

Pruning Blueberries for Optimum Yield and Planting Longevity



Laura McDermott
Cornell Cooperative Extension
Eastern NY Commercial Horticulture Program
lgm4@cornell.edu

Is pruning important?

- 3 -10 year old canes allocate >50% of H₂O and fertilizer to fruit production
- 20 year old canes allocate <25% of H₂O and fertilizer to fruit production



Pruning study:

Three treatments:

- Plants regularly pruned in a moderate manner – 1 of every 6 removed (20%)
- Plants were heavily pruned, 40% of all canes removed every 5 years
- Plants were not pruned at all

Results

- The treatment that received regular moderate pruning had the highest yield on the least number of canes.
- Research also shows that as pruning increases, new cane production increases.

Conclusions

- young canes out-produce old canes
- the removal of older unproductive canes stimulates newer productive shoots
- the largest fruit is produced with regular moderate pruning
- yield over time is greater

How does pruning control plant growth?

- effects the ratio of plant hormones in the bush
- promoters (gibberellins and cytokinins) cause bud growth, cell division and elongation, and stem growth
- inhibitors (auxins and abscisic acid) control shoot development from buds

How does a blueberry plant grow?

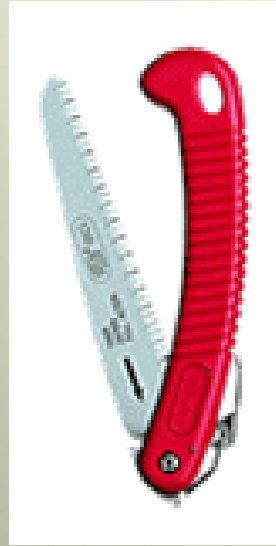
- canes are initiated annually from the crown
- each succeeding year, the cane produces laterals
- each year the lateral production gets smaller in diameter or “twiggy”
- as shoots become twiggy, fruit size on that wood decreases



Don't let your blueberry bushes look like this!



Equipment



How to Prune

1. Assess the plants overall vigor
2. Prune out all dead wood
3. Prune out all low branches
4. Locate the oldest canes and prune out one of every six canes thus if the plant has twelve canes, remove two of the oldest
5. Detail prune if time allows

Pruning young plants

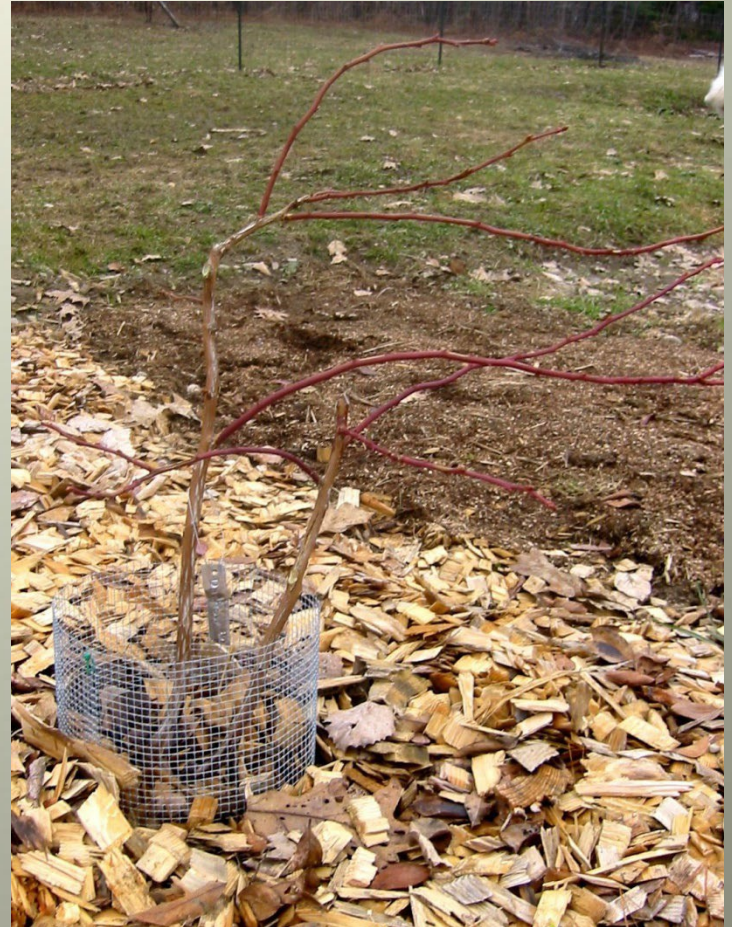
- Years 1 & 2 - encourage vegetative growth and production as quickly as possible:
 - Rub the buds off or...cut off the top 3-5" of each cane
 - Remove weak twiggy growth
- Year 3 – Remove all but the 2 best new canes



Before:



After:



Pruning young plants

- 4th and 5th year
 - remove twiggy growth
 - Remove lateral canes
 - Should have ~5 canes /year, keep 2-3 best
- Year 6-8 – full production depends on:
 - proper pH and nutrition
 - water management
 - Continued annual attention to pruning
 - Berries should have 10-20 canes of varying ages

Before:



After:





Ideally:



Special considerations:

- Growth habit
 - Spreading varieties
 - Blueray, Berkeley, Bluetta, Coville, Weymouth, Patriot
 - Erect varieties
 - Collins, Darrow, Earliblue, Herbert, Jersey, Lateblue, Elliot





More special considerations:

- Vigor

- Poor vigor

- Weymouth and Bluetta

- Overly vigorous

- Earliblue, Collins,
Blueray, Herbert



The cost of pruning?

- Pruning costs increase from year 4 to year 6, taking 45 hours, 50, and 55 hours respectively
- Pruning mature plants takes 48 hrs/acre for machine-picked fields and 60 hrs/acre for hand-picked fields
- At \$15/hr = \$900/a!
- In North Carolina the avg. grower spends \$375 per hectare for hand pruning highbush blueberries – that equals only \$151/a

Phomopsis



Fusicoccum



Witches'-Broom





Rejuvenating a neglected planting

- Rogue out any plant with suspected virus infection
- Rejuvenation strategies:
 - Strategy 1: Remove old, unproductive canes, leaving 2 - 3 older canes and all younger canes. In successive years, remove up to 20% older wood until new cane growth occurs. Keep 2-3 new canes and continue to remove 20% oldest canes.
 - Strategy 2: Cut all canes to ground level - harvest delayed 3 years. Thin new canes to most vigorous 6-10 canes.
 - Strategy 3: Summer hedge immediately after harvest; selectively remove dormant canes.



In summary:

- Pruning correctly can:
 - increase yield, by producing more canes
 - increase cane initiation because as pruning increases, cane number increases
 - increase fruit size by encouraging strong wood
 - decrease disease by removing unproductive wood

Pruning costs money, but it will cost a grower more if it isn't done!

The Oregon State University Extension Service
video, VTP 002, “Pruning Highbush
Blueberries...A Grower’s Guide”



