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# *Rhododendron* ‘Mandarin Lights’, *R.* ‘Lemon Lights’, and *R.* ‘Tri-Lights’

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### Origin

These three cultivars are the newest hardy deciduous azalea introductions (*Rhododendron* L. [Lights Series]) from the University of Minnesota. ‘Mandarin Lights’ was selected from a hybrid population resulting from a controlled cross of *Rhododendron calendulaceum* (Michx.) Torr. and *R. L.* [Knap Hill Group] ‘Orangeade’. ‘Lemon Lights’ was selected from a hybrid population resulting from the open pollination of an unnamed azalea (*Rhododendron* sp.). This female parent was a cross between a hybrid seedling (*Rhododendron* L. [Exbury Group]) and an unverified *Rhododendron* sp. that showed characteristics of *R. atlanticum* Rehd. ‘Tri-Lights’ was selected from a hybrid population resulting from a controlled cross of an unverified *Rhododendron* sp. that showed characteristics of *R. atlanticum* Rehd. and an unnamed red-orange flowered hybrid seedling (*Rhododendron* L. [Exbury Group]).

All three cultivars have been registered with the American Rhododendron Society. ‘Mandarin Lights’ was registered in 1994, ‘Lemon Lights’ in 1995, and ‘Tri-Lights’ in 2000.

### Description

‘Mandarin Lights’ has an upright-rounded and somewhat open growth habit. This shrub has a mature height of approximately 2 m (6.5 ft) and an equal width. Its leaves are dark green, elliptic in shape, and approximately 10 cm (4 in) long by 4 cm (1.6 in) wide. ‘Mandarin Lights’ flowers in late May to early June in Chanhassen, MN (latitude 44° 52' N). Flower trusses are ball shaped, 10–12 cm (4–4.7 in) wide and 10–12 cm (4–4.7 in) high, and hold an average of 7–10 flowers. Individual flowers are tubular funnel-shaped and have a corolla width of 5–6 cm (2–2.4 in) and length of 4–5 cm (1.6–2 in). Flower color is shades of orange (primarily RHS 32B) with darker veining, and a lighter orange (RHS 25B) blotch on the upper lobe (1).

‘Lemon Lights’ has an upright-rounded habit and somewhat open growth. Its mature size is approximately 1.5 m (5 ft) high and 1.25 m (4 ft) wide. Its leaves are dark green, elliptic in shape, and 8–10 cm (3–4 in) long by 3–4 cm (1.2–1.5 in) wide. ‘Lemon Lights’ flowers in late May to early June in Chanhassen, MN. Flower trusses are generally ball shaped, 10–12 cm (4–4.7 in) wide and 8–9 cm (3–3.5 in) high. Each truss holds 8–10 flowers on average. The flowers

of ‘Lemon Lights’ are tubular funnel-shaped and have a corolla width of 4–5 cm (1.6–2 in) and equal length. Flower color is clear yellow (RHS 13C) with an orange-yellow (RHS 21A) blotch on the upper lobe (2).

‘Tri-Lights’ has a spreading habit and moderately dense growth. Its mature size is approximately 1.5 m (5 ft) high and 2 m (6.5 ft) wide. ‘Tri-Lights’ leaves are dark green, obovate in shape, and 10–12 cm (4–4.7 in) long by 3–4 cm (1.2–1.5 in) wide. This cultivar also blooms in late May to early June in Chanhassen, MN. Flower trusses are dome shaped, 10–12 cm (4–4.7 in) wide and 6–8 cm (2.4–3 in) high, and hold approximately 10–15 flowers. Individual flowers are tubular funnel-shaped with an average corolla width of 5 cm (2 in) and length of 4.5 cm (1.8 in). The flowers present a tri-colored effect with marbled pink (RHS 68B) and white petals plus orange-yellow (RHS 17B) speckles from throat to mid-petal on the upper lobe (2).

### Adaptation

Based on controlled laboratory freezing tests and on field observations we consider the vegetative tissues and flower buds of ‘Mandarin Lights’ and ‘Lemon Lights’ to be winter hardy to at least –35.5C (–32F); the vegetative tissues of ‘Tri-Lights’ are hardy to –34.4C (–30F) while the flower buds are slightly less hardy, to about –31.6C (–25F). No major insect or disease problems have been noted on these azaleas. In multi-year evaluations of foliage all three have rated ‘little to none’ for the presence of powdery mildew and ‘moderate’ or ‘little to none’ for other unspecified leaf spot diseases.

### Cultural Conditions

As with most other *Rhododendron* cultivars, ‘Mandarin Lights’, ‘Lemon Lights’, and ‘Tri-Lights’ require moist, well-drained, acidic soil (pH 4.5–5.5) for best growth. The pH of basic soils should be reduced by the incorporation of acidifying compounds such as sulfur or ferrous sulfate before azaleas are planted in the site. Azaleas will benefit from the addition of peat moss, rotted leaves, or other composted organic matter to soils of any type before planting. These azaleas are intolerant of drought and should be watered thoroughly as needed. Application of mulches such as pine needles or shredded bark is recommended to help maintain a cool, moist root zone. These azaleas can be planted in full sun or light shade.

### Performance

‘Mandarin Lights’, ‘Lemon Lights’, and ‘Tri-Lights’ have all performed well at the University of Minnesota Landscape

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Arboretum in Chanhassen, MN. 'Mandarin Lights' and 'Lemon Lights' should be winter hardy through USDA zone 4 (3) and possibly into zone 3b. Since the flower buds of 'Tri-Lights' are slightly less hardy it is recommended through zone 4b. This cultivar will also survive in zone 4a but may suffer loss of flower buds in very cold winters. All three cultivars should perform well in north central and northeastern states.

### **Propagation**

'Mandarin Lights', 'Lemon Lights', and 'Tri-Lights' are being produced commercially by tissue culture propagation of microshoots. We have propagated these azaleas from early softwood cuttings (early to mid-June in Chanhassen, MN) treated with 0.8% IBA, stuck in 1:1 peat:perlite, and placed in 95–100% relative humidity. Cuttings are slow to root and may need to be given long day lighting in late summer and early fall in order to force new growth. We have observed that survival of cuttings may be poor if they are allowed to go dormant before new growth occurs.

### **Landscape Uses**

All three of these azalea cultivars provide an outstanding floral display in late spring. They combine well with other spring flowering shrubs and small trees, small evergreens, and spring blooming bulbs and perennials. The flower col-

ors of 'Lemon Lights' and 'Tri-Lights' blend with virtually any other color in the landscape. The bold orange flowers of 'Mandarin Lights' make a strong visual impact and can be complemented by foliage plants with subtle shades of green or silver-gray, or accentuated with other brightly colored flowering plants.

### **Availability**

'Mandarin Lights' and 'Lemon Lights' are currently available at both the wholesale and retail level. 'Tri-Lights' is in commercial micropropagation at this time and should be available at the retail level by 2003. All three cultivars have been released through the royalty program of the Minnesota Nurserymen's Research Corporation. These royalties help provide funding for further landscape plant breeding efforts. Growers interested in producing these cultivars should contact the authors or the Minnesota Nurserymen's Research Corporation, 1325 Bailey Road, St. Paul, MN 55119.

### **Literature Cited**

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