

GRO SPURT

GS-4

PLANT GROWTH REGULATOR – WATER MISCIBLE SOLUTION

Registration Number: **2015065A** Fertilizer Act
Lot Number: -----

Guaranteed Minimum Analysis
Gibberellic Acid (GA3).....4%

Acutus Enterprises Inc.
PO Box 74031 Hillcrest Park PO, Vancouver B.C., V5V 5C8
www.grospurt.com info@grospurt.com

KEEP OUT OF REACH OF CHILDREN
WARNING FLAMMABLE
Keep away from heat and open flame

Net contents: 40g GA3 per 1 Liter (825g)

Net Weight: 825g

Container Size: 1 litre

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 604-540-4100 (CEDA Emergency response 24-hr) for emergency medical treatment information.	

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Do not get in eyes, on skin, or on clothing. Wear goggles or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash before re-use.

Gibberellic Acid has a Restricted Entry Interval (REI) of 12 hours.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below.

Applicators and other handlers must wear:

- Protective eyewear
- Coveralls worn over short-sleeved shirt and short pants
- Shoes plus socks
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride or Viton

Follow manufacturer's instructions for cleaning/ maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE items separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if product gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

Do not contaminate water when disposing of equipment wash waters or rinsate.

PHYSICAL AND CHEMICAL HAZARDS

FLAMMABLE – Keep away from heat and open flame.

FOR EMERGENCY: spill, leak, fire, exposure, or accident call

Poison control center or CEDA Emergency Response Team 24-hr Telephone number 604-540-4100

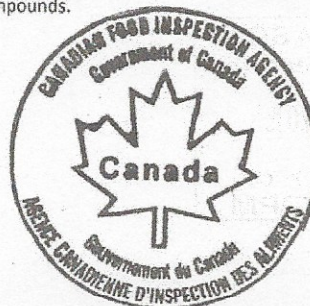
DIRECTIONS FOR USE

This product contains a plant growth hormone and should be used as directed. It may prove harmful when misused. Specific instructions for use in each applicable crop type are contained in the label body under the crop type being treated

GENERAL INFORMATION

- Use only as directed. Read thoroughly and understand the label before making applications.
- Thoroughly spray all parts of the plant or crop to obtain the desired result.
- Prepare solution concentrations by mixing the required amount of product with water only in a clean empty spray tank.
- Dispose of any unused spray material at the end of the day. Refer to the Storage and Disposal section of this label for pesticide disposal instruction.
- When a range of rates is indicated, consult your local experimental station, distributor, or agricultural extension agent for the best program suited to your local conditions.
- Ensure that the pH of the water is less than 8.5.
- Absorption of GROSPURT GS-4 into the plant is greatest under slow drying conditions. Nighttime applications will be more effective when daytime conditions cause rapid drying. Re-apply GROSPURT GS-4 if significant rain occurs within 2 hours of application.
- Airblast application: Do not direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. Do not apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.
- Do not apply by air.
- Consult your local experimental station, distributor, or agricultural extension agent regarding the compatibility of Gibberellic acid with other compounds.

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STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Storage: Keep containers tightly closed when not in use.

Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Handling: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or puncture and dispose of in a sanitary landfill, or incineration.

WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY

Acutus Enterprises Inc. ("ACUTUS") warrants that this Product conforms to the specifications on this label. To the extent consistent with applicable law, ACUTUS makes no other warranties and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for a particular purpose. No agent of ACUTUS or any other person is authorized to make any representation or warranty beyond those contained herein.

It is impossible to eliminate all risks associated with this Product. Plant injury, lack of performance, or other unintended consequences may result because of factors such as abnormal weather conditions, use of the Product other than in strict accordance with this label's instructions, presence of other materials, the manner of application or other factors, all of which are beyond the control of ACUTUS or the seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

To the extent consistent with applicable law: 1) ACUTUS disclaims any liability whatsoever for special, incidental or consequential damages resulting from the handling or use of this Product and 2) ACUTUS'S liability under this label shall be limited to the amount of the purchase price or, at the election of ACUTUS, the free replacement of the Product.

GENERAL INSTRUCTIONS AND EXPLANATIONS

DETERMINING OPTIMAL APPLICATION RATES

The rates on this label are ranges and an optimum GRO-SPURT rate will depend on desired expectations as well as physical and environmental factors. Specific growing practices such as watering, potting media, fertilization, temperature, and light conditions will affect plant responses to a given GRO-SPURT rate.

Results from GRO-SPURT applications are dependent upon timing, rate, frequency of application, and plant vigour at application. GRO-SPURT applications made under slow drying conditions (cool temperatures, low air movement and medium to high relative humidity) will increase absorption by the plant, thus optimizing effectiveness.

To determine optimum use rates, conduct trials on a small number of plants under actual use conditions using the lowest recommended rate. When a range of rates is indicated, use the lowest concentration recommended until familiarity is gained.

