

JAN 10 1990

Hubert O'Neal, Ph.D
Agtrol Chemical Products
7322 Southwest Freeway
Suite 1400
Houston, TX 77074

Dear Dr. O'Neal:

Subject: EPA Registration Number 55146-58
GibGro K2L
Label amendment for Spray Guide dated
December 22, 1989

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable.

Please submit five (5) copies of final printed labeling incorporating the amendment before you release the product for shipment. A stamped copy of the label is enclosed for your records.

Sincerely,

Robert J. Taylor
Product Manager (25)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

H7505C:HFB:RD:ABarnes:adb:Rm245:557-1800:01/10/90

CONCURRENCES

SYMBOL	H7505C						
SURNAME	ABarnes						
DATE	1/10/90						

55146-58

GibGro K2L

your local experiment station specialist, distributor, or the Agritol agricultural specialist in your area for the spray schedule best suited to your conditions.

(Potassium Gibberellate)

GENERAL DIRECTIONS FOR USE

ACCEPTED

SPRAY GUIDE

KEEP OUT OF REACH OF CHILDREN

1/19/90

WARNING - AVISO

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

May be fatal if swallowed. Do not breath vapors or spray mist. Causes eye irritation. Do not get in eyes, on skin or clothing.

PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que le etiqueta haya sido explicado ampliamente.

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: In case of contact with eyes, flush thoroughly with water. Get medical attention if irritation persists

IF SWALLOWED: Contact a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

IF ON SKIN: Immediately flush skin with plenty of water. Get medical attention if irritation persists.

IF INHALED: Remove victim to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. Get medical attention.

PHYSICAL AND CHEMICAL HAZARDS

FLAMMABLE! Keep away from heat and open flame. Keep container tightly closed when not in use.

ENVIRONMENTAL HAZARDS

Avoid direct applications to any body of water. Keep out of lakes, ponds or streams. Do not contaminate water when disposing of equipment washwaters.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. STORAGE: Keep containers tightly closed when not in use. Keep away from heat and open flame. PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Do not reuse empty containers. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

RE-ENTRY STATEMENT

Do not enter treated area without protective clothing until sprays have dried.

Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. Oral warnings must include the following information: Inform workers of areas or fields that must not be entered without appropriate protective clothing until sprays have dried. In case of accidental exposure, wash with plenty of water. If there is any irritation in eyes after washing, get medical attention. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written warnings must include the following information: WARNING: Area treated with GibGro K2L on (Date of application). Do not enter without appropriate protective clothing until spray has dried. In case of accidental exposure wash with plenty of water. If there is any irritation in eyes after washing, get medical attention.

NOTE: Potassium Gibberellate is an extremely potent plant growth regulator. For best results, read all directions for use thoroughly. Consult

Discard any unused spray material at the end of each day. Prepare solution concentrations by mixing the required amount of product with water only in a clean, empty spray tank. For best results, applications should be made during cooler parts of the day.

Use only as directed. Good spray practices should be followed. The label should be read thoroughly and understood before making applications. Effectiveness requires that all parts of plant or crop must receive spray or desired result will not occur, so spray thoroughly. When a range of rates is indicated, use the concentration and spray volume recommended locally.

Gibberellic Acid is a naturally occurring compound, produced by Agtrol Chemical Products in a biological process.

Data concerning the compatibility of GibGro K2L with other agricultural compounds is not available.

SPRAY GUIDELINES FOR GRAPES

For all grapes, application is recommended by ground sprayer. Use 100 to 500 gallons as a dilute spray according to foliage density, or 30 to 80 gallons as a concentrate spray, unless specified otherwise. Do not exceed maximum rates. It is important to wet all berries thoroughly.

THOMPSON SEEDLESS.

For cluster elongation ("Stretch"), looser cluster forms, and reducing cost of thinning, when used in conjunction with established girdling and thinning practices: apply 8 to 16 grams/A before bloom when flower clusters are 3 to 5 inches long.

For decreased berry set ("Thinning"), reducing hand-thinning costs, and hastened maturity: apply 8 to 16 grams/A during bloom as one application or as two applications of equal amounts when the bloom period is extended with the second application made 3 to 7 days after the first application.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: apply 32 to 80 grams/A when average berry size is 4-5 millimeters in diameter or as two applications of equal amounts with the first made at or 2 to 3 days after shatter, followed during the next two weeks by the second application. Timing of the second spray will be dictated by experience in the vineyard to be sprayed and temperatures occurring during the interim between sprays. Potential effect will be reduced if the second spray occurs more than two weeks after the first application.

