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THE BLUEBERRY BULLETIN

A Weekly Update to Growers

Visit the Blueberry Bulletin webpage: extension.rutgers.edu/blueberry-bulletin
2024 Commercial Blueberry Pest Control Recommendations for New Jersey: njaes.rutgers.edu/pubs

Blueberry Culture

Dr. Gary C. Pavlis, Atlantic County Agricultural Agent

Growers are aware that bloom is the best timing for the first application of an N-P-K fertilizer. If it is applied as a granular, a split application is best - one half now and one half in 6 weeks. If fertigation is the method used, again half at bloom and half 6 weeks later. Even better, it has been found that spreading the fertigation application over 6 weeks is optimum.

As growers are also aware, the Rutgers IPM program also takes leaf and soil samples at the appropriate times and sends the samples to a lab for analysis. In 2025, 355 leaf samples were taken and 325 soil samples were taken. The lab analysis shows that 155 or 68% of soil samples were below 4.5 which is the low range of optimum. Very few samples were above 5.0. There needs to be an increase in the application of lime. Research we did years ago shows that for every tenth increase desired, 100lbs./A of lime should be applied. Thus, to go from 4.0 to 4.5, 500lbs./A lime should be applied.

The leaf analysis also indicated a few problems. First and four most, 98.8% of the samples were below optimum for Nitrogen. If the pH of the soil is too low, N uptake is decreased so the lack of N in the leaf samples is partly due to the low pH in many of the samples. Growers should check their pH soil tests and if it is below 4.5, low N may be due to the pH. However, if the pH is in the proper range of 4.5 to 5.0, an increase in N is warranted. Understand that just applying additional N when the pH is low can result in softer fruit. A good rule of thumb is to look at the plants and see if most had 3-5 new canes that grew to the full height of the plant in 2025. If this didn't happen, it is usually due to low pH or low N or both.

Lastly, the leaf analysis showed that there is a problem with some of the micro nutrient levels. 88% of the samples were deficient in Iron and 86% were deficient in Copper. Growers should check their leaf analysis results and if a deficiency is indicated, a foliar application is warranted. Both of these elements are very important for optimum plant growth and fruit yield. In addition, 70% of the samples showed excessive levels of Boron. In any case, boron should be omitted from the fertilizer program in 2026. Grower should again consult with their analysis and if the level is above 75 ppm, omit Boron this year. The optimum range is 30ppm to 50ppm. I saw the highest levels of Boron I have ever seen from these 2025 samples. **Too much Boron is as bad as too little.**

Gary C. Parks, Ph.D.
Atlantic County Agricultural Agent

Pest Management

Dr. Cesar Rodriguez-Saona, Extension Specialist in Blueberry Entomology, Rutgers University
Dr. Janine Spies, IPM Agent – Fruit
Ms. Carrie Mansue, IPM Sr. Program Coordinator – Fruit

Overwintering Putnam Scale

Over the past week, the IPM team collected older canes from three varieties—Duke, Bluecrop, and Draper—to assess overwintering of Putnam scale. In total, 19 fields were sampled. These fields were selected based on the presence of scale on fruit during last season's scouting. From each field, five older canes were collected and inspected at the Rutgers Specialty Crop Research & Extension Center.

Overwintering scale appears as small, raised, waxy dots on canes (Figures 1 and 2). When the scale covering is lifted, the insect itself may be visible.

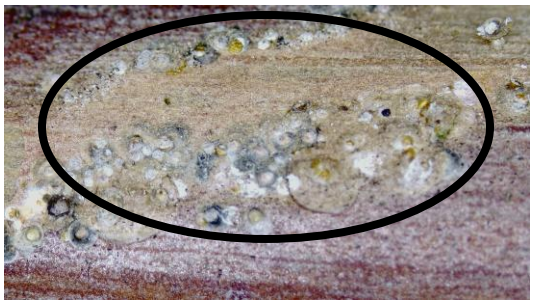

Figure 1. Putnam scale overwintering on branches

Figure 2. Putnam scale overwintering under bark of blueberry canes

Out of the 19 fields sampled, only two showed no overwintering scale on the canes. With this level of pressure, now is a good time to begin planning for dormant oil applications.

Pruning out older canes is one of the key cultural practices for scale management. However, many of the fields had already been pruned prior to sampling, meaning that some infested wood may still be present.

For chemical control, a dormant application of Superior oil at 3 gal/A is recommended. It can be applied alone or tank-mixed with Esteem 35WP at 5 oz/A. For best results, apply 75–100 gal/A of spray solution and ensure thorough coverage. Avoid spraying on very cold days, as the oil may freeze before it dries.

One of the easiest ways to detect scale in your fields is by monitoring what is removed on the sorting line at harvest. Make note of which blocks show scale and plan to treat those areas during dormancy using the recommendations above.

