#### STUDY TITLE

# PETITION FOR A ONE-YEAR EXTENSION OF EXCLUSIVE USE DATA PROTECTION FOR FORCHLORFENURON (CPPU)

# **DATA GUIDELINE**

Not Applicable

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# STATEMENT OF NO DATA CONFIDENTIALITY

No claim of confidentiality, on any basis whatsoever, is made for any information contained in this document. I acknowledge that information not designated as within the scope of FIFRA sec. 10(d)(1)(A), (B), or (C) and which pertains to a registered or previously registered pesticide is not entitled to confidential treatment and may be released to the public, subject to the provisions regarding disclosure to multinational entities under FIFRA 10(g).

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These data are the property of KIM-C1, LLC, and as such, are considered to be confidential for all purposes other than compliance with FIFRA Section 10. Submission of these data in Compliance with FIFRA Section 10 does not constitute a waiver of any right to confidentiality that may exist under any other statute or in any other country.

# GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

The following is a detailed description of all differences between the practices used in the study and those required by 40 CFR 160:

1) This report is a compilation of information and is not subject to the principles of Good Laboratory Practice Regulations set forth in Title 40, Part 160 of the Code of Federal Regulations of the United States of America.

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# PETITION FOR A ONE-YEAR EXTENSION OF EXCLUSIVE USE DATA PROTECTION FOR FORCHLORFENURON (CPPU)

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# PETITION FOR A ONE-YEAR EXTENSION OF EXCLUSIVE USE DATA PROTECTION FOR FORCHLORFENURON (CPPU)

#### **OVERVIEW**

KIM-C1 hereby requests a one-year extension of exclusive use protection for data supporting the registration of its plant growth regulator (PGR), forchlorfenuron (N-(2-chloro-4-pyridyl)-N'-phenylurea), commonly known as CPPU. KIM-C1 has met the threshold requirement set forth in FIFRA § 3(c)(1)(F)(ii) for a one-year extension by registering at least three (3) minor use crops within the first 7 years of the commencement of the exclusive use period on February 2, 2005.

In order to grant an extension of the exclusive use period pursuant to FIFRA § 3(c)(1)(F)(ii), EPA must determine either that:

- There are insufficient efficacious alternative registered pesticides available for use;
- The alternatives to the minor use pesticide pose greater risks to the environment or human health;
- The minor use pesticide plays or will play a significant part in managing pest resistance; or
- The minor use pesticide plays or will play a significant part in an integrated pest management program.

This Petition demonstrates that the first condition is met; namely, that there are insufficient efficacious alternative pesticides registered for the following four (4) minor use crops: kiwifruit, table grapes, rabbiteye blueberries and northern highbush blueberries. A minor use crop is either (1) a crop produced on fewer than 300,000 acres, or (2) a major crop for which the pesticide use is so limited that revenues from sales would be less than the cost of registering a pesticide. Each of the minor crops discussed below are produced on less than 300,000 acres.

# **Background**

CPPU is a synthetic cytokinin that has significant physiological activity on many fruits including grapes. On February 2, 2005, EPA granted KIM-C1 both a technical and an end-use registration for CPPU for use on grapes and kiwifruit (EPA Reg. Nos. 71049-1, -2). The primary physiological effects of CPPU on grapevines involve the regulation of fruit set, berry growth, and berry development in table and raisin grapes. When applied prior to or during anthesis or bloom, CPPU increases the fruit set on both seedless and seeded grape cultivars. When applied following fruit set, CPPU stimulates cell division

and cell elongation, resulting in increased berry size. CPPU has the same effects on kiwifruit and is applied to increase fruit size of that crop in California (**Exhibit A**). Use on blueberries was added to the CPPU label through EPA registration in 2010.

EPA reported in the Pesticide Fact Sheet for CPPU that the Agency has determined that CPPU will fill a niche for kiwifruit and table grapes and is therefore in the public interest. For fresh grapes (table grapes), the benefits include increased berry size, more uniform berry size within a cluster, firmer berries, less quality loss with long term storage (which may decrease the need for sulfur dioxide gas), and less berry shatter. These factors result in higher yields and higher quality. For kiwifruit, CPPU results in an increase in fruit size, but does not affect the number of fruit or the keeping quality of the fruit (**Exhibit B**).<sup>2</sup>

Blueberries were added to the CPPU label through efficacy and residue research work sponsored by IR-4 beginning in 2004. Blueberry growers in key production states requested that IR-4 sponsor the work necessary to allow CPPU to be registered on blueberries to enhance fruit size and set. As stated above, registration on blueberries was achieved in 2010.

