**Abstract**

The interactions of moisture and light with low oxygen (1%) storage of dry sale lily bulbs at 22–25 °C for 4–5 weeks have been studied as part of a continuing evaluation of modified atmospheres (MA) to lengthen shelf life. Conditions that promoted development in storage (light, moisture, and air) were detrimental to final plant quality, resulting in short plants with many aborted flowers and poor foliage development. One percent $O_2$ suppressed pre-plant development compared to storage in air, irrespective of light and moisture. When bulbs were forced under conditions that accelerated growth (high temperatures and light), bulbs stored in darkness, air, and dry (without peat) were comparable in quality (producing normal flowers and having adequate height and foliage development) to bulbs stored with 1% $O_2$ without peat. Exclusion of light is beneficial to bulbs stored in air but is not practical for marketing. The quality of dry-sale bulbs was always inferior to un-treated control bulbs that remained in the cooler during the dry-sale storage period. Untreated bulbs produced taller plants with more flowers and superior foliage development compared to bulbs stored under dry-sale conditions, regardless of the combination of light, moisture, and atmosphere.