BLUEBERRY MULCHING RE-VISITED

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We continue to be impressed and pleased with the new growth on our older highbush blueberries since we began a more regular or calendar-based soil mulching program on them a couple years ago. Previously over the past 20 years on those fields, we had surface mulched only sporadically and thinly with composted leaves or occasionally with bark mulch and hardwood chips.

After visiting several blueberry growers in this Appalachian region of Virginia and West Virginia, noting plant growth and general condition of their plantings, a conclusion was easily reached: 6 to 12 inch deep surface mulches in-row to blueberries provided the healthiest, most vigorous plants with best yields and greatest length of current season's new wood.

Last year in early March, I visited a former Extension client, James Kinder at Kinder Berry Farm, near Appomattox, Virginia. His blueberry planting had declined in more recent years. Soil pH had slipped well below the optimum of 4.8 for blueberries and his surface mulch had dissipated away, leaving some roots literally on top of the soil, stressed by summer's heat and quickly drying, becoming desiccated during periods of hot, dry summer weather, and likely cold stressed during spells of severe winter cold. His Extension Agent, Eric Eberly, helped him obtain soil and leaf tissue samples during the early growing season, lime was recommended; plant tissues were very low in calcium, phosphorous and potassium. N, P and K-containing granular fertilizers were applied as recommended by soil test at bloom and again 4-5 weeks later.

I convinced him to also apply heavy sawdust surface mulch 6 to 10 inches deep around the blueberry plants, new sawdust, but free of black walnut residue as reported by the local sawmill near there. A number of Extension and Research workers have cautioned against using fresh sawdust, citing its very high carbon to nitrogen ratio of up to 600 to 1 or even higher. If such new or fresh sawdust were incorporated into blueberry soils, the nitrogen soil depletion would indeed be severe, plants surely would suffer. However, used solely as a deep surface mulch, only the soil surface interfaces with the sawdust. A modest increase in the annual soil nitrogen application easily counteracts possible nitrogen tie-up by soil microbes at this interface.

This interface represents only a tiny portion of the total volume of sawdust applied. In addition, blueberry roots readily grow out and up into the sawdust just above the sawdust-soil interface, finding more uniform moisture and a cooler environment during summer months and a warmer, more insulated root environment in winder than for surface and near-surface soil of unmulched or thinly mulched plants. Based on these observations, quite possibly the total potential root volume also is increased by this deep surface mulching process.

I visited Kinder Berry Farm again this March and was amazed at the improvement in appearance of their blueberry plants and the new growth since my visit the previous year! Clearly their plants are in good recovery, which I credit to following the soil and plant tissue test recommendations of their local Extension Agent and to theirs aggressive new surface mulching of fresh sawdust applied last spring 6 to 10 inches deep around their plants. After noting the excellent blueberry growth from mulching by several growers over this region and at our farm, we are considering trying a thinner sawdust surface mulch on our primocane raspberries and thornless blackberries. Sucker plants of primocane raspberries should have no trouble emerging through a 2 inch depth of sawdust mulch.

We will closely monitor leaf tissue nitrogen on all our sawdust mulched plantings. With mulched blueberries, improved in-row weed control is another fine benefit of the mulch.

We have obtained better in-row weed control with surface mulch than we were getting with dormant-applied pre-emergence herbicides. They always dissipated away, usually during harvest season whereas the weed suppression of the surface mulch keeps the rows clean all through the year.

Now the Kinder family is attending to not only the mineral nutrient needs of their blueberry plants and soil, but also to improving the biological aspects of their soil: By mulching they are increasing soil organic residue, soil microbial activity, soil aeration, as well as improving soil structure and soil drainage. Soil biological activity and plant metabolism also very likely are benefited by their applications of soil and foliar biostimulants plus foliar-applied supplemental nutrients to lessen plant stress, improve plant health and blueberry crops. My hat is off to the James Kinder family!

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