

Gibberellic Acid on Cherry

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Gibberellic acid (GA) is used in young tart and sweet cherries to reduce flowering and fruiting which maximizes growth and minimizes pollen transmitted virus infection. GA is used in mature tart cherries to increase the fruiting capacity by stimulating the development of lateral shoots and spurs.

Tips for use:

1. The proper application timing for GA on tart cherries is typically 3-4 weeks after full bloom, or when trees have 5 to 7 leaves (3 to 5 leaves fully expanded) on terminal growth.

2. Apply when high temperatures are expected to be above 70 ° F for a couple of days, if possible. Applications made when high temps are expected to be below 60 ° F have given poor results. Leaves expanding under low temperatures are less efficient at uptake than leaves growing under normal to above normal temperatures.

3. For mature tart cherries - to increase long-term fruit production.

a) Use 10-20 ppm of gibberellic acid. Lower rates are typically used on more vigorous orchards or where GA was used successfully last year; higher rates are used on low vigor orchards. Rates of about 15 ppm are most common.

b) Rates of Pro-Gibb 4% on mature trees are as follows:

10 ppm response = 6 fl oz/acre

15 ppm response = 9 fl oz/acre

20 ppm response = 12 fl oz/acre

c) Research with surfactants has given results varying from no effect to over-response with phytotoxicity. The phytotoxicity occurred with silicon based surfactants. Therefore, we suggest not using a surfactant with GA unless a grower has enough experience with a particular surfactant to have confidence in the response. Never use a silicon-based surfactant.

4. In non-bearing tart and sweet cherries -- used to greatly reduce flowering and fruiting to achieve faster growth and delay pollen-transmitted virus infection.

a) With a handgun, apply either 100 ppm (40 fl. oz. of Pro-Gibb 4% per 100 gallons of water) in a single application 3-4 weeks after full bloom (slightly later if temperatures are exceptionally cool); or

b) 50 ppm (20 fl. oz./100 gal) about 3 weeks after full bloom plus a second application at 50 ppm 2½ - 3 weeks later. This two-application system at 50 ppm nearly always is more effective than a single application at 100 ppm.

c) Do not apply to trees the year of planting.

5. To bring young trees into bearing following treatment with high rates during non-bearing years, it is very important to not discontinue GA all at once. This results in oversetting of fruit and stunting of trees. In the past, we have suggested decreasing the rate to 15 ppm, however, this is not enough GA! There are probably two reasons why trees still tend to overset. First, trees that have been kept vegetative have tremendous capacity to set fruit. Second, often at this time growers are switching from handgun application to airblast and may be underestimating the amount of GA needed on these young trees. Based on recent experience (but unfortunately not based on research), I now suggest weaning trees off GA over two or three years. The year prior to desired first fruiting, I suggest 30 to 40 ppm be applied if spraying dilute (12-16 fl oz ProGibb/100 gal), or about 20-24 fl. oz./acre if applied concentrate. This rate per acre for concentrate spraying already takes into account the average tree size of this age tree; i.e., do **not** reduce the rate further based on tree row volume. The next year, decrease this rate to 15 to 20 ppm applied dilute (6-8 fl oz./100 gal) or 10-12 fl oz./acre applied concentrate. The following year, 10 ppm is optional but often not required. In orchards where

growth is weaker, it may be desirable to simply continue annual GA applications at 10-15 ppm as described above rather than discontinue at this time.

GA may also be applied later in the season on sweet cherries to increase fruit firmness and delay harvest. Results in Michigan have not been very consistent and may lead to increased cracking. This use is not discussed in this article.

For some additional information about Gibberellins and their functions in plants go to the following site:

http://www.biology-online.org/3/6_gibberellin.htm

Please send any comments or suggestions regarding this site to:

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