THOMPSON SEEDLESS FOR RAISINS

For decreasing berry set, with increased raisin quality, and hastened maturity: apply 0.75 to 6 grams/A when most bunches are in 60% to 80% bloom.

FLAME SEEDLESS

For decreased berry set ("Thinning") and reducing hand-thinning costs: apply 3 to 7.5 grams/A during bloom. Higher amounts may cause an excess of shot berries or overthinning.

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: apply 20 to 48 grams/A as one application when berry diameter reaches 6 to 8 millimeters, or as two applications of equal amounts with the first made when berry diameter reaches 6 to 8 millimeters, followed during the next 5 to 10 days by the second application. Timing of the second spray will be dictated by experience in the vineyard to be sprayed and rate of berry growth during the interim between sprays.

PERLETTES

For larger berries ("Sizing") and larger clusters when used in conjunction with established girdling and thinning practices: Apply 32 to 80 grams/A when average berry size is 4 to 5 millimeters in diameter or as two applications of equal amounts with the first made at 2 to 3 days after shatter, followed during the next two weeks by the second application. Timing of the second spray will be dictated by experience in the vineyard to be sprayed and temperatures occurring during the interim between sprays. Potential effect will be reduced if the second spray occurs more than two weeks after the first application.

OTHER SEEDLESS VARIETIES SUCH AS SEEDLESS TOKAY, INTERLOCKEN SERIES AND RELATED HYBRIDS

For larger berries and larger clusters when used in conjunction with established girdling and thinning practices: apply 8 to 48 grams/A as one application at or just after shatter (usually 2 to 3 days later) or as two applications of equal amounts not to exceed a total of 48 grams/A, with the first made at or just after shatter, followed during the next two weeks by the second application. Timing of the second spray with split application will be dictated by experience in the vineyard to be sprayed and temperatures occurring during the interim between sprays. Potential effect will be reduced if the second spray occurs more than two weeks after the first application.

EMPEROR

For reducing berry shrivel. This can also increase berry size: apply 20 grams/A as one application in 200 to 250 gallons/A approximately two weeks after completion of shatter following bloom. This timing should correspond to a period when the predominant berry diameter ranges from 10 to 15 millimeters.

* Refers to actual Potassium Gibberellate. See Conversion Table to convert to amount of formulated GibGro K2L needed.

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BLACK CORINTH (ZANTE CURRANT)

For improving berry size: apply spray containing 1 gram/A 3 to 5 days after full bloom, but before shatter begins.

SPRAY GUIDELINES FOR CITRUS

NAVEL ORANGES

(California) To delay aging of the rind and reduce rind disorders (e.g. rind staining, water spotting, sticky or tacky surface, puffy rind and rupture under pressure) and to produce a more orderly harvesting pattern: EARLY SPRAY (before any color change), apply to groves where harvest is not anticipated before March 1. The delay in rind aging is greatest when the early spray is applied before a color change. This spray timing produces the firmest rind possible. Apply one spray two weeks prior to color break which normally occurs August to November. Apply until February 15 in San Joaquin Valley, March 1 in Southern California. On large mature trees, apply 10 to 40 grams/A in 400 to 500 gallons/A dilute, or 50 to 100 gallons/A concentrate.

NOTE: Do not apply to groves that may be harvested before March 1 as a reduction in grade may result due to the delayed coloring. Do not apply in white wash sprays in which lime or other caustic material has produced a high pH in the spray tank.

LATE SPRAY: (after marketable color is reached) apply to groves where harvest may be before March 1 (or not known). Apply one spray just after marketable color has developed which is normally from October through December. On large mature trees, apply 16 to 48 grams/A in 400 to 500 gallons/A dilute with thorough coverage or 50 to 100 gallons/A concentrate.

NOTE: Sprays applied in late January/February may cause reduced production the following year. Do not apply within 10 days of harvest. Do not spray navel orange trees between February 15 and August 1.

VALENCIA ORANGES

(California) To reduce rind creasing and to delay aging and softening of the rind: apply a single spray in August or September to trees with a target crop of young fruit. On large mature trees, apply 40 to 80 grams/A in approximately 500 gallons/A dilute or 100 gallons/A concentrate.

NOTE: Some increased regreening, or slower color development, should be expected in the target crop. Some increased regreening of mature fruit, if present, may occur.

