

Quick Reference/Conversions

Glossary of Horticultural Terms

ALTERNATING CURRENT

(AC): AN ELECTRIC CURRENT THAT REVERSES ITS DIRECTION AT REGULAR OCCURRING INTERVALS. HOMES HAVE AC.

ACID: AN ACID OR SOUR SUBSTANCE HAS A PH BELOW 7

AERATION: SUPPLYING SOIL AND ROOTS WITH AIR OR OXYGEN.

AEROPONICS: GROWING PLANTS BY MISTING ROOTS SUSPENDED IN AIR.

ALKALINE: REFERS TO A SUBSTANCE WITH HIGH PH; ANY PH OVER 7 IS CONSIDERED ALKALINE.

ALL-PURPOSE (GENERAL-PURPOSE) FERTILIZER: A BALANCED BLEND OF N-P-K; ALL PURPOSE FERTILIZER IS USED BY MOST GROWERS.

AMENDMENT: FORTIFYING SOIL BY ADDING ORGANIC OR MINERAL SUBSTANCES IN ORDER TO IMPROVE TEXTURE, NUTRIENT CONTENT OR BIOLOGICAL ACTIVITY.

AMPERE (AMP): THE UNIT USED TO MEASURE THE STRENGTH OF AN ELECTRIC CURRENT.

ANNUAL: A PLANT THAT NORMALLY COMPLETES IT ENTIRE LIFE CYCLE IN ONE YEAR OR LESS. TOMATOES ARE EXAMPLES OF ANNUALS PLANTS.

ARC: LUMINOUS DISCHARGE OF ELECTRICITY (LIGHT) BETWEEN TWO ELECTRODES.

ARC TUBE: A QUARTZ CONTAINER FOR LUMINOUS GASES ALSO HOUSES THE ARC IN HID LIGHTS.

AUXIN: CLASSIFICATION OF PLANT HORMONES; AUXINS ARE RESPONSIBLE FOR FOLIAGE AND ROOT ELONGATION.

BACTERIA: VERY SMALL, ONE-CELLED ORGANISMS.

BENEFICIAL INSECT: A GOOD INSECT THAT EATS BAD FLOWER AND VEGETABLE MUNCHING INSECTS.

BIODEGRADABLE: ABLE TO PLANTS DECOMPOSE OR BREAK DOWN THROUGH NATURAL BACTERIAL OR FUNGAL ACTION, SUBSTANCES MADE OF ORGANIC

MATTER ARE BIODEGRADABLE.

BOLT: TERM USED TO DESCRIBE A PLANT THAT HAS GONE TO SEED PREMATURELY.

BONSAI: A VERY SHORT OR DWARFED PLANT.

BREAKER BOX: ELECTRICAL CIRCUIT BOX HAVING ON/OFF SWITCHES RATHER THAN FUSES.

BREATHE: ROOTS DRAW IN OR BREATHE OXYGEN, STOMATA DRAW IN OR BREATHE CARBON DIOXIDE.

BUD BLIGHT: A WITHERING CONDITION THAT ATTACKS FLOWER BUDS.

BUFFERING: THE ABILITY OF A SUBSTANCE TO REDUCE SHOCK AND CUSHION AGAINST PH FLUCTUATIONS.

BULB: THE OUTER GLASS ENVELOPE OR JACKET THAT PROTECTS THE ARC TUBE OF AN HID LAMP.

BULBS: COMMON ARE TULIPS AND DAFFODILS PLANTED IN THE FALL FOR SPRING BLOOMS, OR FORCED INDOORS FOR WINTER BLOOMS.

CALYX: THE POD HARBORING FEMALE OVULE AND TWO PROTRUDING PISTILS, SEED POD.

CARBON DIOXIDE: (CO₂) A COLORLESS, ODORLESS, TASTELESS GAS IN THE AIR NECESSARY FOR PLANT LIFE AND BIOMASS ACCUMULATION.

CARBOHYDRATE: NEUTRAL COMPOUND OF CARBON, HYDROGEN AND OXYGEN. SUGAR, STARCH AND CELLULOSE ARE CARBOHYDRATES.

CAUSTIC: CAPABLE OF DESTROYING, KILLING OR EATING AWAY BY CHEMICAL ACTIVITY.