LIMITATIONS

For optimum effectiveness, thorough spray coverage must be achieved; all parts of the plant or crop must receive the spray or desired results will not occur.

Do not apply to plants under pest, nutritional, or water stress. GRO-SPURT will not correct or substitute for treatment of pest, nutrient, or water stresses.

Do not apply after flower buds show color.

Avoid drift onto non-target species.

Over-application has the potential to result in accelerated plant growth/development.

MIXING INSTRUCTIONS AND RATE CONVERSION TABLE

Apply with standard spray equipment set according to manufacturer's indications.

GRO-SPURT mixes readily with water. For best results, have the water pH at 7.0 and always below 8.5.

Foliar Applications: Always make sure application equipment is thoroughly clean before mixing. When preparing GRO-SPURT for use as a foliar spray, fill tank to one half full. Add the amount of GRO-SPURT according to the rate conversion table below. Complete filling the tank. Dispose of any unused spray material at the end of each application following local, Provincial or Federal Law or guidelines.

CONVERSION TABLE

ppm (GA3)	Milliliters (mL) of GRO-SPURT/100 L of water	Milliliters (mL) of GRO-SPURT/100 gal water	g ai/acre (ha)
1	2.5	9.5	0.4 (1.0)
5	12.5	47.5	2 (5.0)
10	25	95	4 (10)
20	50	190	8 (20)
25	62.5	237	10 (25)
50	125	475	20 (50)
100	250	950	40 (100)
250	625	237.5	100 (250)
500	1250	475	200 (500)

Glossary of Terms

ppm	Parts per million
g ai/acre	Grams active ingredient per acre
g ai/ha	Grams active ingredient per hectare
REI	Restricted entry interval
PHI	Pre harvest interval

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SPRAYING GUIDE FOR FRUIT CROPS

BLUEBERRIES

Application of GRO-SPURT improves fruit set when natural fruit set is poor due to reduced honeybee activity, adverse weather conditions or physiological factors.

Highbush blueberry (varieties such as Berkley, Bluecrop, Blueray, Concord, Coville, Earliblue, Jersey, Stanley, Walcott, Weymouth, and 1316A)

Make EITHER a single application of 200 ppm, (500 mL/100 L) 80 g ai/acre (200g ai/ha) OR two applications of 100 ppm, (250 mL/100 L) 40 g ai/acre (100g ai/ha). The single application is made at full bloom (75% of the flowers are fully open). When two applications are made, spray the first one at full bloom and the second one within 10 to 14 days. For Weymouth, application can be delayed up to two weeks after bloom to increase size of 'shot' berries.

Robbiteye blueberry (varieties such as Aliceblue, Beckyblue, Bonito, Brightwell, Climax, Delite, Tiftblue, and Woodward)

Make EITHER a single application of 200-400 ppm, (500-1000 mL/100 L) 80-160 g ai/acre (200-400g ai/ha) when most of the flowers are elongated but not yet open (bloom stage 5), OR two to four applications of 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) every 10 to 14 days starting at bloom stage 5. Ensure thorough spray coverage. PHI 7 days

CHERRIES – RED TART

Application of GRO-SPURT maintains and extends high fruit bearing and reduces the occurrence of 'blind' nodes. The beneficial effect of GRO-SPURT application is not apparent until 2 – 3 years after initial application and is dependent on annually repeated applications. Make a single application 14 – 28 days after bloom when 3 – 5 terminal leaves are fully expanded or at least 2.5 cm-7.6 cm of terminal growth have occurred. Apply GRO-SPURT according to the table below as a dilute spray. Lower water volumes can be used but it is extremely important not to overdose.

Table 3 – Application rates for red tart cherries

Tree age (years)	PPM, (mL/100 L), g ai/acre (g ai/ha)
6 – 10	10-15 (25-37.5), 4-6g ai/acre (10-15 g ai/ha)
11 – 15	20-25 (50-62.5), 8-10g ai/acre (20-25g ai/ha)
16 – 20	25-35 (62.5-87.5), 10-14g ai/acre (25-35g ai/ha)
21 +	35-50 (87.5-125), 14-20g ai/acre (35-50g ai/ha)

These application rates are based on tree vigor. Rates must be adjusted to the vigor expressed in each orchard. Use the higher rates for trees of low vigor and the lower rates for trees of high vigor. Applications cannot overcome the effects of nutritional, water, pest, disease or other stress on trees. Excessive application will increase vegetative growth at the expense of fruit production the following year.