LEMONS

(California) To decrease the amount of small tree ripe fruit and to produce a more desirable production pattern in relation to market demand: apply in a single spray when target crop is 1/2 to 3/4 full size but still green. Typically October through December. Use 20 grams/A in 500 to 700 gallons/A on large, mature trees.

When applied two years in a row, an even larger difference in harvest pattern and maturity occurs.

NOTE: Do not apply within one month of harvest. Do not apply in spring or summer.

TANGERINE HYDRIDS

(Florida) To increase fruit set and yields on tangerine hydrids with pollination problems such as the Orlando, Robinson, and Minneola: apply spray during full bloom. Be sure to wet the leaves sufficiently.

Fruits are generally seedless: use 8 to 30 grams/A in 400 to 500 gallons/A on large mature trees.

NOTE: A slight increase in mature leaf drop occurs at concentrations above 25 ppm. Fruit sizes may be reduced and color development slightly retarded.

(California) To delay disorders associated with rind aging of the Minneola tangelo; e.g., puffiness and softening and to increase peel strength: apply 20 to 40 grams/A in 400-500 gallons dilute spray two weeks prior to color break.

NOTE: Do not apply if early harvest is planned. Do not apply after coloring as pre-harvest rind staining may occur. Application during coloring may cause variation in rind color development.

GRAPEFRUIT

(Florida and Texas) To delay disorders associated with rind aging; e.g., puffiness, softening and orange coloration, to prevent pre-harvest drop of mature fruit and to increase peel strength and reduce water loss during storage: apply a single spray to fully colored fruit during the November through January period. Use 20 to 56 grams/A in 500 to 700 gallons/A containing a suitable non-ionic surfactant at the manufacturer's recommended rate. It is advisable to spot pick heavy crops to aid early marketing and to avoid reduction of yields which generally follow late held crops.

NOTE: Applications made after January or when trees begin to break dormancy may adversely affect new crop. Do not use concentrate sprays. Results may vary season to season depending on environmental conditions.

GRAPEFRUIT, STAR RUBY VARIETY

(Texas) To reduce early-season drop of small fruit of Star Ruby Variety thereby increasing yields: apply a single spray during the bloom period.

Use 25 grams/A in 250 gallons water final spray mixture per acre. A suitable surfactant may be used to enhance efficacy.

NOTE: Do not tank-mix with other chemicals.

Do not apply concentrated solution.

Results may vary season to season depending on environmental conditions.

Maintain a well-balanced fertilization and watering program.

SPRAY GUIDELINES FOR FRUIT CROPS

BLUEBERRIES

For improving fruit set. For set problems due to insufficient natural honeybee pollination on varieties such as Coville, Jersey, Stanley, Earlieblue, Weymouth and others: make a single foliage spray application at full bloom (when over 75 percent of all flowers are fully open). For Weymouth, application can be delayed up to two weeks after full bloom to affect sizing of shot berries. Use 80 grams/A in 100 gallons of water. Use of a spreader-sticker is recommended. Apply to the point of run-off, thoroughly wetting all parts of the plant. Total gallonage will depend on size and density of the plants.

NOTE: Do not exceed 300 gallons/A. Although some varieties bloom closer to harvest than others—in no case should application be made closer than 40 days before harvest. Do not apply to plants in a low state of vigor.

SWEET CHERRIES

To delay harvesting, to produce a brighter colored, firmer fruit and to increase size: apply spray when the fruit is light green to straw colored. Apply spray to thoroughly wet the entire tree. Use 16 to 48 grams/A in 400 to 600 gallons/A on large mature trees.

NOTE: Do not apply within one week of harvest.

RED TART CHERRIES

(All states except California) To maintain and extend high fruiting capacity of bearing tart cherry trees and reduce occurrence of "blind" nodes by stimulating lateral vegetative buds to develop a more productive balance of lateral shoots and spurs: apply a foliar spray containing 4 to 8 grams/A in 100 gallons finished spray from 14 to 28 days after bloom (or up to 14 days after shuck split). Use full coverage sprays of 50 to 150 gallons/A on medium to large bearing trees. Be sure entire trees receive good coverage. Use of a good horticultural wetting agent at the manufacturer's recommended rate will aid foliage wetting. GibGro K2L must be applied annually to insure vegetative development and subsequent yield improvement year after year.

NOTE: GibGro K2L works by affecting lateral bud differentiation which is apparent the year after application. Therefore, changes in shoot, spur and flower production will not be evident until 2 or 3 years after program initiation. Once this period is satisfied, response will be yearly provided annual applications have been made.