CELL: THE BASE STRUCTURAL UNIT THAT PLANTS ARE MADE OF; CELLS CONTAIN A NUCLEUS, THAT HOUSES IT'S DNA.

CELLULOSE: A COMPLEX CARBOHYDRATE THAT STIFFENS A PLANTS TISSUE.

CFM: CUBIC FEET PER MINUTE.

CHELATE: COMBINING NUTRIENTS IN AN ATOMIC RING THAT IS EASY FOR PLANTS TO ABSORB.

CHLORINE: CHEMICAL USED TO

PURIFY WATER.

CHLOROPLAST: CONTAINING CHLOROPHYLL.

CHLOROSIS: THE CONDITION OF A SICK PLANT WITH YELLOWING LEAVES DUE TO INADEQUATE FORMATION OF CHLOROPHYLL. CHLOROSIS IS CAUSED BY NUTRIENT DEFICIENCY, USUALLY IRON OR IMBALANCED PH.

CLAY: SOIL MADE OF VERY FINE ORGANIC MINERAL PARTICLES. CLAY IS NOT SUITABLE FOR CONTAINER GARDENING.

CLIMATE: THE AVERAGE CONDITION OF THE WEATHER IN A GARDEN ROOM OR OUTDOORS.

COLOR SPECTRUM: THE BAND OF COLORS (MEASURED IN NM) EMITTED BY A LIGHT SOURCE.

COLOR TEMPERATURE: THE RELATIVE WHITENESS OF A PIECE OF TUNGSTEN STEEL HEATED TO THAT TEMPERATURE IN DEGREES KELVIN.

COLOR TRACER: A COLORING AGENT ADDED TO MANY COMMERCIAL FERTILIZERS, SO THE HORTICULTURIST KNOWS THERE IS FERTILIZER IN THE SOLUTION.

COMPACTION: SOIL CONDITION THAT RESULTS FROM TIGHTLY PACKING SOIL; COMPACTED SOIL ALLOWS FOR ONLY MARGINAL AERATION AND ROOT PENETRATION.

COMPANION PLANTING: PLANTING GARLIC, MARIGOLDS, ETC., ALONG WITH OTHER PLANTS TO DISCOURAGE INSECT INFESTATION.

COMPOST: A MIXTURE OF DECAYED ORGANIC MATTER.

CORE: THE TRANSFORMER IN THE BALLAST IS REFERRED TO AS THE CORE IN HID LIGHTING SYSTEMS.

CORMS, RHIZOMES AND TUBERS: DORMANT STEMS PLANTED IN THE FALL FOR SPRING BLOOMS, OR FORCED INDOORS FOR WINTER BLOOMS. COMMON VARIETIES ARE DAHLIAS AND IRISES.

COTYLEDON: ENERGY STORAGE COMPONENTS OF A SEED THAT

FEED THE PLANT BEFORE THE EMERGENCE OF ITS FIRST TRUE LEAVES.

CROSS-POLLINATE: POLLINATING TWO PLANTS HAVING DIFFERENT ANCESTRY.

CUBIC FOOT: VOLUME MEASUREMENT IN FEET: L" X W" X H" ÷ 1728" = CU. FT.

CUTTING: (1) GROWING TIP CUT FROM A PARENT PLANT FOR ASEXUAL PROPAGATION (2) CLONE.

DAMPING-OFF: DISEASE THAT ATTACKS YOUNG SEEDLINGS AND CUTTINGS CAUSING STEM TO ROT AT BASE.

DIRECT CURRENT (DC): AN ELECTRIC CURRENT THAT FLOWS IN ONLY ONE DIRECTION.

DEplete: EXHAUST SOIL OF NUTRIENTS, MAKING IT INFERTILE.

DESICCATE: CAUSE TO DRY UP. INSECTICIDAL SOAP DESICCATES ITS VICTIMS.

DIOECIOUS: HAVING DISTINCT MALE AND FEMALE ORGANS ON DIFFERENT PLANTS WITHIN THE SAME SPECIES.

DOMe: THE PART OF THE HID OUTER BULB OPPOSITE THE NECK AND THREADS.