CHERRIES – SWEET

To produce larger, brighter colored, and firmer fruit GRO-SPURT delays fruit ripening 4-5 days thus lengthening the picking period and delaying the period of susceptibility to rain cracking. Make one application of 20-50 ppm, (50-125 mL/100 L) 8-20 g ai/acre (20-50g ai/ha) as a spray on large mature trees when the fruit is light green to straw colored in sufficient water to ensure thorough wetting. Apply as foliar spray to run-off. PHI 7 days

CHERRIES – NON-BEARING SWEET AND TART

Application of GRO-SPURT reduces the flowering and fruiting of young sweet and tart cherries, minimizing the competitive effect of fruiting on tree development. Make one application of 20-50 ppm, (50-125 mL/100 L) 8-20g ai/acre (20-50g ai/ha), in conditions of low vigor, 2 applications can be made allowing at least a 7-day interval between applications. Do not treat trees in their first year. Treat in the second season to reduce fruiting in the third season and treat again in the third season if it is necessary to reduce fruiting in the fourth. PHI 7days

OTHER STONE FRUIT

Seasonal application of GRO-SPURT increases fruit firmness and improves fruit quality. Make one application of 40-80 ppm, (100-200 mL/100 L) 16-32g ai/acre (40-80g ai/ha) as a foliar spray at least 21 days prior to the beginning of harvest. Use sufficient water to ensure thorough spray coverage. Applications in May through July may cause a reduction in flower counts in the year following application.

ITALIAN PRUNE

Application of GRO-SPURT reduces internal browning, increases size and improves fruit quality. Make one application of 40-125 ppm, (100-312.5 mL/100 L) 16-50g ai/acre (40-125g ai/ha) and ensure thorough coverage. Apply 4-5 weeks before anticipated harvest. PHI 7 days

NON-BEARING STONE FRUIT

Application of GRO-SPURT reduces the flowering and fruiting of young stone fruit trees, minimizing the competitive effect of fruiting on tree development. Make one application of 50-200 ppm, (125-500 mL/100 L) 20-80g ai/acre (50-200g ai/ha) during flower bud initiation for the following years' development. Use sufficient water to ensure thorough spray coverage of the tree canopy. Do not treat trees in their first year. Treat with GRO-SPURT in the second season to reduce flowering and fruiting in the third season. Treat again in the third season if flower/fruit reduction is desired in the fourth season.

CRANBERRIES

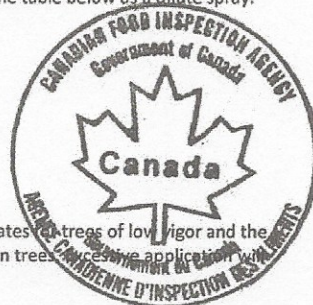
Apply GRO-SPURT to decrease or eliminate fruit set in the year of application. Make one application of 25-100 ppm, (62.5-250 mL/100 L) 10-40g ai/acre (25-100g ai/ha) at early bloom (2-5% scatter bloom) in sufficient water to ensure thorough coverage. To avoid applications having no effect or the opposite effect (increased fruit size) do not apply later than indicated.

MELONS AND CUCUMBERS

Application of GRO-SPURT stimulates fruit set in extended periods of cool weather. For cantaloupes and watermelons make one application of 2.5-10 ppm, (6.25-25 mL/100 L) 1-4g ai/acre (2.5-10g ai/ha) and ensure thorough wetting prior to bloom. Make 2 further applications at 10 – 14 day intervals. For cucumbers 3 – 4 applications following fruit set may be required. For maximum benefit of these treatments to be achieved, vines must be in good condition. PHI 7 days

RHUBARB

Application of GRO-SPURT helps break dormancy and increase yield of forced rhubarb. If the rest period is not broken, make a single application of 60 mL of a solution containing 100 mL GRO-SPURT in 100 L of water to each cleaned crown. When the rest period is broken by cold weather, apply 60 mL of a solution containing 50 mL GRO-SPURT in 100 L of water to each cleaned crown. Maintain forcing house temperatures at 4.5–10° C for 24 hours following application. To prevent lower yields and poor stalk color, keep temperatures below 10°C. PHI 7 days



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APPLE

Apply 10-50 ppm (25-125 mL/100 L) 4-10g ai/acre (10-50g ai/ha) and spray once as a foliar spray at early fruit set. PHI 14 days.

PEAR

Apply 10-50 ppm (25-125 mL/100 L) 4-10g ai/acre (10-50g ai/ha) and spray once as a foliar spray at early fruit set.

PEACH

Apply 200 ppm (500mL/100 L) 80g ai/acre (200g ai/ha) and spray twice as a foliar spray at full bloom and at fruit set.

