Optimizing Nitrogen Fertilization Rates for Mature Blueberry



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Goal: Determine optimum timing and fertilization rates for mature blueberry plantations

Approach:

- 5-year old 'Emerald' and 'Farthing'
- 5 N rates (lb/A):
 - ➢ T1: 50
 - ➢ T2: 87
 - ➤ T3: 125
 - ➤ T4: 200
 - ➤ T5: 300
- N source: Urea
- Application dates: 04/22, 05/12, 06/03, 06/23, 07/15, 8/05, 08/26, 09/16, 10/07, and 10/28
- 5 replications, 6 plants per plot
- 2.5-in root tubes used to observe root growth







Fig 1. Effect of N fertilization rate on fruit yield per plant of mature 'Emerald' and 'Farthing'. Columns with different letters were significantly different.

N rate (Ib/A)	'Emerald'				'Farthing'			
	Early		Late		Early		Late	
	° Brix	Ratio ¹	° Brix	Ratio	° Brix	Ratio	° Brix	Ratio
50	10.3	8.6 b	11.7	17.8 b	10.1	13.6	12.2	24.1
87	10.3	8.3 b	11.6	16.7 b	9.7	13.2	12.2	25.4
125	10.3	8.4 b	11.8	16.8 b	10.2	13.0	12.0	22.8
200	10.1	8.6 b	11.9	16.6 b	10.1	13.0	12.3	23.5
300	10.3	11.0 a	12.4	25.7 a	10.0	15.2	11.9	26.2
Effect	NS	***	NS	***	NS	NS	NS	NS

Table 1. Effect of N fertilization rate on fruit quality of mature 'Emerald' and 'Farthing'.

¹ Sweetness (° Brix) to titratable acidity ratio.





Conclusions after 2019:

- Optimum N rate varies by cultivar. Optimum for 'Emerald' was 50-125 lb/A.
 Optimum for 'Farthing' was 50-200 lb/A.
- N fertilization rate only affected fruit quality in Emerald. The 300 lb/A treatment increased the sweetness to acid ratio.
- N fertilization rate had no effect on root distribution or abundance. Root flush happens between August and November.