DOMe SUPPORT: THE SPRING LIKE BRACKETS THAT MOUNT THE ARC TUBE WITHIN THE OUTER ENVELOPE.

DRAINAGE: WAY TO EMPTY SOIL OF EXCESS WATER: WITH GOOD DRAINAGE, WATER PASSES THROUGH SOIL EVENLY.

DRIP LINE: A LINE AROUND A PLANT DIRECTLY UNDER ITS OUTERMOST BRANCH TIPS: ROOTS SELDOM GROW BEYOND THE DRIP LINE.

DRIP SYSTEM: A VERY EFFICIENT WATERING SYSTEM THAT EMPLOYS A MAIN HOSE WITH SMALL WATER EMITTERS.

DRY ICE: A COLD, WHITE SUBSTANCE FORMED WHEN CARBON DIOXIDE IS COMPRESSED AND COOLED; DRY ICE CHANGES INTO CO₂ GAS AT ROOM TEMPERATURE.

ELECTRODE: A CONDUCTOR USED TO ESTABLISH ELECTRICAL

Quick Reference/Conversions

ARC OR CONTACT WITH NON-METALLIC PART OF CIRCUIT.

ELONGATE: GROW IN LENGTH.

ENVELOPE: OUTER PROTECTIVE BULB OR JACKET OF A LAMP.

EQUINOX: THE POINT AT WHICH THE SUN CROSSES THE EQUATOR AND DAY AND NIGHT ARE EACH 12 HOURS LONG; THE EQUINOX OCCURS TWICE A YEAR, IN SPRING AND FALL.

FEED: DELIVER NUTRIENT TO THE PLANT VIA ROOTS OR FOLIAGE.

FEMALE: PISTILLATE, OVULE, SEED-PRODUCING.

FERTIGATE: TO FERTILIZE AND IRRIGATE AT THE SAME TIME.

FERTILIZER BURN: OVER FERTILIZATION: FIRST LEAF TIPS BURN (TURN BROWN) THEN THE LEAVES CURL.

FLAT: SHALLOW (THREE INCH) DEEP CONTAINER, OFTEN 18 BY 24 OR 10 BY 20 INCHES WITH GOOD DRAINAGE, USED TO START SEEDLINGS OR CUTTINGS.

FLUORESCENT LAMP: ELECTRIC LAMP USING A TUBE FILLED WITH FLUORESCENT MATERIAL, WHICH HAS A LOW HEAT OUTPUT.

FOLIAGE: THE LEAVES OR MORE GENERALLY, THE GREEN PART OF A PLANT.

FOLIAR FEEDING: MISTING FERTILIZER SOLUTION WHICH IS ABSORBED BY THE FOLIAGE. BEST TO DO WHEN FIRST TURNING ON YOUR LIGHTS.

FOOT-CANDLE: THE UNIT IS DEFINED AS THE AMOUNT OF ILLUMINATION THAT THE SURFACE OF AN IMAGINARY 1-FOOT RADIUS SPHERE WOULD BE RECEIVING IF THERE WERE A UNIFORM POINT SOURCE OF ONE CANDLE IN THE EXACT CENTER OF THE SPHERE. THE FOOT-CANDLE IS EQUAL TO ONE LUMEN PER SQUARE FOOT. FOOT-CANDLE IS A DERIVED UNIT OF ILLUMINANCE FROM LUX. ONE FOOT-CANDLE IS EQUAL TO 10.76 LUX.

FUNGISTAT: A PRODUCT THAT INHIBITS FUNGUS KEEPING IT IN CHECK.

FUNGUS: A LOWER PLANT LACKING CHLOROPHYLL WHICH MAY ATTACK GREEN PLANTS; MOLD, RUST, MILDEW.

FUSE: ELECTRICAL SAFETY DEVICE CONSISTING OF A METAL THAT MELTS AND INTERRUPTS THE CIRCUIT WHEN CIRCUIT IS OVERLOADED.

FUSE BOX: BOX CONTAINING FUSES THAT CONTROL ELECTRIC CIRCUITS.

GPM: GALLONS PER MINUTE.

GENE: PART OF A CHROMOSOME THAT INFLUENCES THE DEVELOPMENT OF PLANT; GENES ARE INHERITED THROUGH SEXUAL PROPAGATION.