2026 Update on Weed Control with Residual Herbicides for Highbush Blueberry

Dr. Thierry E. Besançon, Associate Extension Weed Science Specialist, Rutgers University

Apply soil-based preemergence herbicides before T3 stage blueberry bud break to prevent crop injury and allow activation time. Apply before weed seed germination; these herbicides typically won't control emerged weeds unless tank-mixed with postemergence products like glufosinate (Rely 280), paraquat (Gramoxone), or carfentrazone (Aim).

At least 0.5" rainfall or irrigation within 7 days post-application is required to activate most residual herbicides in soil. Delayed activation may reduce effectiveness if weeds germinate under low moisture or if surface herbicide degrades from sunlight exposure.

Verify herbicide effectiveness against target weed species via product labels. Residual herbicides typically suppress weeds for 5-8 weeks depending on irrigation, soil, and weather conditions. Additional residual application may be needed pre-harvest, potentially mixed with postemergence herbicides for emerged weeds. To minimize herbicide resistance, always mix herbicides from two different WSSA groups when applying preemergence treatments.

Please, refer to the 2026-2027 New Jersey Commercial Blueberry Pest Control Recommendations for more information on herbicide rates and use restrictions.
https://njaes.rutgers.edu/pubs/publication.php?pid=E265

WSSA group 0 – Unknown Site of Action

Devrinol 50DF-XT or **Devrinol 2-XT** (napropamide) will provide good control of annual grasses and should therefore be tank mixed with a PSII or a PPO inhibitor for controlling broadleaf weeds. Devrinol is rapidly degraded if left exposed on the soil surface, so it should be applied less than 24 hours before a rain event to incorporate the herbicide in the soil.

WSSA group 2 - Acetolactate Synthase (ALS) Inhibitors

Solida 25WDG or **Matrix 25SG** (rimsulfuron) or **Sandea 75DF** (halosulfuron) are ALS-inhibiting herbicides that have both preemergence and postemergence activity. They control most annual broadleaves but are weak on common groundsel, common lambsquarters and eastern black nightshade. Sandea is **ONLY** recommended for postemergence control of yellow nutsedge.
However, these two herbicides will **NOT** control ALS resistant weeds (horseweed, ragweed) already widespread in New Jersey. Thus, these herbicides should always be tank mixed with a partner effective at controlling these weeds.

WSSA group 3 - Mitosis Inhibitors

Kerb 50WP or **Kerb 3.3SC** (pronamide) is effective at controlling many annual grass species for 4 to 6 weeks after application. Surflan should not be applied to soils containing more than 5% organic matter. Kerb also helps controlling perennial quackgrass as well as annual bluegrass. If applied to warm soils, Kerb persistence and weed control can be severely reduced; therefore, keep Kerb for fall/winter application when soil temperature remains under 55°F. Do not use Kerb on blueberries that have not been established for about a year.

WSSA group 5 and 7 - Photosystem II (PS II) Inhibitors

PS II inhibitors have a broad spectrum of control and will be effective against many broadleaves and annual grasses when applied in spring. **Karmex 80DF** or **Diuron 4L** (diuron) and **Princep 4L** or **Princep Caliber 90WDG** (simazine) have relatively low solubility and have been very safe on blueberries. **Sinbar 80WDG** (terbacil**)** has a longer residual life in the soil and also is more soluble, so it should be used infrequently on light, wet soils. These herbicides are effective on many broadleaf weed species, including common chickweed, common lambsquarters, common groundsel, henbit, nightshade, redroot pigweed, pineapple weed, shepherd's-purse, smartweed, and some mustards. Princep and Sinbar will also control many annual grasses and help suppressing quackgrass. **Do not exceed more than 1 lb/A of Sinbar** to minimize the risk of crop injury.

Trellis 4.2SC (isoxaben) is registered for bearing and **non-bearing blueberry**. Trellis will be most useful in new plantings for preemergence control of annual broadleaf weeds such as common lambsquarters, ragweed, black nightshade, horseweed and smartweed. It does not control grasses.

Velpar 2L or **Velossa 2.4L** (hexazinone) is very soluble and **should not be used on blueberries grown on sandy soils** as the risk of crop injury is high with this herbicide.

WSSA group 12 and 27 - Carotenoid Biosynthesis Inhibitors

Solicam 80DF (norflurazon) can be applied in fall or early spring primarily for annual grass control and quackgrass suppression. Solicam may also provide partial control of many broadleaf weeds as well as of yellow nutsedge. Do not use Solicam on blueberries that have not been established for about a year.

Brake On! fluridone) is a newly registered preemergence herbicide for use in blueberry production in New Jersey. Fluridone inhibits carotenoid biosynthesis by targeting the phytoene desaturase (PDS) enzyme, resulting in a loss of photoprotective pigments. Consequently, chlorophyll is rapidly degraded in light-exposed tissues. Treated plants exhibit characteristic bleaching symptoms, with newly emerged tissue appearing white before progressing to necrosis. Brake On! provides control of a range of annual broadleaf and grass species. Key broadleaf targets include annual sowthistle, mallow, nightshade species, prickly lettuce, and knotweed, while susceptible grasses include annual bluegrass, barnyardgrass, crabgrass, and Italian ryegrass. This registration offers blueberry growers an additional preemergence option, particularly as an alternative or complement to oryzalin and norflurazon programs.

