredible implications including greater production, longer ornamental value and increased propagation potential. Seaweed has been shown to increase the lifespan of annuals and decrease the dormancy

period of most perennial plants. **Rooting** - Scientists report that root growth is significantly improved whenever seaweed extract is applied, whether as a foliar spray or applied to the soil or rooting media. It has also been shown to accelerate absorption of plant nutrients by root systems. **Chelation** - Seaweed contains mannitol, a natural chelating agent that has been shown to make available micronutrients within the soil that would otherwise be inaccessible. **Sugar content** - Experiments have shown significant increases in sugar content of various fruits and vegetables from applications of seaweed extract. **Enzymes** - Seaweed extract provides micronutrients essential to plants for the production of catalytic enzymes. These enzymes are critical in almost every function of a living plant from photosynthesis to reproduction.

In addition to all these benefits, Stress-X is biologically active and when introduced to the soil it stimulates the proliferation of beneficial microorganisms.

The result is accelerated growth, increased fruiting and flowering, intensified coloration, and significantly less need for pest and disease controls.

Stress - X Powder reconstitutes into Liquid seaweed (as a concentrate or ready-to-use) and a relatively small amount goes a long way. 1500 grams of Stress-X powder will treat five acres. All things considered, Liquid Seaweed is certainly a product both man and mother nature can live with.



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