GENETIC MAKE UP: THE SET OF GENES INHERITED FROM PARENT PLANTS.

HALIDE: BINARY COMPOUND OF A (HALOGENS) WITH AN ELECTROPOSITIVE ELEMENTS.

HERMAPHRODITE: ONE PLANT HAVING BOTH MALE AND FEMALE ORGANS; THE BREEDING OF HERMAPHRODITES IS HARD TO CONTROL.

HERTZ (HZ): A UNIT OF FREQUENCY THAT CYCLES ONE TIME EACH SECOND: A HOME WITH 60 HERTZ AC CURRENT CYCLES 60 TIMES PER SECOND.

HID: HIGH INTENSITY DISCHARGE.

HONEY DEW: A STICKY, HONEY LIKE SUBSTANCE SECRETED INTO FOLIAGE BY APHIDS, SCALE AND MEALY BUGS.

HOOD: REFLECTIVE COVER OF A HID LAMP.

HOR: THE ABBREVIATION STAMPED ON SOME HID BULBS MEANING THEY MUST BE BURNED IN A HORIZONTAL POSITION.

HORIZONTAL: PARALLEL TO THE HORIZON, GROUND OR FLOOR.

HORMONE: CHEMICAL SUBSTANCE THAT CONTROLS THE GROWTH AND DEVELOPMENT OF A PLANT. ROOT-INDUCING HORMONES HELP CUTTINGS ROOT.

HUMIDITY: (RELATIVE): RATIO BETWEEN THE AMOUNT OF MOISTURE IN THE AIR AND THE GREATEST AMOUNT OF MOISTURE THE AIR COULD HOLD AT THE SAME TEMPERATURE.

HUMUS: DARK, FERTILE, PARTIALLY DECOMPOSED PLANT OR ANIMAL MATTER; HUMUS FORMS THE ORGANIC PORTION OF THE SOIL.

HYBRID: AN OFFSPRING FROM TWO PLANTS OF DIFFERENT BREEDS, VARIETY OR GENETIC MAKE UP.

HYDRATED LIME: INSTANTLY SOLUBLE LIME, USED TO RAISE PH OR SWEETEN SOIL.

HYDROGEN: LIGHT OR COLORLESS, ODORLESS GAS; HYDROGEN COMBINES WITH OXYGEN TO FORM WATER.

HYGROMETER: INSTRUMENT FOR MEASURING RELATIVE HUMIDITY IN THE ATMOSPHERE.

INBRED: (TRUE BREED) OFFSPRING OF PLANTS OF THE SAME BREED OR ANCESTRY.

INERT: CHEMICALLY NON-REACTIVE; INERT GROWING MEDIUMS MAKE IT EASY TO CONTROL THE CHEMISTRY OF THE NUTRIENT SOLUTION.

INTENSITY: THE MAGNITUDE OF THE LIGHT ENERGY PER UNIT; INTENSITY DIMINISHES THE FARTHER AWAY FROM THE SOURCE.

JACKET: PROTECTIVE OUTER BULB OR ENVELOPE OF LAMP.

KILOWATT HOUR: MEASURE OF ELECTRICITY USED PER HOUR; A 1000-WATT HID USES ONE KILOWATT IN ONE HOUR.

LACEWING: BENEFICIAL INSECTS THAT PREYS ON APHIDS.

LEACH: DISSOLVE OR WASH OUT SOLUBLE COMPONENTS OF SOIL BY HEAVY WATERING.

LEAF CURL: LEAF MALFORMATION DUE TO OVER-WATERING, OVER FERTILIZATION, LACK OF MAGNESIUM, INSECT OR FUNGUS DAMAGE OR NEGATIVE TROPISM.

LEAFLET: SMALL IMMATURE LEAF.

LEAVES: THE EXTERNAL PART OF A PLANT ATTACHED TO BRANCHES AND STEMS FOR THE PURPOSE OF TAKING IN LIGHT FROM THE SUN'S ENERGY. THEY DO THIS WITH CHLOROPLASTS IN THE CELLS WHICH CONTAIN CHLOROPHYLL.