CPPU plays an important role in the cultural practices for each of the crop uses discussed in this Petition. Because of its mode of action, CPPU provides fruit sizing which is important in the table grape and kiwifruit industries. In blueberries, CPPU is used to enhance fruit set, fruit size and also to delay harvest which is important in a number of areas. There are no competitive PGR products registered in California to enhance or increase fruit size of kiwifruit. On table grapes, gibberellic acid (GA<sub>3</sub>) is registered for use to increase fruit size, among other uses. GA<sub>3</sub> and CPPU have been shown to work well together on some varieties. On other varieties that are sensitive to GA<sub>3</sub>, its usefulness is limited and therefore CPPU has a greater role in increasing fruit size. Also, GA<sub>3</sub> causes a reduction of return fruitfulness the next year on some varieties. CPPU does not cause reduction of return fruitfulness and some growers are selecting to use it over GA<sub>3</sub>.

On rabbiteye blueberries, GA<sub>3</sub> and CPPU are registered and used to enhance fruit set. CPPU, on the other hand, will also increase fruit size of rabbiteye blueberries so it has become the product of choice when fruit set is light due to weather or poor pollination. There is no other product to increase fruit size on blueberries. On northern highbush blueberries specifically in Michigan, Oregon and Washington, CPPU is used to delay harvest so that growers can extend their harvest and marketing opportunities. No other PGRs are registered for this specific use.

#### KIWIFRUIT

Kiwifruit represents a high-value perennial crop grown predominantly in California. There is some production in Oregon and Michigan among other states. California grows about 98% of all kiwifruit produced nationally. The U.S. ranks seventh in world production of kiwifruit behind Italy, New Zealand, Chile, France, Japan, and Greece. The marketing season for California kiwifruit extends from late September into June.

Approximately 95% of the kiwifruit harvest is sold fresh with the remainder being processed (**Exhibit C**).<sup>3</sup>

Table 1
Kiwifruit Production in California (2010-2012)

Year	Bearing (Acres)	Yield/Acre (Tons)	Production (Tons)
2010	4,200	7.79	32,718
2011	4,200	8.98	37,716
2012	4,200	7.05	29,610

Source: USDA/NASS – Noncitrus Fruits and Nuts 2012 Preliminary Summary (January 2013 (Exhibit D1)<sup>4</sup>

# **Cultural Practices**

While kiwifruit is grown in many parts of California, the majority is produced in the Sacramento Valley (Butte, Yuba and Sutter counties) and the Southern San Joaquin Valley (Tulare, Kern, Fresno and Kings counties), with fruit coming occasionally from San Bernardino, Santa Barbara, San Luis Obispo, Ventura and San Diego counties. Fruit in the San Joaquin Valley ripens 7 to 10 days earlier than that in the north, but otherwise conditions in both growing regions are very similar. Bees are required for pollen transfer, so honeybees are routinely placed around vineyards for pollination. The most important pests of California kiwifruit are post-harvest disease (*Botrytis*), armored scales, omnivorous leaf rollers, soil-borne nematodes and diseases.<sup>3</sup>

After initial fruit set, only 50 to 60% of the crop will actually make it to the market place due to weather-related factors that affect fruit size and quality, industry enforced quality standards, thinning, and culling. Use of a PGR like CPPU that helps increase fruit size is very useful in meeting size quality standards.

#### **PGRs on Kiwifruit**

EPA reported in the Pesticide Fact Sheet for CPPU that since there are no other plant growth regulators available to increase fruit size, the Agency has determined that the criteria for a positive Public Interest Finding have been met for CPPU on kiwifruit. The harpin protein is registered for kiwifruit; however, this chemical is not registered in California, where 95 to greater than 98 percent of the U.S. kiwifruit crop is grown. Other than hydrogen cyanamide, used to stimulate bud burst, there appear to be no other registered PGRs except CPPU registered on kiwifruit to increase fruit size.<sup>3</sup>

As reflected on the CPPU label (e.g., **Exhibit E**<sup>5</sup>), CPPU is applied to kiwifruit in a single application of 8 to 16 fluid ounces (2 to 4 grams a.i.) for intermediate size enhancement. For maximum berry size enhancement, 24 to 32 fluid ounces (6 to 8 grams a.i.) is used. Application should be made when the berry length averages 30-45 mm.

Fruit will generally be in this range at 2-3 weeks following bloom. A spray volume of water between 100 and 200 gallons per acre (GPA) is recommended; spray volumes lower than 100 GPA may result in poor coverage and reduce the effectiveness of the application.

