RODALE INSTITUTE™

ORGANIC CONSULTING

AGRONOMIC GUIDE

GROWING ORGANIC BLUEBERRIES

Washington

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SITE SELECTION & PREPARATION

RECOMMENDED PRACTICES

- Well-drained, acidic soil (pH 4.5–5.5); blueberries will struggle in alkaline or clay-heavy soil.
- Full sun exposure — at least 6–8 hours/day.
- Good air circulation — helps prevent fungal diseases.
- Avoid frost pockets — choose slightly sloped land to avoid late spring frost damage to flowers.

ACTION ITEMS

- Conduct soil testing (W.S.U. Extension offers services).
- Amend pH with elemental sulfur (OMRI-listed).
- Install tile drainage or raised beds for waterlogged soils.

SOIL MANAGEMENT & IRRIGATION

RECOMMENDED PRACTICES

- Apply organic compost, peat moss, or aged sawdust to increase organic matter.
- Use mulch (2–4 inches deep) to control weeds, retain moisture, and maintain acidity. Bark mulches are generally preferred, while pine needles have conflicting reports of efficacy.
- Do not over-fertilize — blueberries are sensitive to excess nitrogen.
- Grow in-row cover crops to improve water and nutrient cycling and add organic matter and control erosion.

ORGANIC INPUTS (OMRI LISTED)

- Fish meal or feather meal (for nitrogen)
- Rock phosphate (for phosphorus)
- Kelp meal or sulfate of potash-magnesia (for potassium)
- Elemental sulfur for pH adjustment

IRRIGATION

Use drip irrigation or micro-sprinklers to conserve water and reduce disease pressure. Blueberries require 1–2 inches of water/week during growing season.

VARIETY SELECTION

RECOMMENDED CULTIVARS FOR WASHINGTON

NORTHERN HIGHBUSH

- ‘Duke’ (early)
- ‘Bluecrop’ (mid)
- ‘Elliott’ (late)

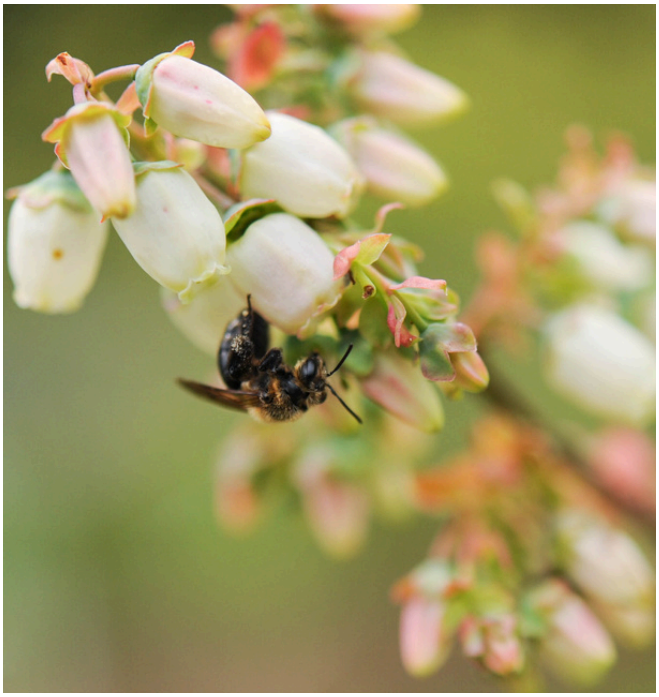
RABBITEYE

Less common, but more drought-tolerant (used east of Cascades)

ENSURE CROSS-POLLINATION

Plant at least two compatible varieties.

PLANTING



TIMING

Late fall or early spring planting is optimal.