LEGGY: ABNORMALLY TALL INTERNODE SPACE, WITH SPARSE FOLIAGE. LEGGYNES OF A PLANT IS USUALLY CAUSED BY LACK OF BLUE LIGHT OR CO₂. TOO MUCH NITROGEN CAN ALSO CAUSE THIS.

LIFE CYCLE: A SERIES OF GROWTH STAGES THROUGH WHICH A PLANT MUST PASS IN ITS

NATURAL LIFETIME; THE STAGES FOR AN ANNUAL PLANT ARE SEED, SEEDLING, VEGETATIVE AND FLORAL.

LIGHT MOVER: A DEVICE THAT MOVES A LAMP BACK AND FORTH OR IN A CIRCLE ACROSS THE CEILING OF A GARDEN ROOM TO PROVIDE MORE EVEN DISTRIBUTION OF LIGHT.

LIME: USED IN THE FORM OF DOLOMITE OR HYDRATED LIME TO RAISE AND STABILIZE SOIL pH.

LITMUS PAPER: CHEMICALLY SENSITIVE PAPER USED FOR TESTING pH.

LOAM: ORGANIC SOIL MIXTURE OF CRUMBLY CLAY, SILT AND SAND.

LUMEN: MEASUREMENT OF LIGHT OUTPUT: ONE LUMEN IS EQUAL TO THE INTENSITY OF LIGHT EMITTED BY ONE CANDLE THAT FALLS ON ONE SQUARE FOOT OF SURFACE LOCATED ONE FOOT AWAY FROM ONE CANDLE.

MACRO NUTRIENT: ONE OR ALL OF THE PRIMARY NUTRIENTS N-P-K OR THE SECONDARY NUTRIENTS MAGNESIUM AND CALCIUM.

MEAN: AVERAGE THROUGHOUT LIFE; HID'S ARE RATED IN MEAN LUMENS.

MERISTEM: TIP OF PLANTS GROWTH.

MICRO NUTRIENT: ALSO REFERRED TO AS TRACE ELEMENTS, INCLUDING S, FE, Mn, B, Mo, Zn, AND Cu.

MILLIMETER: THOUSANDTH OF A METER APPROXIMATELY .04 INCH

MOISTURE METER: AN ELECTRONIC DEVICE THAT MEASURES THE EXACT MOISTURE CONTENT OF SOIL AT ANY GIVEN POINT.

MONOCHROMATIC: PRODUCING ONLY ONE COLOR; LP SODIUM LAMPS ARE MONOCHROMATIC.

MULCH: A PROTECTIVE COVERING OF ORGANIC COMPOST, LEAVES, ETC.; INDOORS, MULCH KEEPS SOIL TOO MOIST AND POSSIBLE FUNGUS COULD RESULT.

NANOMETER: .00000001 METER, NM IS USED AS A SCALE TO MEASURE WAVE LENGTHS OF LIGHT; COLOR AND LIGHT SPECTRUMS ARE EXPRESSED IN NANOMETERS (NM).

NECROSIS: LOCALIZED DEATH OF

Quick Reference/Conversions

A PLANT PART.

NECK: TUBULAR GLASS END OF THE HID BULB, ATTACHED TO THE THREADS.

NUTRIENT: PLANT FOOD, ESSENTIAL ELEMENTS N-P-K, SECONDARY AND TRACE ELEMENTS FUNDAMENTAL TO PLANT LIFE.

OHM'S POWER LAW: A LAW THAT EXPRESSES THE STRENGTH OF AN ELECTRIC CURRENT; VOLTS TIMES AMPERES EQUALS WATTS.

ORGANIC: MADE OF, OR DERIVED FROM OR RELATED TO LIVING ORGANISMS. IN AGRICULTURE ORGANIC MEANS "NATURAL". IN CHEMISTRY ORGANIC MEANS "A MOLECULE OR SUBSTANCE THAT CONTAINS CARBON".

OVULE: A PLANT'S EGG FOUND WITHIN THE CALYX, IT CONTAINS ALL THE FEMALE GENES; WHEN FERTILIZED, AN OVULE WILL GROW INTO A SEED.

OXYGEN: TASTELESS, COLORLESS ELEMENT, NECESSARY IN SOIL TO SUSTAIN PLANT LIFE AS WELL AS ANIMAL LIFE.