STRAWBERRIES

Application of GRO-SPURT increases the production of runners by mother plants. Make one application of 40-60ppm, (100-150 mL/100 L) 16-24g ai/acre (40-60g ai/ha), 10 – 30 days after planting, when plants have 1 – 6 leaves. Spray to the point of run-off. For best results, do not apply to plantings after mid-May. Do not apply to fruiting plants. PHI 7 days

TABLE GRAPE APPLICATION

Seedless Varieties	"Stretch"			"thinning"			"sizing"			Target Diameter In mm
	ppm	mL/ 100 L	Timing	ppm	mL/ 100 L	Timing	ppm	mL/ 100 L	Timing	
Thompson	20-50	50-125	1-3 sprays before bloom Flower clusters 5.0 cm-17.7 cm long	20-50	50-125	1-4 sprays during bloom If bloom is extended apply 2nd application 1-7 days after the 1st application.	80-320	200-800	1-4 sprays starting at these berry sizes. All applications to be made within 14 days.	3-5
Flame	20-50	50-125		8-40	20-100		50-320	125-800		6-9
Perlette	20-50	50-125					80-320	200-800		4-5
Raisin	20-50	50-125		8-30	20-75		10-50	12.5-125		3-5
Others				1.5-30	4-75		20-150	50-375		3-14
Black Corinth (Zante Cuant)							2.5-30	6-75		
Seeded Varieties							'Sizing' 'Reduced Berry Shivel' in Emperor			
Calmeria							50 For all	125 For all	1 spray 14 days after shatter. Berry diameters of approx. 10-15 mm. may increase berry size.	12-16 mm
Christmas Rose										12-16 mm
Emperor										12-16 mm
Red Globe										12-18 mm
Rogue										12-16 mm
Queens										12-15 mm

Note: For Table grapes, the coverage in g ai/ha is the same number as ppm in the table 1. PHI 7 days

WINE GRAPES

An application of GRO-SPURT increases cluster length and improves air circulation and light penetration within the cluster. . A single spray application of GRO-SPURT on seeded wine grape cultivars will likely cause some reduction in yield. Yield reduction may result from an increase in shot berries in the year of application, and/or a reduction in fruitfulness in the first and second year following the application.

TABLE 2 – APPLICATION RATES AND TIMING FOR WINE GRAPES

Variety	PPM/g ai per ha (mL/100 L)	Timing
Palomino Sauvignon Blanc Tinta Madeira	1-3 (2.5-7.5) 0.4-1.2g ai/acre	1 spray when average flower cluster length is 7.6 cm-10.1 cm. Do not make application less than three weeks before full bloom. Use is based on 1000 liters of water per hectare
Aleatico Carignane Chardonnay Chenin Blanc French Colombard Pinot Noir Valdepenas	3-5 (7.5-12.5) 1.2-2.0g ai/acre	
Barbera Petite Syrah Zinfandel	5-10 (12.5-25) 2.0-4.0g ai/acre	
Green Hungarian	10-20 (25-50) 4.0-8.0g ai/acre	
Grenache Alicante	20 (50) 8.0g ai/acre	
Salvadore	20-40 (50-100) 8.0-16g ai/acre	

Note: For Table grapes, the coverage in g ai/ha is the same number as ppm in the table 2, PHI 7 days

SPRAYING GUIDE FOR VEGETABLE CROPS**ARTICHOKE**

Application of GRO-SPURT accelerates maturity, allowing early harvesting. Make 1 – 3 applications of 25-50, ppm, (62.5-125 mL/100 L) 16-20g ai/acre (25-50g ai/ha) to perennials at bud initiation. For annuals, make 1 – 4 applications at 2-week intervals, beginning at the fourth true leaf stage. Use sufficient water to ensure thorough wetting of the entire plant.

BROCCOLI

Apply 100 ppm, (250 mL/100 L) 40g ai/acre (100g ai/ha) and spray when the plants have 6-8 leaves and the stem diameter is about 0.5-1.0 cm. promotes growth of the flower ball and shortens time to harvest. PHI 14 days.

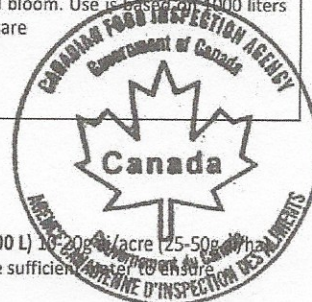
CAULIFLOWER

Apply 100-ppm (250 mL/100 L) 40g ai/acre (100g ai/ha) and spray when the plants have 6-8 leaves and the stem diameter is about 0.5-1.0 cm. promotes growth of the flower ball and shortens time to harvest. PHI 14 days.

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CARROTS (FRESH AND PROCESSING)

Apply GRO-SPURT to delay leaf senescence. Make first application 4 – 6 weeks after emergence using commercial ground or aerial equipment with spray concentrations of 20-30 ppm (50-75 mL/100 L) 8-12g ai/acre (20-30g ai/ha) and a second application 14 days later may be required to achieve desired foliar recovery in severe disease situations or cool weather. Do not make more than two applications per crop cycle. Dilutions of greater concentrations can increase the risk of excessive top growth, particularly with a second application. PHI 7 days

CELERY

Application of GRO-SPURT increases plant height and yield. Use increases plant ability to overcome stress due to cold weather conditions or saline soils, and obtain earlier maturity. Make one application of 8-25 ppm, (20-62.5 mL/100 L) 3.2-10g ai/acre (8-25g ai/ha), 3 to 4 weeks prior to. PHI 7 days