CPPU is used commercially on kiwifruit in California. Based on the bearing acreage taken from Table 1, and California Department of Pesticide Regulation (CDPR) annual pesticide use records, CPPU was used on an average of 26.9% of the bearing acres of kiwifruit during the period 2010-2012 (**Table 2**).

Table 2
Forclorfenuron (CPPU) Use on Kiwifruit in California (2010-2012)

Year	Bearing Acres	Acre Treatments	% of Bearing Acres
2010	4,200	1,083	25.8
2011	4,200	1,063	25.3
2012	4,200	1,238	29.5
		Average	26.9%

Source: California Department of Pesticide Regulation. 2010-2012. Annual Statewide Pesticide Use Report, Indexed by Commodity (Exhibit F)<sup>6,7,8</sup>

As shown by the use statistics, CPPU plays a significant role in the harvest management of kiwifruit in California. There is no other registered PGR in California that can be used on kiwifruit to increase fruit size. Mr. John F. Yohannes, Cottonwood Packing Corporation in Visalia, CA wrote that "KIMZALL (CPPU) Plant Growth Regulator is a valuable tool utilized in the production of our kiwifruit" (Exhibit G1)<sup>9</sup>. Dr. Ken W. Womack of BQ Farms and Crooked Horn Kiwis, Visalia, CA wrote that "KIMZALL (CPPU) Plant Growth Regulator is and has been a valuable tool for our production of Kiwifruit. We have seen a 10% to 15% increase in production with the use of CPPU over the last 3 to 4 years" (Exhibit G2). 10

#### TABLE GRAPES

According to California Department of Agriculture (CDFA) statistics for grape acreage in the state, in 2013 there were 95,000 acres of bearing table grapes, up from 85,000 acres for the previous several years (Exhibit H). California is ranked number one in production of table grapes in the U.S., producing 97% of the table grapes grown in the country and more than 10% of the world's production. Thompson Seedless, Flame Seedless, Red Globe, Ruby Seedless and Crimson Seedless are important varieties of table grapes. About 85% of California's table grape production is in the Southern San Joaquin Valley region, with the Coachella Valley region accounting for the bulk of the remaining production (Exhibit I). 12

#### **Cultural Practices**

Vines are pruned during the dormant season and, for cane-pruned varieties, canes are tied to the trellis wires before spring growth starts. Pre-emergent herbicide applications are applied during the dormant season, and most contact herbicide applications are made from fall through late spring. Nitrogen and zinc fertilizers are applied in the spring, with potassium and boron fertilizers applied in fall through winter. Drip irrigation is the preferred method of irrigation, though furrow irrigation still dominates in the southern San Joaquin Valley. Other production practices include canopy management (i.e., vine training, shoot positioning, leaf pulling, and trunk suckering), vineyard floor management (i.e., cover cropping, cultivation and mowing), pest management, and harvesting. Cultural practices such as irrigation and floor management can play a role in pest management. Once harvested, grapes are field packed, kept in cold storage, fumigated with SO<sub>2</sub> and transported to markets. <sup>12</sup>

# **PGRs on Table Grapes**

Nearly all table grape acreage in California receives gibberellic acid (GA<sub>3</sub>) at bloom time and at berry set. GA<sub>3</sub> is applied at bloom time to thin the number of berries per cluster which increases berry size and at berry set to enlarge the berries. <sup>12</sup> The "sizing spray" with GA<sub>3</sub> is a very common practice. However, GA<sub>3</sub> may delay maturation in some varieties of table grapes and it may also reduce return fruitfulness(See Exhibit J for ProGibb 4% PGR label).<sup>13</sup>

The other PGR registered for use on table grapes in California to increase berry size is CPPU. It is registered to increase berry size, improve fruit quality in cold storage and to delay harvest. CPPU does not reduce return fruitfulness which is sometimes an issue with GA<sub>3</sub> treated table grapes. Also, there are some newer table grape varieties sensitive to GA<sub>3</sub> and CPPU is finding use for fruit sizing on these varieties.

As stated on the CPPU label, application to table grapes increases berry size, which can lead to improved cluster weight, total yield and packout. Also, application of CPPU may improve quality in cold storage. Grape maturation, color development and harvest delay may occur when high rates of CPPU are applied to table grapes. Application of 12 to 24 fluid ounces (3 to 6 grams a.i.) can provide a berry size increase with minimal harvest delay. The higher rate range of 32 to 40 fluid ounces (8 to 10 grams a.i.) will maximize berry size and maximize harvest delay. Harvest delay following CPPU applications does not always occur, and may be dependent upon weather conditions as well as the rates of product (both CPPU and GA<sub>3</sub>) used.