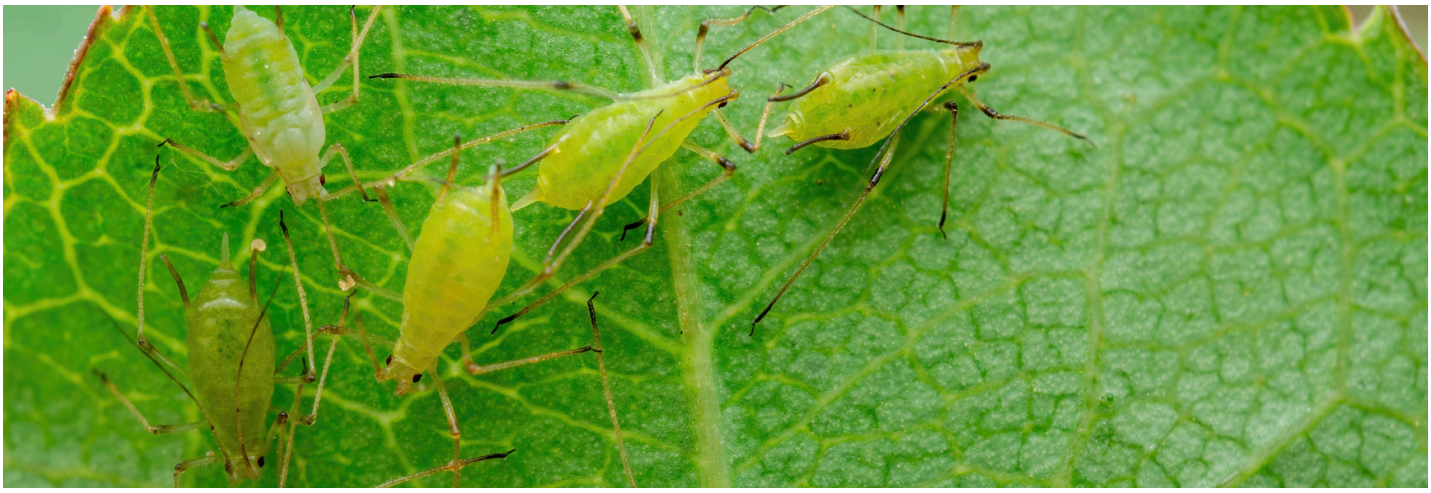
SPACING

Airflow is critical. Plant bushes 3-4 feet apart with rows spaced 8-10 feet apart.

TIPS

Do not plant too deep; roots should be just below the soil surface. Water immediately after planting and mulch well.

PEST MANAGEMENT



Organic pest and disease management in blueberries requires a systems-based approach rooted in prevention, monitoring, and intervention with approved materials. Washington's diverse climate zones (humid west vs. arid east) also shape regional strategies.

COMPLIANCE WITH ORGANIC STANDARDS

Organic growers must follow USDA National Organic Program (NOP) guidelines. This excludes synthetic pesticides and fungicides, requiring the use of cultural, biological, and mechanical methods.

SUSTAINABILITY & ECOSYSTEM HEALTH

Organic systems focus on long-term soil and plant health, biodiversity, and reduced environmental impact—especially important in a perennial crop like blueberries.

CONSUMER DEMAND FOR CHEMICAL-FREE PRODUCE

Organic blueberries command a premium price and meet growing consumer demand for residue-free food.

KEY PESTS IN WASHINGTON BLUEBERRIES

- SPOTTED WING DROSOPHILA (SWD)
- BLUEBERRY MAGGOT
- CUTWORMS AND ROOT WEEVILS
- LEAFROLLERS
- APHIDS

PEST MANAGEMENT CONTINUED

MONITORING & IDENTIFICATION

- Regular scouting (at least weekly during the growing season).
- Use of traps (e.g., vinegar or yeast traps for SWD).
- Threshold-based decision-making: action only when pests exceed economic thresholds.

CULTURAL PRACTICES

SANITATION

Remove overripe/dropped berries to reduce SWD breeding grounds.

PRUNING

Improves air flow and light penetration, making the environment less favorable to many pests and diseases.

HARVEST TIMING

Frequent, timely harvests reduce SWD infestation.

BIOLOGICAL CONTROL

Release or encourage natural enemies (e.g., parasitic wasps, predatory beetles). Maintain flowering cover crops to attract beneficial insects.

APPROVED INPUTS (LAST RESORT)

- Spinosad (e.g., Entrust) for SWD – limited use due to resistance risk.
- Neem oil, pyrethrins, horticultural oils – for soft-bodied insects.
- Must be OMRI-listed and used according to organic standards.