- Apply Brake On! at 21 to 43 fl oz of product per acre.
- When using 32 fl oz or less, you must mix Brake On! with other preemergence herbicides (Matrix, Chateau).
- Fluridone cannot be used for more than two consecutive seasons in the same field. We do not want to accelerate the selection of fluridone-resistant weeds.
- Brake On! can be used in newly planted blueberries after the soil has settled.

Callisto 4SC or Motif 4L (mesotrione) will control many annual broadleaf weeds as well as annual sedges. It controls large crabgrass but no other grasses, such as goosegrass. Callisto may be used as a broadcast spray between rows to control broadleaves and crabgrass without injuring the fescue sod. However, Callisto **CANNOT** be applied after the onset of bloom.

WSSA group 14 - Protoporphyrinogen Oxidase (PP0) Inhibitors

Chateau EZ (flumioxazin) and **Spartan 4F** (sulfentrazone) have activity against many annual broadleaf weeds (pigweeds, common lambsquarters, ladysthumb, mallow, shepherd's-purse) when applied preemergence in spring. Chateau also have some postemergence activity on newly emerged seedlings of annual weeds. Herbicides containing sulfentrazone will also provide suppression of yellow nutsedge. Chateau has a 7 days pre-harvest interval (PHI) and Spartan has a 3 days PHI, allowing these herbicides to be applied later in the season to extend preemergence broadleaves control into summer. Blueberry plants must have been established at least two years prior to use of these herbicides.

WSSA group 15 - Protoporphyrinogen Oxidase (PP0) Inhibitors

Dual Magnum 7.6ec (*S*-metolachlor) has a 24(c) Special Local Need label for blueberry in New Jersey. This herbicide provides preemergence control of many annual grasses and some small-seeded broadleaf annual weeds such as redroot pigweed, nightshade and common purslane. Dual Magnum also suppresses emergence of yellow nutsedge. Use Dual Magnum only on plants established for more than one year, and lower rates are suggested on 2- to 3-year-old plantings.

WSSA group 29 – Cellulose Synthesis Inhibitors

Casoron 4G (dichlobenil) is a cellulose synthesis inhibitor recommended for fall application to control many annual and perennial broadleaves, grasses and yellow nutsedge. **If left on the soil surface or if applied to warm soil (> 55°F or 70°F depending on Casoron formulation), Casoron can lose much of its activity**.

Alion 1.67SC (indaziflam) **received a FIFRA 24(c) Special Local Need label in 2023 for use ONLY on dormant highbush blueberry in sandy soils containing greater than 1% organic matter.** The 24(c) Special Local Need label allows directed application to the soil beneath blueberry bushes planted on sandy soils with some important restrictions:

- **Only apply Alion Herbicide to soil as a dormant application in late fall through early spring before bud swell.**
- **Do not** use Alion® in highbush blueberry crops grown in sand containing <1 % organic matter content.
- **Do not** use on soils with 20% or more gravel content.
- **Do not** apply more than a total of 10 fl oz product/A (0.13 lb ai/A) per year on sand containing ≥1 % organic matter content in a 12-month period when used in any highbush blueberry.
- **Do not** allow spray to contact green stems, foliage, flowers, or berries or unacceptable injury may occur.
- When making more than one application per year, allow a minimum of 90 days between applications.

Alion provides excellent and season-long residual control of annual grasses and broadleaf species due to its long soil persistence with half-life greater than 150 days and low water solubility under acidic soil conditions. Results of a 3-years study conducted on three different blueberry cultivars (Duke, Bluecrop, and Elliott) at the Rutgers P.E. Marucci Center demonstrated that repeated fall or early spring applications of indaziflam at the 5 fl oz/a labeled rate did not cause injury or reduce commercial yield of blueberry grown on sandy acidic soil. Data generated through this research also showed that fall application of indaziflam consistently provided better weed control than spring applications for species such as horseweed, large crabgrass or narrowleaf goldentop. This suggests that Alion applications in New Jersey should be restricted to dormant bushes during the fall season in order to maximize weed control effectiveness while maintaining the highest level of crop safety as compared to spring appliation. **Alion has no activity on sedge species or perennial weeds**. Therefore, it is important to consider rotating to different herbicide modes of action after 1 or 2 years of Alion application to avoid selecting for weeds that are not controlled by Alion and prevent potential development of herbicide resistance to indaziflam

Casoron 4G and Alion 1.67SC should be used ONLY for fall/winter applications. Plants must be at least one year old before Casoron 4G or Alion 1.67SC should be used.