PARASITE: ORGANISM THAT LIVES ON OR IN ANOTHER HOST ORGANISM; FUNGUS IS A PARASITE.

PEAT: PARTIALLY DECOMPOSED VEGETATION (USUALLY MOSS) WITH SLOW DECAY DUE TO EXTREME MOISTURE AND COLD.

PERENNIAL: A PLANT, SUCH AS A TREE OR SHRUB, WHICH COMPLETES ITS LIFE CYCLE OVER SEVERAL YEARS.

pH: A SCALE FROM 1 TO 14 THAT MEASURES THE ACID TO ALKALINE BALANCE OF A GROWING MEDIUM (OR ANYTHING); IN GENERAL PLANTS GROW BEST IN A RANGE OF 5.5 TO 6.8 pH.

pH TESTER: ELECTRONIC INSTRUMENT OR CHEMICAL USED TO FIND WHERE SOIL OR WATER IS ON THE pH SCALE.

PHOTOMETRICS: THE STUDY OF LIGHT, ESPECIALLY COLOR.

PHOSPHOR COATING: INTERNAL BULB COATING THAT DIFFUSES LIGHT AND IS RESPONSIBLE FOR VARIATIONS IN COLOR OUTPUTS.

PHOTOPERIOD: THE RELATIONSHIP BETWEEN THE LENGTH OF LIGHT AND DARK IN A

24 HOUR PERIOD.

PHOTOSYNTHESIS: THE BUILDING OF CHEMICAL COMPOUNDS (CARBOHYDRATES) FROM LIGHT ENERGY, WATER AND CARBON DIOXIDE.

PHOTOTROPISM: THE SPECIFIC MOVEMENT OF A PLANT PART TOWARDS A LIGHT SOURCE.

PIGMENT: THE SUBSTANCE IN PAINT OR ANYTHING THAT ABSORBS LIGHT, PRODUCING (REFLECTING) THE SAME COLOR.

POLLEN: FINE, DUST LIKE MICRO-SPORES CONTAINING MALE GENES.

POWER SURGE: INTERRUPTION OR CHANGE IN INTENSITY OF ELECTRICITY.

PRIMARY NUTRIENTS: N-P-K

PROPAGATE: (1) SEXUAL: PRODUCE A SEED BY BREEDING DIFFERENT MALE AND FEMALE FLOWERS (2) ASEQUAL: TO PRODUCE A PLANT BY TAKING CUTTINGS.

PRUNE: ALTER THE SHAPE AND GROWTH PATTERN OF A PLANT BY CUTTING STEMS AND SHOOTS.

PVC PIPE: PLASTIC (POLYVINYL CHLORIDE) PIPE THAT IS EASY TO WORK WITH, READILY AVAILABLE AND USED TO PIPE WATER INTO A GARDEN ROOM.

PYRETHRUM: NATURAL INSECTICIDE MADE FROM THE BLOSSOMS OF VARIOUS CHRYSANTHEMUMS.

ROOT BOUND: ROOTS STIFLED OR INHIBITED FROM NORMAL GROWTH, BY THE CONFINES OF A CONTAINER.

ROOTS: THEIR PURPOSE IS TO ANCHOR A PLANT AND PROVIDE A MEANS IN WHICH TO FEED AND HYDRATE A PLANT.

REJUVENATE: RESTORE YOUTH; A MATURE PLANT, HAVING COMPLETED ITS LIFE CYCLE (FLOWERING), MAY BE STIMULATED BY A NEW 18 HOUR PHOTO PERIOD, TO REJUVENATE OR PRODUCE NEW VEGETATIVE GROWTH.

SALT: CRYSTALLINE COMPOUND THAT RESULTS FROM IMPROPER pH OR TOXIC BUILDUP OF FERTILIZER. SALT WILL BURN PLANTS, PREVENTING THEM FROM ABSORBING NUTRIENTS.

SECONDARY NUTRIENTS:

CALCIUM (CA) AND MAGNESIUM (MG).

SEED POD: A DRY CALYX CONTAINING A MATURE OR MATURING SEED.