BIRDS AND RODENTS

Organic control of birds and rodents in blueberries relies on habitat management, physical barriers, and natural predators rather than synthetic chemicals. Growers may use netting, tree guards, and trunk wraps to prevent access to fruit and bark, while encouraging raptors and owls with nest boxes to help manage rodent populations. Cover crops and orchard floor management can reduce rodent habitat, and scare devices such as reflective tape, noise makers, or predator decoys can deter birds. Regular monitoring and prompt removal of fallen fruit or middens also reduce attractants, supporting a balanced ecosystem that limits pest pressure without harming beneficial wildlife.

DISEASE MANAGEMENT

KEY DISEASES

MUMMY BERRY (MONILINIA VACCINII-CORYMBOSI)
BOTRYTIS (GRAY MOLD)
PHYTOPHTHORA ROOT ROT
ANTHRACNOSE
POWDERY MILDEW

REGIONAL DIFFERENCES IN WASHINGTON

WESTERN WA (MARITIME CLIMATE)

- Higher disease pressure due to humidity and rainfall.
- Focus on Botrytis, Mummy Berry, and Phytophthora control.
- Emphasis on drainage and canopy management.

EASTERN WA (ARID CLIMATE)

- Greater pest pressure, especially SWD and aphids.
- Lower disease pressure but irrigation can increase risk of root rot.
- More reliance on mulch for moisture retention and weed suppression.

CULTURAL PRACTICES

RESISTANT VARIETIES

Use cultivars less susceptible to certain diseases when possible.

MULCHING

Suppresses spore splash from mummy berry and other pathogens.

SANITATION

Removal of infected fruit and pruning out diseased wood.

DRAINAGE MANAGEMENT

Particularly important in western WA to prevent Phytophthora.

CANOPY MANAGEMENT

Prune to increase air circulation, especially in wetter western regions. Reduce leaf wetness duration to discourage fungal infections.

BIOLOGICAL & ORGANIC CONTROLS

- Bacillus subtilis (e.g., Serenade) and Trichoderma spp. for foliar and soil-borne diseases.
- Copper-based fungicides (limited use due to phytotoxicity and environmental persistence).
- Sulfur for powdery mildew – avoid overuse due to plant stress potential.

WEED MANAGEMENT

Organic weed control in blueberries, especially in Washington State, requires a strategic approach that balances effective weed suppression with the organic standards set by the USDA National Organic Program.

1 MULCHING

MATERIALS

Organic-approved mulches include sawdust, wood chips, straw, or landscape fabric.

BENEFITS

Suppresses weed growth, conserves moisture, moderates soil temperature.

CONSIDERATIONS

- Sawdust can deplete nitrogen; may require supplemental fertilization.
- Organic mulches must be replenished regularly.
- Landscape fabric must allow air/water movement and should be managed to avoid girdling young shoots.

2 CULTIVATION AND TILLAGE

TOOLS

In-row cultivators, flame weeders, or small tractors with specialized attachments.

BENEFITS

Removes weed seedlings and disrupts weed seed bank.

CONSIDERATIONS

- Risk of root damage (blueberries are shallow-rooted).
- Soil disturbance can promote erosion and reduce organic matter.
- Timeliness is critical—must avoid cultivating too close to plant crowns.

CONSIDERATIONS

Weed Competition Reduction

Weeds compete with blueberry bushes for water, nutrients, and sunlight. This competition is particularly critical in the first few years of establishment and during dry summers common in eastern Washington.

Organic Compliance

Organic systems prohibit synthetic herbicides, requiring alternative methods that still provide adequate weed suppression without harming soil health or violating organic certification.

Soil and Plant Health

Organic systems emphasize long-term sustainability, so weed control strategies must support soil biology, prevent erosion, and promote overall plant vigor.

Pest and Disease Management

Some weeds serve as alternate hosts for pests or diseases. Effective weed control reduces these risks.

WEED MANAGEMENT CONTINUED

3 HAND WEEDING

USE

Especially important in young plantings and around drip lines where mechanical tools can't reach.

CONSIDERATIONS

- Labor-intensive and costly.
- Best used as a supplemental method in high-priority areas.

4 MOWING & STRING TRIMMING

USE

Controls weeds between rows or in field margins.