CUCUMBERS

Application of GRO-SPURT stimulates fruit set in extended periods of cool weather. For cantaloupes and watermelons make one application of 2.5-10 ppm, (6.25-25 mL/100 L) 1.0-4g ai/acre (2.5-10g ai/ha), in sufficient water to ensure thorough wetting prior to bloom. Make 2 further applications at 10 – 14 day intervals. For cucumbers 3 – 4 applications following fruit set may be required. For maximum benefit of these treatments to be achieved, vines must be in good condition. PHI 7 days

EGGPLANT

Apply 50ppm, (125 mL/100 L) 20g ai/acre (50g ai/ha) and spray whole plant after late flower formation and early fruit development to increase fruit size.

GOURDS

Apply 20-30 ppm, (50-75 mL/100 L) 8-12g ai/acre (20-30g ai/ha) and spray young fruit after flower formation to increase size. PHI 7 days

LETTUCE FOR SEED

Application of GRO-SPURT produces more uniform bolting and greater seed production. Make 1 – 4 applications of 2.5-10 ppm (6.25-19 mL/100 L) 1-3 g ai/acre (2.5-10g ai/ha) as a dilute spray at 2-week intervals beginning at the fourth true leaf stage. Use sufficient water to ensure thorough wetting. PHI 7 days

PEPPERS AND CHILIES

To promote plant growth in areas with short growing seasons or where low temperatures cause slow plant growth and make 1 – 2 applications of 2.5-7.5 ppm, (6.25-19 mL/100 L) 1-3.0g ai/acre (2.5-7.5g ai/ha) of GRO-SPURT starting 2 weeks after planting. Repeat at 2-week intervals. To promote plant growth and increase fruit set make 1 – 2 applications of 2.5-10 ppm, (6.25-25 mL/100 L) 1.0-4g ai/acre (2.5-10g ai/ha) during flowering. Use the higher rate for areas and varieties with pollination and fruit set problems. To increase fruit size, make one application of 2.5 -10 ppm, (6.25-25mL) 1-4g ai/acre (2.5-10g ai/ha) at the beginning of picking. Use the higher rate for plants carrying higher number of fruit. PHI 21 days.

RADISH

Apply 20-50 ppm, (50-125 mL/ 100 L) 8-20g ai/acre (20-50g ai/ha) and irrigate roots when tuber swelling begins.

SEED POTATOES

For increased tuber set and smaller tuber profile for seed, table and processing tubers an application of GRO-SPURT GS-4 to potato seed prior to planting will result in the production of a more desirable smaller tuber for seed, table or processing purposes. Application of GRO-SPURT also helps break dormancy and stimulates uniform sprouting. Dip freshly dug seed potatoes in a solution of 4-5 ppm, (10-12.5 mL/100 L) 1.6-2.0g ai/acre (4-5g ai/ha) before planting. If spraying, apply in areas with adequate ventilation and before applying a fungicide seed treatment. Treated potatoes are not to be used for food or feed.

SOYBEAN

Apply 20-40 ppm, (50-100 mL/100 L) 8-16g ai/acre (20-40g ai/ha) and spray twice during early and mid-flowering to increase yield.

SPINACH – FALL AND OVERWINTERED

Application of GRO-SPURT improves the quality, increases yield and aids harvest. Make one application 15-25 ppm, (37.5-62.5 mL/100 L) 6-10g ai/acre (15-25g ai/ha) 14 days before each anticipated harvest. Ideally spray in the early morning when dew is present on the crop and daytime temperatures are between 4.5° – 21°C. Maximum benefit is seen from this treatment when low temperatures would limit the growth of untreated spinach. Do not apply to spring sown spinach. Do not treat spinach after mid-winter or if temperatures are expected to exceed 24°C within several days of application as this can induce bolting. PHI 7 days

TOMATO

Apply 50-150ppm, (125-375 mL/100L) 20-60g ai/acre (50-150g ai/ha) and spray whole plant at 2 weeks after transplantation at the lower concentrations and again at 150 ppm, (375 mL/100 L) 60g ai/acre (150g ai/ha) when fruit begins to appear to increase branching, budding and yields per plant. PHI 7 days.

ZUCCHINI

Apply 25-50 ppm, (62.5-125 mL/100 L) 10-20g ai/acre (25-50g ai/ha) and spray whole plant when fruit begins to appear.

OTHER CROPS

COTTON

Application of GRO-SPURT promotes early plant growth, increases seedling vigor and helps overcome stress induced by cool weather. Apply as a seed treatment to the seed or as a foliar spray between the cotyledon and 5-leaf stage a solution of 3-10 ppm, (7.5-25 mL/100 L) 1.2-4g ai/acre (3-10g ai/ha). Repeat applications are necessary but do not exceed 4 in total. Use higher rates when temperatures are likely to average 24°C or less during the 14 days after application. In order to avoid excessive growth, do not overuse these treatments.