SHORT CIRCUIT: CONDITION THAT RESULTS WHEN WIRES CROSS AND FORM A CIRCUIT. A SHORT CIRCUIT WILL BLOW FUSES.

SOCKET: THREADED, WIRED RECEPTACLE FOR A BULB.

SOLUBLE: ABLE TO BE DISSOLVED IN WATER.

SPORE: SEED LIKE OFFSPRING OF A FUNGUS.

SPROUT: (1) A RECENTLY GERMINATED SEED (2) SMALL NEW GROWTH OF A LEAF OR STEM.

SQUARE FEET (SQ FT): LENGTH (IN FEET) TIMES WIDTH EQUALS SQUARE FEET.

STAMEN: MALE, POLLEN-PRODUCING.

STARCH: COMPLEX CARBOHYDRATE; STARCH IS MANUFACTURED AND STORED IN FOOD.

STERILIZE: MAKE STERILE (SUPER CLEAN) BY REMOVING DIRT, GERMS AND BACTERIA.

STROBOSCOPIC EFFECT: A QUICK PULSATING OR FLASHING OF A LAMP.

STRESS: A PHYSICAL OR CHEMICAL FACTOR THAT CAUSES EXTRA EXERTION BY PLANTS; A STRESSED PLANT WILL NOT GROW AS WELL AS A NON STRESSED PLANT.

STOMATA: SMALL MOUTH LIKE OR NOSE LIKE OPENINGS (PORES) ON LEAF UNDERSIDE, RESPONSIBLE FOR TRANSPIRATION AND MANY OTHER LIFE FUNCTIONS; THE MILLIONS OF STOMATA, MUST BE KEPT VERY CLEAN TO FUNCTION PROPERLY.

SUGAR: FOOD PRODUCT OF PLANT. CARBOHYDRATES THAT CONTAIN HYDROCARBON CHAIN.

SYNTHESIS: PRODUCTION OF A SUBSTANCE, SUCH AS CHLOROPHYLL, BY UNITING LIGHT ENERGY AND ELEMENTS OR CHEMICAL COMPOUNDS.

TAP ROOT: THE MAIN OR PRIMARY ROOT THAT GROWS FROM THE SEED; LATERAL ROOTS WILL BRANCH OFF THE TAP ROOT.

TEPID: WARM 70 TO 80 DEGREES F (21 TO 27 DEGREES C); ALWAYS

USE TEPID WATER AROUND PLANTS TO FACILITATE CHEMICAL PROCESSES AND EASE SHOCK.

TERMINAL BUD: BUD AT THE GROWING END OF THE MAIN STEM.

THIN: CULL OR WEED OUT WEAK, SLOW GROWING SEEDLINGS.

TRANSFORMER: A DEVICE IN THE BALLAST THAT TRANSFORMS ELECTRIC POWER FROM ONE VOLTAGE TO ANOTHER.

TRANSPIRE: GIVE OFF WATER VAPOR AND BY PRODUCTS VIA STOMATA AND CARBON DIOXIDE INTAKE AT THE LEAVES.

TRELLIS: FRAME OR NETTING (LATTICE) THAT TRAINS OR SUPPORTS PLANTS.

TUNGSTEN: A HEAVY, HARD METAL WITH HIGH MELTING POINT WHICH CONDUCTS ELECTRICITY WELL; TUNGSTEN IS USED FOR A FILAMENT IN TUNGSTEN HALOGEN AND INCANDESCENT LAMPS.

ULTRAVIOLET: LIGHT WITH VERY SHORT WAVE LENGTHS, OUT OF THE VISIBLE SPECTRUM, PAST THE BLUE-VIOLET.

VARIETY: STRAIN, PHENOTYPE.

VENT: OPENING SUCH AS A WINDOW OR DOOR THAT ALLOWS THE CIRCULATION OF FRESH AIR.

VENTILATION: CIRCULATION OF FRESH AIR, FUNDAMENTAL TO A HEALTHY INDOOR GARDEN, AN EXHAUST FAN CREATES EXCELLENT VENTILATION.

VERTICAL: UP AND DOWN PERPENDICULAR TO THE HORIZONTAL.

WETTING AGENT: COMPOUND THAT REDUCES THE DROPLET SIZE AND LOWERS THE SURFACE TENSION OF THE WATER, MAKING IT WETTER.