NOTE: Do not spray within one month of harvest. Adjust GibGro K2L rate to complement vigor to trees. If trees are vigorous, use lowest recommended rates. Use higher rate for trees low in vigor and showing weak shoot and spur production. Excessive application rates on any tree will increase vegetative growth at the expense of fruit production the following year.

GibGro K2L will not improve growth of trees under stress (nutritional, moisture, winter injury) or other factors inhibiting normal growth and development resulting from physical damage or unsound orchard practices. Best results from GibGro K2L will be obtained when combined with good cultural practices.

YOUNG TART AND SWEET CHERRY TREES

(All states except California) To reduce flowering and fruiting in young tart and sweet cherry trees to minimize the competitive effect of early fruiting on tree development: apply GibGro K2L liquid two to four weeks after bloom. Use 20 to 40 grams/A in 100 gallons of water. Apply a foliar spray of 25 to 50 gallons per acre, assuming a tree density of 100 trees per acre equivalent, or apply about one quart of spray volume per tree.

Under conditions of low vigor, two applications are recommended. If two spray applications are made, allow at least a seven-day interval between sprays.

NOTE: DO NOT SPRAY TREES IN THE FIRST YEAR. Treat in the second season for reduction of flowering in the third season and again in the third season if reduction of flowering and fruiting is desired in the fourth season.

OLYMPUS STRAWBERRIES

(NW U.S. Only; propagation stock) To increase runner production of mother plants of the Olympus cultivar: apply a single spray to mother plants 10 to 30 days after planting. At the time of spraying, plants should have 1 to 6 leaves. Apply 100 gallons/A to thoroughly wet new foliage to the point of run-off. Use 20 grams/A.

NOTE: Not for use on fruiting plants. Treatments may not be effective on plantings set out after mid-May.

FORCING RHUBARB

To increase yield of marketable forced rhubarb and to break dormancy on plants receiving insufficient chilling: apply 2 fluid ounces (60 ml) of a solution containing 20 grams/A in 10 gallons to each cleaned crown, when the rest period is not completely broken. When the rest period is broken by cold weather, apply 2 fluid ounces (60 ml) of a solution containing 10 grams/A in 10 gallons.

NOTE: Keep forcing house temperatures at 40° to 50°F for 24 hours after application. If house is warmer than 50°F, the crowns should be covered with plastic. Temperatures in the forcing house above 50°F will result in lower yields and poor stalk color.

* Refers to actual Potassium Gibberellate. See Conversion Table to convert to amount of formulated GibGro K2L needed.

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SPRAY GUIDELINES FOR VEGETABLE CROPS

ARTICHOKES

(California) To accelerate maturity of artichokes and to shift the harvest to an earlier date: apply spray at bud initiation time, normally six weeks prior to anticipated harvest. Be sure the entire plant (leaves, stems and buds) are covered to point of run-off. Use 10 grams* in 100 to 125 gallons/A.

NOTE: Do not apply within seven days of harvest.

CELERY

To increase plant height and yield, and overcome stress due to cold weather conditions, or saline soils and to obtain earlier maturity: apply spray one to four weeks prior to harvest. Lower concentrations are applied at the three to four-week interval. Higher concentrations at the one to two-week interval. Use 2.5 to 10 grams* in 25 to 50 gallons/A.

NOTE: Do not apply earlier than four weeks before harvest as Gibberellic Acid may induce bolting (seed stalk formation).

Applications made less than one week preharvest may result in residues. Celery plants must be harvested when mature to ensure quality.

LETTUCE FOR SEED

To obtain uniform budding and increase seed production: apply the following spray schedule:

Growth Stage	ppm*	g/A	Gallon/Acre
4 leaf stage	10	0.4	10
8 leaf stage	10	1.6	40
12 leaf stage	10	4.0	100

NOTE: Do not feed crop wastes to livestock.

SEED POTATOES

To stimulate uniform sprouting—for maximum production, more uniform development, fewer late maturing plants, and to break dormancy of newly harvested potatoes that have not had a full rest period: Dip freshly dug seed pieces in a solution containing 0.2 to 0.4 gram* in 100 gallons prior to planting.

NOTE: If soil temperature is very high, avoid treating rested seed and use the minimum concentration for dormant seed.

SPINACH

(All States except California) To facilitate harvest, increase yield and improve quality of fall and over-winter spinach: apply a single spray 10 to 14 days before each anticipated harvest on fall or over-winter spinach, ideally when daytime temperatures are 40° to 70°F and during early morning hours when dew is present on crop.