CONSIDERATIONS

- Prevents weed seeding and encroachment into rows.
- Risk of mechanical injury to plants if not carefully done.

5 FLAME WEEDING OR THERMAL WEED CONTROL

USE

For pre-emergent or early post-emergent weed control in-row.

CONSIDERATIONS

- Must be used cautiously to avoid fire hazards.
- Effectiveness depends on weed species and growth stage.

OTHER CONSIDERATIONS & PRACTICES

- Pre-plant weed control (solarization or stale seedbed techniques)
- Use of cover crops or alleyway grasses to suppress weeds between rows

REGIONAL CONSIDERATIONS IN WASHINGTON

WESTERN WASHINGTON

Higher rainfall leads to faster weed growth; mulch is essential for long-term suppression and erosion control.

EASTERN WASHINGTON

Drier climate makes irrigation lines vulnerable—cultivation must avoid damage to drip systems; mulch also helps conserve water.

PRUNING & MAINTENANCE

Pruning is critical for maintaining plant health, promoting higher fruit yields, and ensuring good air circulation to reduce disease pressure. Over time, blueberry bushes can become crowded with old, non-productive wood. Pruning encourages new growth, which is more vigorous and fruit-bearing. Proper pruning also helps maintain a manageable plant size and improves sunlight penetration, which enhances fruit quality and ripening.

TIMING

Perform annual pruning in late winter to early spring (February–March) while the plant is still dormant. Avoid pruning in late summer or fall, as this can stimulate new growth susceptible to winter damage.

KEY PRUNING PRINCIPLES

YEAR 1–2

Minimal pruning. Focus on removing only dead or damaged wood.

YEAR 3 ONWARD

Begin structural pruning to shape the bush and encourage new, fruitful canes.

ANNUALLY

- Remove dead, damaged, or diseased wood.
- Cut out low-growing canes that touch the ground.
- Remove crossing or inward-growing branches to open the center of the plant.
- Thin out older canes (over 5–6 years old), leaving younger, vigorous canes.
- Aim to keep 6–8 healthy canes per plant.

PRUNING & MAINTENANCE CONTINUED

RECOMMENDED TOOLS

HAND PRUNERS

For small branches and stems (up to ¾ inch thick).

LOPPERS

For thicker canes (up to 2 inches thick).

PRUNING SAW

For cutting old, large canes at the base.

BYPASS BLADES

Preferred for clean cuts that heal faster.

RUBBING ALCOHOL OR DISINFECTANT

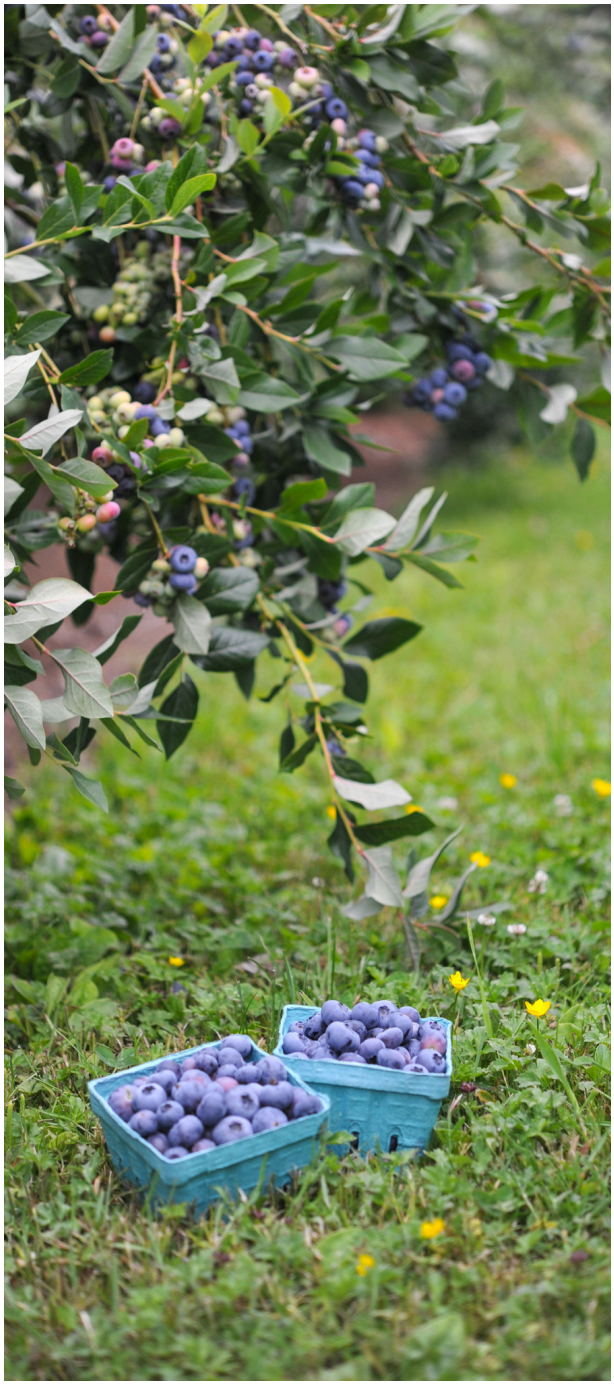
To sanitize tools between plants and prevent disease spread.