WICK: PART OF A PASSIVE HYDROPONIC SYSTEM USING A WICK SUSPENDED IN THE NUTRIENT SOLUTION, THE NUTRIENTS PASS UP THE WICK AND ARE ABSORBED BY THE MEDIUM AND ROOTS.

Quick Reference/Conversions

The NPK's of Growing

(N) NITROGEN

Nitrogen is essential for plant growth. Nitrogen is a part of every living cell. The two forms of nitrogen which plants take up are in the ammonia (NH₄) and nitrate (NO₃) ion forms. Most agronomic crops take up most of their nitrogen in the nitrate ion form. Plants will utilize N in the

(NH₄) ion form if present and available to the plant.

Lack of nitrogen and chlorophyll means that plants cannot utilize sunlight as an energy source to carry on essential functions such as nutrient uptake. Research has proven foliar or leaf applications of nitrogen is one form of

application that can supplement a plants nitrogen requirements during the growing cycle.

- * Nitrogen is necessary for chlorophyll synthesis and as a part of the chlorophyll molecule is involved in photosynthesis.
- * Nitrogen is also a component of amino acids.
- * Nitrogen is needed for growth of plants.

From the Greek words "nitron genes" meaning "nitre" and "forming" and the Latin word "nitrum". Discovered in Scotland by Daniel Rutherford in 1772.

(P) PHOSPHORUS

Phosphate is a very important plant nutrient (macro-nutrient) needed for the plant to complete its normal production cycle. The highest level of P in young plants is found in tissue at the growing stage. As plants mature most of the P moves into the flower and then to the seed or fruit.

- * Phosphorus is needed for photosynthesis.
- * Phosphorus is necessary for plant respiration.
- * Phosphorus is essential for energy storage and transfer.

- * Phosphorus is needed for cell division.
- * Phosphorus is necessary for cell enlargement.
- * Phosphorus is essential for several other plant processes.

From the Greek word "phosphoros" meaning "bringer of light" (an ancient name for the planet Venus?). Discovered in Germany by Hennig Brand in 1669.

(K) POTASSIUM

An important function of Potassium is it's influence in efficient water use. It helps in the process of opening and closing of plant leaf pores, called the stomata. Potassium is found in cell walls which surround stomata. Adequate amounts of Potassium can increase stress conditions on plants during drought conditions. Potassium is also responsible for producing quality crops.

- * Potassium is essential for protein synthesis.
- * Potassium is important in the breakdown of carbohydrates, providing energy for plants.
- * Potassium helps to control ionic balance.
- * Potassium is important in the translocation of minerals.
- * Potassium helps plants to

- overcome effects of disease.
- * Potassium is essential in the fruit formation stage.
- * Potassium helps improve shelf life of fruits and vegetables.
- * Potassium is involved in the activation of more than 60 enzymes which regulate the rates of major plant growth reactions.

From the English word "potash" and the Arabic word "qali" meaning alkali ("K" comes from the Latin word "kalium"). Discovered in England by Sir Humphrey Davy in 1807.

CONTAINER CAPACITIES

PROD. #	POT SIZE	POT CAPACITY
724140	5"x5"x6.5" square pot black jumbo senior	2.8 qt. / 2.65 liter
724150	5"x5"x6.5" square pot white jumbo senior	2.8 qt. / 2.65 liter
724160	6"x6"x7" square pot black magnum	4.35 qt. / 4.1 liter
724425	5.5"x5.5"x6" square pot white jumbo	3.15 qt. / 3 liter
724525	Am Hydro Perfect Pot	1.75 gal. / 7 qt. / 6.6 liter
724540	1 gallon nursery pot	1 gal. / 4 qt. / 3.78 liter
724545	2 gallon nursery pot	2 gal. / 8 qt. / 7.57 liter
724550	3 gallon nursery pot	3 gal. / 12 qt. / 11.35 liter
724555	5 gallon nursery pot	5 gal. / 20 qt. / 19 liter

Pot Size	# of Pots per 3 CF Bag
3" square pot	390
4" square pot	147
1 gallon pot	21
2 gallon pot	10
3 gallon pot	7
5 gallon pot	4