CPPU spray timing is based on average berry diameter which varies by variety. See the label for a list of varieties and berry diameters suggested for application. It is important that CPPU not be applied until the latest developing marketable clusters have completed shatter and final berry set. Applications to flowering clusters will cause excessive fruit set and may overcome GA<sub>3</sub> berry thinning effects. Application of CPPU with GA<sub>3</sub> at the time of the second GA<sub>3</sub> "sizing spray" can result in optimum berry sizing.

Dokoozlian et. al. (1994) reported results from a 1993 study on Thompson Seedless table grapes in California where CPPU and GA<sub>3</sub> were applied in combination. Berry weight on vines receiving CPPU + GA<sub>3</sub> at the berry set timing were approximately 16% greater than vines receiving either material alone (**Exhibit K**). In a later study conducted in 2003, the University of California (N. Dokoozlian) reported that CPPU increased the berry size of GA<sub>3</sub> treated seedless cultivars (Thompson Seedless, Flame Seedless and Crimson Seedless) an additional 5 to 20%, depending upon rate compared to the standard GA<sub>3</sub> treatment (**Exhibit L**). The use of the two materials combined in order to achieve maximum berry size has become a standard practice since California registration of CPPU.

CPPU and GA<sub>3</sub> both stimulate cell division and cell elongation, but the products have different effects on berry shape. Dokoozlian et. al. (1994) reported that CPPU applications resulted in a more spherical berry shape compared to GA<sub>3</sub> applications. In contrast, GA<sub>3</sub> treatments result in more elongated berries. This difference in shape of berry response to the two PGR's is well recognized in the industry.

Both GA<sub>3</sub> and CPPU can delay harvest; however, Dokoozlian et. al. (1994) reported that fruit maturation was delayed most when CPPU was applied in combination with GA<sub>3</sub> at fruit set. Return fruitfulness, particularly in the newer varieties introduced since the late 1990's, limits the usefulness of GA<sub>3</sub> in these newer varieties. CPPU does not affect return fruitfulness and is being used more in the production of these newer varieties of grapes because of its crop safety. Newer varieties sensitive to GA<sub>3</sub> are Princess, Autumn King, Scarlet Royal and Sweet Scarlet (See Exhibit M).<sup>16</sup>

CPPU is used on table grapes in CA. Based on the bearing acreage of 85,000 acres reported above, and CDPR annual pesticide use records, CPPU was used on an average of 16.4% of the bearing acres of table grapes during the period 2010-2012 (**Table 3**). It is important to point out that the CDPR pesticide use statistics split out use of CPPU on grape (wine) and grape (table and raisin). The CDPR pesticide use statistics show minimal wine grape use (2012: 672 acres, 2011: 242 acres, 2010: 188 acres). There is no use of CPPU on raisin grapes. Accordingly, virtually all CPPU use accounted for in the CDPR pesticide use reports for 'grape' reflects table grape applications.

Table 3
Forchlorfenuron (CPPU) Use on Table Grapes in California (2010-2012)

Year	Bearing Acres	Acre Treatments	% of Bearing Acres
2010	85,000	12,389	14.6
2011	85,000	14,886	17.5
2012	85,000	14,620	17.2
		Average	16.4

Source: California Department of Pesticide Regulation. 2010-2012. Annual Statewide Pesticide Use Report, Indexed by Commodity (Exhibit F). 6, 7,8

As shown by the use statistics, CPPU plays a significant role in harvest management of table grapes in California. Even though GA<sub>3</sub> is also widely used on table grapes to increase size, CPPU is frequently combined with GA<sub>3</sub> and this is a very important use. Also, CPPU is safer than GA<sub>3</sub> on newer varieties like Princess, Autumn King, Scarlet Royal and Sweet Scarlet and this is resulting in more use of CPPU.