HOPS

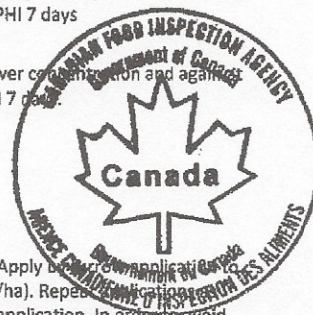
Application of GRO-SPURT increases the yield and aids picking of seeded and seedless varieties of Fuggle hops and similar varieties. Make one application of 10-15 ppm, (25-37.5 mL/100 L) 4-4g ai/acre (10-15g ai/ha), when vine growth is 5 – 8 feet long.

RICE SEED TREATMENT

To promote main culm and tiller panicle extension resulting in improved pollination and seed yield apply GRO-SPURT at 10-20 ppm, (25-50 mL/100 L) 4-8g ai/acre (10-20g ai/ha) between split- boot and 100% panicle heading. Heading applications to the first crop also has been observed to accelerate re-growth of second crop rice.

RICE (HYBRID SEED PRODUCTION)

To promote main culm and tiller panicle extension resulting in improved pollination and seed yield apply GRO-SPURT at 50-200 ppm, (125-500mL/100L) 20-80g ai/acre (50-200g ai/ha). Make 1 - 5 applications at regular intervals during the heading period to promote main culm and tiller panicle extension.



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RICE SEEDLING POST-EMERGENCE TREATMENT

Application of GRO-SPURT prior to permanent flooding promotes uniform and vigorous growth of semi-dwarfing varieties allowing earlier flooding with its associated agronomic benefits. When permanent flood is desired before tiller development, make one application of GRO-SPURT of 2.5-7.5 ppm, (6.25-18.75 mL/100 L) 1-3 g ai/acre (2.5-7.5g ai/ha) at the 1-2 leaf stage. When flooding following an initial tilling, apply 2.5-7.5 ppm, (6.25-18.75 mL/100 L) 1 to 3 g ai/acre (2.5-7.5g ai/ha) at the 3 to 4 leaf (4th leaf showing) stage. Use higher rates when temperatures are likely to average 24°C or less during the 14 days after application. Either application will allow the establishment of a permanent flood 7-10 days earlier. Do not exceed the specified rates or make more than one application. To promote early season plant vigor and more uniform seedling growth prior to permanent flood establishment apply 2.5-7.5 ppm, (6.25-18.75 mL/100L) 1-3 g ai/acre (2.5-7.5g ai/ha) and make 1-2 applications at the 1-2 and/or 4-5 leaf stages of growth. Early flooding reduces the additional flushing costs associated with a delay in establishing the permanent flood, reduce weed infestations and the number of herbicide applications, and/or promote earlier and more uniform grain maturity. Do not apply prior to the 2-3 leaf stage if gibberellin seed treatment is used. Timing and dosage are to be based upon environmental conditions, tank mix combinations with herbicides, and preferred permanent flood practice in relation to rice leaf stage. Do not apply when rice is subjected to drought stress conditions.

ORNAMENTAL CROPS, CUT FLOWERS AND TURFGRASS

The following use rates are based on results with common cultivars. Differences in responsiveness vary between cultivars, growing conditions, and cultural management systems. Therefore, prior to widespread usage, test a small number of plants from each cultivar under a specific set of growing and cultural management conditions to verify desired efficacy.

GRO-SPURT is an extremely potent plant growth regulator. The general effects on floriculture crops are to increase plant size through increased stem elongation and leaf and petal expansion. If applied at an improper time, at excessive rates, or too frequently, plants have the potential to become long and spindly with weak stems.

SPRAY GUIDELINES FOR ORNAMENTALS:

AZALEA

Applications of GRO-SPURT have been shown to partially replace a cold treatment needed to break flower dormancy of Azalea. Apply a single foliar application of 250-500 ppm, (625-1250 mL/100 L) 100-200g ai/acre (250-500g ai/ha) for three consecutive weeks. Begin applications only after plants have received 3 to 4 weeks of chilling. Have plants at Stage 5 of floral development (i.e., style elongated and open) when treatment is initiated. A representative spray schedule consists of applications made at 3, 10, and 17 days after four weeks of chilling. Flowers will not develop properly if applied prior to Stage 5. Thorough spray coverage is essential for uniform flowering. Do not apply after flower buds show color.

Cultivars such as 'Gloria', 'Prize', and 'Redwing', use a single spray of 1,000 ppm, (2500mL/100 L) 400g ai/acre (1000g ai/ha), after 4 weeks of chilling has proven effective in breaking dormancy, to inhibit flower bud initiation during vegetative growth.

