

Researches on Flower Bud Morphodifferentiation of *Daphne odora* var. *narginata*

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Abstract: Flower bud of *Daphne odora* var. *narginata* Mak. turns from terminal bud. Its differentiation includes two processes of differentiation of inflorescence and of floret, can be divided into seven developmental stages: undifferentiation, different beginning, differentiation of inflorescence, floret, petal, stamen and pistil. The flower bud differentiation begins on May middle and requires 6 – 7 months. Flower bud differentiation is individual and may be divided two rapid times. The bud differentiation is affected by temperature et al.

Key words: *Daphne odora* var. *narginata* Mak.; Flower bud differentiation

负载量对苹果光合速率及干物质生产的影响

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Effect of Crop Load on Photosynthetic Rate and Dry Matter Production of Apple

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关键词: 苹果; 负载量; 光合速率; 干物质

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1999 和 2000 年以 5~6 年生 ‘长富 1’ 苹果树为试材 (36 株, 每年用 18 株), 按树体主干 1 cm² 横截面积留果数设 6 个处理 (表 1), 每处理 3 株, 对叶片的光合速率、果实品质及翌年成花率等进行了测定。结果表明, 叶片光合速率随留果量的增大而增加, 6~8 月不甚明显, 而 9~10 月差异显著, 两年的变化趋势一致。负载量对叶片干物质生产能力也有明显影响, 1~6 处理, 平均每 g 叶片 (干样质量) 年生产干物质质量依次为 4.6、6.2、7.6、8.5、8.9 和 9.4 g, 表现出负载量越大, 叶片物质生产力越强的趋势, 说明叶片具有很强的物质生产潜能; 而干物质分配到果实中的多少随负载量变化亦有显著差异, 2~6 处理, 运转到果实中的干物质质量依次为 10.6、9.7、13.5、14.7 和 16.2 kg, 最高分配率可达 60% 以上。另一方面, 随着负载量的增大, 果实品质及翌年的成花率下降。从生产实际考虑, 认为按主干直径每 1 cm² 留 3 个果的负载量为宜。

表 1 负载量对光合速率、干物质增量变化及果实品质的影响

Table 1 Effects of crop load on photosynthetic rate, dry matter accumulation and fruit quality

处理 Treatment	负载量 Crop load (No. cm ⁻²)	光合速率 Photosynthetic rate (CO ₂ μmol · m ⁻² · s ⁻¹)					枝叶果干物质 增量 Dry matter accumulation of shoot, leaf and fruit (kg)	单果质量 Mean fruit mass (g)	可溶性 固形物 SSC (%)	可滴定酸 Titratable acid (%)	花芽率 Percentage of flower bud differentiation (%)
		06-05	07-05	08-05	09-05	10-05					
1	0	6.19	7.65	8.89	10.07 a	12.38 a	12.1 a	—	—	—	64.2
2	1.3	6.32	7.87	8.98	10.53 a	13.02 a	16.7 b	230	15.1	0.54	68.7
3	2.4	6.77	7.96	9.04	11.29 a	13.14 a	18.1 b	216	14.5	0.43	65.2
4	3.0	6.93	8.49	9.64	12.38 ab	15.16 b	21.9 c	208	14.3	0.40	65.4
5	4.5	7.15	8.64	9.87	12.67 b	15.34 b	23.7 cd	189	13.2	0.37	35.3
6	6.0	7.38	8.86	10.12	12.79 b	15.57 b	25.8 d	174	12.6	0.33	13.4

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