Mr. Andrew Pandol, M. Pandol & Sons in Delano, CA wrote that the company grows approximately 2500 acres of table grapes and they have been using CPPU since it was first registered in California. "While it is not used on all 21 varieties that we commercially grow, it is absolutely key to 4 of our varieties, Princess, Autumn Seedless, Crimson Seedless, and Ruby Seedless. It helps to increase size, keep green colored fruit from turning yellow, and reduces shatter to some extent" (Exhibit N).<sup>17</sup>

#### BLUEBERRIES

Blueberry production in the United States comes from 'wild' production as in Maine and 'cultivated' production grown in a number of other states. According to the USDA, National Agricultural Statistics Service, blueberry production in 2012 came from approximately 77,700 acres of cultivated blueberries grown mainly in 13 states (AL, AR, CA, FL, GA, IN, MI, MS, NJ, NY, NC, OR and WA) (Exhibit D2).<sup>4</sup>

The cultivated blueberry acreage is divided into three basic types of blueberry: northern highbush, southern highbush and rabbiteye. Blueberry acreage is summarized by type in Table 4 hereafter.

Table 4. Blueberry Acreage by Type (Northern Highbush, Southern Highbush, Rabbiteye) Summarized from USDA 2012 State Acreages.

Northern Highbush	State	Acres
	Indiana	400
	Michigan	19,700
	New York	900
	New Jersey	7,500
	Oregon	7,900
	Washington	8,000
	Sub-total Northern Highbush	44,400
Southern Highbush & Rabbiteye	Alabama	450
	Arkansas	250
	California	4,700
	Florida	4,500
	Georgia	15,000
	Mississippi	2,700
	North Carolina	5,700
	Sub-total	33,300
	Deduct Rabbiteye estimated	15,000
	acreage mostly from Georgia	, 
	Sub-total Southern Highbush	18,300
	Total (including estimated Rabbiteye acreage)	77,700

Source: USDA/NASS - Noncitrus Fruits and Nuts 2012 Preliminary Summary (January 2013 (Exhibit D2)4

#### RABBITEYE BLUEBERRIES

The rabbiteye blueberry is native to south Georgia, north Florida, and southeast Alabama. A breeding program initiated in Tifton in the 1940's by Dr. Tom Brightwell, in cooperation with the USDA, has produced many high quality rabbiteye blueberry cultivars. Cultivars from the Georgia-USDA breeding program form the backbone of the Georgia blueberry industry. Some cultivars from the North Carolina-USDA breeding program have also performed well in Georgia and are recommended for planting. Rabbiteye cultivars ripen from late May through late July in south Georgia. Ripening in middle and north Georgia is about two weeks and one month later, respectively. In general, the rabbiteye blueberry is the most productive and easiest to grow in Georgia. They grow well on many types of acidic, fairly low organic matter (1-2%) soils from sands to loams to sandy clay loams (**Exhibit O**). As shown in Table 4, acreage of rabbiteye blueberries in Georgia is about 15,000 acres.

# PGRs on Rabbiteye Blueberries

Gibberellic Acid (GA<sub>3</sub>) is registered (ProGibb 4% Plant Growth Regulator - Exhibit J) for use on rabbiteye blueberries at 40-80 fluid ounces/acre to improve fruit set. CPPU is also registered for use on rabbiteye blueberries to increase berry set and berry size. Research discussed below shows that while GA<sub>3</sub> and CPPU can both increase fruit set, CPPU is highly important to the rabbiteye blueberry industry because it increases fruit size, something that is especially important if there happens to be a below-average fruit set.

NeSmith (2001a) compared GA<sub>3</sub> and CPPU on three field grown rabbiteye blueberry cultivars at the University of GA Blueberry Research Farm. He concluded that CPPU could be very beneficial in rabbiteye blueberry production for increasing fruit set and berry size, which can result in substantial yield increases for some cultivars. When pollination is poor, the benefits of CPPU would be greater than when pollination is favorable. CPPU appears to be more desirable that GA<sub>3</sub>, for rabbiteye blueberries, because even though GA<sub>3</sub> can increase fruit set, the result is often small berry size. There was no apparent delay of maturity or lessened early harvest with CPPU for the mechanically harvested fruit in this study (Exhibit P1).<sup>19</sup>

NeSmith (2001b) compared CPPU and GA<sub>3</sub> in a number of commercial rabbiteye blueberry fields during 2011 for potential benefits of increased fruit set and berry size. The data from the field trials indicate that CPPU enhances fruit set of rabbiteye blueberries considerably. The effects were dramatic with 'Climax', and lesser so with 'Tifblue' cultivars. The usage of CPPU and GA<sub>3</sub>, in combination does not seem to be beneficial to fruit set. CPPU would likely be the better growth regulator to use, because there is a tendency for increasing fruit size under some circumstances as well. Also, CPPU worked well on 'Climax', which has been a troublesome cultivar for using GA<sub>3</sub> (Exhibit P2).<sup>20</sup>

According to the CPPU label (Exhibit E), CPPU applied to Rabbiteye blueberries results in increased berry set and berry size. These responses are dependent on spray application timing in relation to the blueberry plant's physiological growth stage. Vigorous plants with capacity to support increased crop load have responded best to CPPU applications. Harvest may be delayed if CPPU is used, due to the longer time period for the larger treated berries to mature.