Applications of GRO-SPURT have been shown to inhibit flower bud initiation during vegetative growth of Azalea 100-750 ppm, (250-1875 mL/100 L) 40-300g ai/acre (100-750g ai/ha). Apply a single foliar application of GRO-SPURT at 100 to 750 ppm (250-1875 mL/100 L) 40-300g ai/acre (100-750g ai/ha). Beginning 2 to 3 weeks after each pinch. Continue applications on a weekly basis for 1-2 weeks after the first application. Apply a maximum of three applications

CALLA LILY

For increased flowering. Applications of GRO-SPURT have been shown to increase the number of flowers per rhizome or tuber in Calla Lilies. Apply 500 ppm, (1250 mL/100 L) 200g ai/acre (500g ai/ha). Soak rhizome or tuber in GRO-SPURT at 500 ppm for 10 minutes prior to planting Note: Some flower leaf or flower stretching has occasionally been seen on some cultivars. Reduce rates when this is noted. Changing soaking time or concentration varies the response to GRO-SPURT.

CAMELLIA

For substitution of chilling requirements and to increase bloom size applications of GRO-SPURT have been shown to substitute for the chilling requirements and increase bloom size of Camellia. Dilute GRO-SPURT by mixing equal amounts of GROSPURT with water. Remove the vegetative bud immediately adjacent to or below the floral bud. Place a single drop of the prepared solution to the vegetative bud scar. Note: The addition of a deposition aid (such as carboxymethylcellulose) to thicken the solution will decrease run-off.

GERANIUM

Cuttings

To increase the number and size of flowers apply 1-5 ppm, (2.5-12.5 mL/100 L) 0.4-2.0g ai/acre (1-5g ai/ha) as a foliar spray when inflorescence first appears. Note: Treatment prior to inflorescence or higher than 5ppm conc. can cause peduncle stretching

Seedlings

To advance flowering from 10-20 days depending on variety apply 5-15 ppm, (12.5-37.5 mL/100 L) 2.0-6.0g ai/acre (5-15g ai/ha) as a foliar spray when first flower bud set is seen and then spray entire plant. Note: Incorrect timing or higher than 15 ppm can cause stretching.

POMPOM CHRYSANTHEMUM

For elongated peduncles applications of GRO-SPURT have been shown to elongate peduncles of Pompom Chrysanthemum. Apply a single foliar application of 25-60 ppm, (62.5-150 mL/100L) 10-24g ai/acre (25-60g ai/ha) as a single foliar spray 4 to 5 weeks after initiation of short days. Apply directing the spray solution towards the flower buds Note: Over-application or incorrect timing has caused stretched, spindly, and weakened stems.

SPATHIPHYLLUM

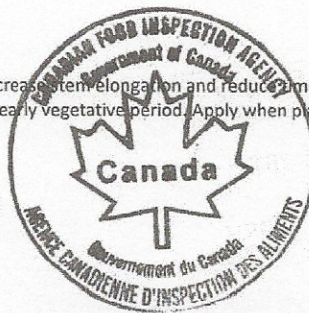
To accelerate bloom and increase the number of flowers per plant applications of GRO-SPURT have been shown to increase flowering of Spathiphyllum. Apply 150-250 ppm, (375-625 mL/100 L) 60-100 g ai/acre (150-250g ai/ha) as a single foliar application 9 to 12 weeks prior to expected date of sale. Spray to the point of run-off and thoroughly wet all growing points. Note: Some flower distortion or leaf stretching has been observed on cultivars such as 'Petite', 'Starlight', 'Tasson', and 'Mauna Loa'. Reduce rates when this is noted. On other cultivars, first evaluate GRO-SPURT on a small number of plants prior to application of the product on a commercial basis.

CUT FLOWERS

ASTER: CALLISTEPHUS CHINENSIS (Monte Carlo, Novi, Belgi)

To promote stem elongation, and break dormancy applications of GRO-SPURT have been shown to increase stem elongation and reduce time to flowering. Apply 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) and make 1 to 3 applications during the early vegetative period. Apply when plants are 2" - 6" in height and make applications 2 to 3 weeks apart.

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GYPSOPHILA

To accelerate plant growth, increase number of flowering stems, increase flower number and increase uniformity, applications of GRO-SPURT have been shown to promote uniform and increased flowering of Gypsophila. Apply 150-500 ppm, (375-1250 mL/100 L) 60-200g ai/acre (150-500g ai/ha). Apply 3 to 4 applications after 4 weeks of growth (after pinching). Make applications 2 weeks apart.

STOCK

To promote plant growth and stem elongation, applications of GRO-SPURT have been shown to promote plant growth and stem elongation of Matthiola incana. Apply 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) as a foliar spray when plants are 4" - 8" in height. Make applications 2 to 3 weeks apart.

DELPHINIUM (D. Elatum, D. Grandiflorum, D. Belladonna, D. Bellamosum, D. Cardinale, D. Nudicaule, And Delphinium Hybrids)

To promote plant growth and stem elongation applications of GRO-SPURT have been shown to promote plant growth and stem elongation of Delphinium. Apply 50-100 ppm, (125-250 mL/100 L) 20-40 g ai/acre (50-100g ai/ha) as a foliar spray when plants are 4" - 8" in height. Make applications 2 to 3 weeks apart.