TIPS FOR ORGANIC SYSTEMS

- Always sanitize tools between plants to minimize transmission of fungal pathogens.
- Mulch and compost pruned material if disease-free, or burn/discard if infection is present.
- Avoid excessive pruning, which can reduce fruit yield and increase vegetative growth.

HARVESTING

Harvesting at the right time and in the right way ensures optimal fruit flavor, texture, and shelf life—essential for both fresh market and value-added uses. Blueberries do not continue to ripen after picking, so timing is crucial. Gentle handling and clean harvest techniques preserve the bloom (a natural waxy coating) which protects berries and enhances visual appeal—especially important for organic markets that often command premium prices.



HARVEST WINDOW

June to August, depending on variety and microclimate. Northern Highbush varieties typically peak in mid-July to early August in western Washington. Berries are ready when fully blue, plump, and easily detach with a slight roll of the fingers.

HARVEST FREQUENCY

- Every 5 to 7 days during peak ripening.
- Multiple passes are needed, as berries ripen over time.

HARVESTING CONTINUED

BEST PRACTICES

- Harvest in the cool morning hours to reduce field heat and prolong post-harvest shelf life.
- Avoid harvesting in wet conditions to minimize mold and fungal contamination.
- Use clean, dry hands or gloves; no rough handling to avoid bruising.

RECOMMENDED TOOLS

HARVEST BUCKETS OR PICKING PAILS

Lightweight, food-grade containers with padded straps or belts to reduce fatigue.

COLLECTION LUGS OR CRATES

Ventilated, stackable harvest bins for field transport.

COOLING EQUIPMENT

- **Portable Shade Tents or Coolers:** Keep fruit shaded during fieldwork.
- **Cold Storage Unit or Walk-In Cooler:** Maintain 32–34°F at 90–95% relative humidity to preserve freshness.

SORTING TABLE

For removing leaves, stems, and under or overripe fruit.

HANDHELD SCALES

Useful for small farms or CSA packaging.

LABELING TOOLS

For lot traceability and organic compliance (date, variety, plot ID).

TIPS FOR ORGANIC SYSTEMS

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- Mulch and compost pruned material if disease-free, or burn/discard if infection is present.
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MARKETING AND VALUE-ADDED OPPORTUNITIES

Demand for certified organic blueberries continues to grow in both fresh and processed markets. Organic certification opens access to premium pricing and new sales channels, including CSAs, co-ops, and wholesale distributors.

FRESH MARKET

Sell directly through farm stands, farmers markets, and CSA boxes. Retailers often prioritize local and certified organic sources.

PROCESSED PRODUCTS

Freeze, dry, or juice surplus berries. Common value-added goods include organic blueberry jam and preserves; freeze-dried blueberry powder; and fermented drinks (kombucha, wine, mead).

AGRITOURISM

U-pick operations and farm events build community engagement and diversify income streams. Signage and storytelling are key to consumer connection.

ACADEMIC & TECHNICAL REFERENCES FOR ORGANIC BLUEBERRY PRODUCTION

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