

## The Olds College Lily Trials

### **An overview of the set-up and procedure of the Olds College Lily Trials**

Article Written by: Breana Venneman, Olds College Lily Research Assistant 2012  
Data collected by: Daniel Chappell (2009), Leanne Ejack (2010), and Alyssa DeGray (2011)  
Supervised by: Wendy Daley, Olds College, and Bill Mackay, Alberta Regional Lily Society



Lily Trials in bloom

In the Alberta Regional Lily Society provided funding to the Olds College to conduct a three year experiment to test the effects of soil pH, presence and depth of mulch and planting depth on the performance of some four Asiatic and two LA hybrid lily cultivars. Although gardeners have their own opinions on what cultivation practices are best for optimizing performance of lilies we know of no previous studies to evaluate these cultivation practices.



Gran Pariso?,

Crimson Pixie

The experiment was laid out as follows: nine 5 ft x 5 ft plots were developed, three that would be designated for the pH trials, three for the depth trials, and three for the mulch trials (see appendix diagram). The pH trials included acidic, neutral, and alkaline soil plots. The depth trials included plots in which bulbs would be planted at a five, ten, and twenty cm depth. The mulch trials included a plot which had no mulch covering, and two plots that had five and ten cm mulch

coverings. Bulbs were planted at a fifteen cm depth in the pH and mulch trials, and all bulbs were planted twelve inches apart.<sup>i</sup>



Plot layout



Planting the bulbs in one plot

The cultivars used in this experiment included 'Crimson Pixie', 'Connecticut King', 'Gran Pariso', 'Fangio', 'Royal Club', and 'Orange Upfacing'. Two bulbs of each cultivar were used in each trial, totalling 12 lilies per trial, and 108 lilies altogether.



Connecticut King, yellow



Royal Club

Beginning in 2009, the plants were monitored weekly. A data sheet was assigned for each plant, and all data measured was recorded and dated on these data sheets. The parameters to be measured in 2009 included the date on which the lily emerged, plant height, plant width, number of buds, the date of first bloom, number of flowers, number of stems, and stem width. The size of the bulbs at planting and the number of bulbs produced within the three years was also measured. At the end of 2009, the pH trials were unfortunately abandoned, as the soil was proving difficult to alter from its natural alkalinity. Therefore, only the depth and mulch trials were analyzed for all three years, although plants measured for the pH trials were used as a control group for the year 2009.



Fangio



Orange Upfacing

The trials were terminated in the fall of 2011, and all raw data was input electronically and analyzed in 2012. Comparative graphs were drawn up to decipher the effects of the applied variables, more specifically on the emergence and flowering dates, the height of the lilies, how many buds and flowers they produced, and how long they retained the flowers. The results of these trials will be released in subsequent articles, with each one outlining a specific trend observed in the data.

Every cultivar is different. They grow to different heights, have varying bloom counts, and a range of flowering times. Therefore, instead of coming to a blanket conclusion of the best conditions to grow lilies, some of the results are specific to each cultivar. However, it was possible to garner some general results from the data, and we hope that these may provide some helpful insight in growing healthy garden lilies.

If you wish to look at the raw data, or any of the graphs and charts used to analyze the data, please follow the hyperlinks in the endnotes below, or look them up on the ARLS website.



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