LARKSPUR (CONSOLIDA AMBIGUA, C. ORIENTALIS, DELPHINIUM AJACIS)

To promote plant growth and stem elongation applications of GRO-SPURT have been shown to promote plant growth and stem elongation of Larkspur. Apply 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) as a foliar spray when plants are 4" - 8" in height. Make applications 2 to 3 weeks apart.

QUEEN ANNE'S LACE

To promote plant growth and stem elongation applications of GRO-SPURT have been shown to promote plant growth and stem elongation of Queen Anne's lace. Apply 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) as a foliar spray when plants are 4" - 8" in height. Make applications 2 to 3 weeks apart.

STATICE

For earlier flowering and increased flower yield applications of GRO-SPURT have been shown to decrease the time to flower, increase stem elongation, and increase flower yield of Statice. Apply 400-500ppm, (1000-1250 mL/100 L) 160-200g ai/acre (400-500g ai/ha) as a foliar spray and 10 ml of a 400 to 500 ppm solution to each plant when plants are 10 inches or more in diameter (approximately 90 to 110 days after sowing).

SWEET WILLIAM

To promote plant growth and stem elongation applications of GRO-SPURT have been shown to promote plant growth and stem elongation of Sweet William. Apply 50-100 ppm, (125-250 mL/100 L) 20-40g ai/acre (50-100g ai/ha) as a foliar spray when plants are 4" - 8" in height. Make applications 2 to 3 weeks apart.

BEDDING PLANTS, ANNUAL AND PERENNIAL POTTED CROPS (For Example: Tree Form Azalea, Flowering Chrysanthemum, Poinsettia) AND, FIELD-GROWN ORNAMENTALS AND BULB CROPS:

Apply GRO-SPURT to bedding plants, annual and perennial potted crops, and bulb crops to promote plant growth. Applying GRO-SPURT can dramatically promote the growth of most dicot and some monocot plants. Also a foliar GRO-SPURT application can overcome the over-applications of gibberellin inhibiting plant growth regulators. When applying GRO-SPURT start with 1 ppm unless previous experience warrants higher use rates. If desired results are not achieved a re-application or an increase in rate is often warranted. Apply a single application of 1-25 ppm, (2.5-62.5 mL/100 L) 0.4-10g ai/acre (1-25g ai/ha) directly to plant foliage. NOTE: GRO-SPURT is very active and application at an excessive rate results in undesirable stem elongation. First evaluate GRO-SPURT on a small number of plants before application of the product on a widespread basis

BERMUDA GOLF TURF

Cool Weather Application

On Bermuda grass (Tifdwarf, Tifgreen, and other cultivars) to initiate or maintain growth and prevent color change during periods of cold stress and light frosts apply 25 ppm, (62.5 mL/100 L) 10g ai/acre (25g ai/ha), weekly or 50 ppm, (125 mL/100 L) 20g ai/acre (50g ai/ha) every 2 weeks. Maintain adequate moisture and proper fertilization programs as required for the local area. Keep applications of the high rate at least two weeks apart. Do not use on dormant turf. Discontinue treatments if thinning is observed. More frequent mowing is occasionally necessary.

Warm Weather Application

To maintain or enhance regrowth of golf course Bermuda grass during summer months apply 2.5-7.5 ppm (6.25-20 mL/100 L) 1.0-3.0g ai/acre (2.5-7.5g ai/ha) and spray weekly.

PASTURE GRASS:

To increase grass length and shorten time to harvest, spray 10-20 ppm, (25-50 mL/100 L) 4-8g ai/acre (10-20g ai/ha) every 7-10 days, one week after last harvest and one week before next harvest.

CEREAL GRAINS

BARLEY, OATS, RYE, SORGHUM WHEAT, TRITICALE

To increase dry matter production for grazing and hay apply 1-3 times every 3-4 weeks 20-70 ppm (50-175mL/100L) 8.5-28.5g ai/acre (20-70g ai/ha), in the spring, when 2.5-5 cm of green have emerged and in the autumn when growth has slowed due to cool temperatures.

Best results are obtained when average temperatures are between 4.5 and 15.5 C.

WINTER BRASSICAS (TURNIP, KALE, RAPE)

To increase dry matter production for grazing and hay apply 1-3 times every 3-4 weeks 20-70 ppm (50-175mL/100L) 8.5-28.5g ai/acre (20-70g ai/ha) in the spring when 2.5-5 cm of green have emerged and in the autumn, when growth has slowed due to cool temperatures.

CORN

To increase yield and resistance to effects of heat and drought apply GRO-SPURT at emergence of leaves V2-V6, 20-50 ppm (50-125mL/100L) 17-42.5g ai/acre (20-50g ai/ha).

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