According to the CPPU label, CPPU should be applied in one to two applications using 8 fluid ounces (2 grams a.i.) per acre in each application; the first application during bloom when 80% of the flowers have opened; the second (optional) application using 8 fluid ounces (2 grams a.i.) per acre approximately 14 days after the first application, but no later than 21 days after petal fall. Applications are to be made with ground sprayers only. It is important to wet all flowers and/or berries thoroughly. Crop response to CPPU depends upon accurate, thorough application. Spray volumes of 100 GPA applied with conventional spray equipment have been shown to provide satisfactory coverage of vigorous, productive blueberry bushes.

Dr Gerard Krewer, former University of Georgia fruit specialist and currently a consultant for blueberry growers, wrote that he experimented with KIMBLUE (CPPU) during 2010 on blueberries. "It was very effective for increasing fruit set, fruit size and reducing seediness on many cultivars of blueberries" (Exhibit Q).<sup>21</sup>

#### NORTHERN HIGHBUSH BLUEBERRIES

Over 80% of the northern highbush blueberries are grown in the states of Michigan, Oregon and Washington (Table 4). CPPU is used on blueberries in these areas for the unique purpose of delaying harvest. It is important for growers in these northern states to delay harvest in some of their production acres in order to broaden the window of fruit harvest for marketing purposes. There are no other registered products to use on blueberries to delay harvest.

According to the CPPU label, application of CPPU to northern highbush blueberries should follow the same use directions as presented for rabbiteye blueberries in the Southeastern U.S., subject to certain additional instructions.<sup>1</sup>

Trinka (2010) conducted some field trials in Michigan sponsored by the Michigan Blueberry Association (Exhibit R). The objective was to evaluate the post bloom application of KIMBLUE (CPPU) on maturity delay of blueberry cultivars 'Bluecrop' and 'Elliott'. CPPU was applied at 8 fluid ounces/acre in 75 GPA water at petal fall, 10 days after petal fall and 20 days after petal fall. There was phytotoxicity on fruit of 'Bluecrop' 3-5 weeks after application so that trial was discontinued. There was no phytotoxicity in the 'Elliott' cultivar.

Results show that CPPU applied after petal fall caused a delay in 'Elliott' fruit maturity. Initial harvest was delayed 7-10 days and final harvest was delayed 8-18 days. The treated 'Elliott' blueberries had higher yields in the CPPU treatment in most, but not all trials. KIMBLUE application enhanced the fresh returns of the treated 'Elliott' blueberries.

Dave Trinka, Naturipe The Berry People, in Grand Junction, MI wrote that "KIMBLUE (CPPU) Plant Growth Regulator is a valuable tool for blueberry producers. Fruit maturation of KIMBLUE treated blueberry bushes is delayed compared to non-treated. This enables growers to better manage their less-than-adequate harvest labor. Growers with a significant acreage of a single variety are able to delay berry maturity on a portion of that acreage, thereby smoothing out the peaks of production. KIMBLUE has also been

Specially, the label states:

<sup>&</sup>quot;1. All varieties have not been fully tested. If less widely planted varieties are to be treated, smaller treatments are recommended until grower experience with variety is obtained. If additional information is needed, check with your local extension agent.

<sup>2.</sup> Higher Rate to Delay Harvest - If harvest delay is desired and will aid in broadening harvest time, then higher rates should be used. If it is desired to broaden harvest timing with delayed fruit maturity, use rates as high as 40 fluid ounces (10 grams a.i.) per acre."

an extremely useful tool for delaying maturity of late season varieties in northern US production areas, when fruit supplies are lower and selling prices are higher" (Exhibit S).<sup>23</sup>

Nathan S. Goodman, Eastside Farm Manager for Townsend Farms, Inc. in Fairview, OR wrote a similar support letter for CPPU in his state. "KIMBLUE (CPPU) Plant Growth Regulator is a valuable tool for blueberry growers because it enables growers to delay fresh blueberry harvest so that growers can better manage available labor and so that they can market their fruit into more attractive market windows" (Exhibit T).<sup>24</sup>

#### **EXHIBITS AND REFERENCES CITED**

EXHIBITS	REFERENCES CITED	
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