Use 6 to 8 grams*/A. Mix in 10 to 50 gallons/A by ground sprayer or in a minimum of 5 to 10 gallons/A by air.

Maximum benefit from GibGro K2L is obtained when below normal temperatures predominate following application and growth would be otherwise slowed in untreated spinach.

NOTE: Since Potassium Gibberellate can promote bolting, do not apply to spinach after the mid-winter period or if temperatures may be expected to exceed 75°F within several days of application. Do not apply on spring-planted spinach.

SPRAY GUIDELINES FOR FLORICULTURE CROPS

POMPOM CHRYSANTHEMUMS

(Florida) For elongating peduncles on pompom chrysanthemums: apply a single spray 4 to 5 weeks after initiation of short day conditions.

Use 1/2 to 1 gram* in 12 gallons for application to 1,000 sq. ft. of bed (equivalent to 20 to 40 grams* in 500 gallons/A).

Apply with overhead nozzles directing the spray to the flower buds.

NOTE: Overuse or incorrect timing may cause long, spindly and weak stems.

STATIC

(Florida) To promote earlier flowering and to increase flower yield: apply a single drench spray when plants are more than 10 inches in diameter (approximately 90 to 110 days after normal seeding time). Use 40 to 50 grams* in 25 gallons to provide 10 ml (5mg*) solution per plant.

NOTE: Do not exceed specified rates. Do not apply repeated sprays. Accelerated flowering is influenced by extended photoperiod, adequate nutrition and reduced night temperature. Treatment with gibberellins lessens the requirement for the cold requirement and/or the long photoperiod.

* Refers to actual Potassium Gibberellate. See Conversion Table to convert to amount of formulated GibGro K2L needed.

SPRAY GUIDELINES FOR ADDITIONAL CROPS

BERMUDAGRASS GOLF COURSE TURF

(Florida) To initiate or maintain growth and prevent color change during periods of cold stress and light frosts on golf course Bermudagrass (e.g., Tifdwarf, Tifgreen, etc.): apply 10 grams* weekly or 25 grams* biweekly in 25 to 100 gallons/A.

Use 1/4 to 2/3 gram* in approximately 6 gallons appropriate for the spray equipment for application to 1,000 sq. ft. (equivalent to 10 to 25 grams*/A in 25 to 100 gallons/A).

NOTE: Do not exceed specified rates.

Do not apply during extended warm periods where night temperatures exceed 65°F.

Maintain adequate moisture and proper fertilization programs recommended in local area.

Discontinue treatments if thinning is observed.

Do not apply the high rate more frequently than every two weeks. More frequent mowing may be necessary.

Do not use on dormant turf.

HOPS

(For seeded and seedless Fuggle hops and similar varieties adapted to Oregon and the Northwest) To increase yield and pickability: apply spray when vine growth is five to eight feet in length. Use 4 to 6 grams* in 100 to 150 gallons/A.

NOTE: Do not apply within three weeks of harvest.

GibGro K2L

(128 fl. oz/bottle)

Active Ingredient

Potassium Gibberellate* 2.0% w/w
 Equivalent to approximately 0.5 gram* of Potassium Gibberellate per fluid ounce of product.
 EPA Reg. No. 55146-58

* Refers to actual Potassium Gibberellate. See Conversion Table to convert to amount of formulated GibGro K2L needed.

CONVERSION TABLE LIQUIDS

GRAMS OF ACTUAL GIBBERELLIC ACID/ACRE	TO	AMOUNT OF GIBGRO LIQUID FORMULATION PER ACRE
Desired Actual Potassium Gibberellate Concentration (Grams*) In Finished Spray (Per Acre)		GibGro K2L Liquid Contains (0.5 Grams* Fluid Ounce of Formulated Product)
0.5		1oz
1.0		2oz
2.0		4oz
4.0		8oz
5.0		10oz
8.0		16oz
10.0		20oz
12.0		24oz
16.0		32oz
20.0		40oz
25.0		50oz
32.0		64oz
40.0		80oz
48.0		96oz
50.0		100oz

* Refers to actual Potassium Gibberellate.

WARRANTY STATEMENT

AGTROL CHEMICAL PRODUCTS warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label when used according to directions under normal use conditions. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. This warranty does not extend to the handling of the product contrary to label instructions or under abnormal conditions or under conditions not reasonably foreseeable. Buyer assumes all risk of any such use.

[Handwritten signature and date]