

## Some crosses with diploid tazettas and their fertility

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Crosses of different diploid and tetraploid poeticus varieties with *N. tazetta* were made before 1906 and 1930 especially in the Netherlands from J.B. van der Schoot. To the first group belong *Jaune a Merville* and *Geranium* with seven chromosomes from poeticus (N) and ten from *N. tazetta* (T). For *Geranium* (NT) Barbara Tulloch found out that it is fertile, against expectation, with 38% unreduced pollen. I detected this information in the internet some days ago. Her article "Observation of the Pollen of Some Species and Hybrids of *Narcissus*" you can find by dafflibrary in *The Daffodil Journal* from 1980, pages 116-119. I could confirm this information in my paper "Pollen Volume and Chromosome Content of Daffodils - Possibilities for Hybridizing 2 (January 2013)". *Jaune a Merville* generates also unreduced pollen. It was crossed with the tetraploid *Chaucer* and gave *Chinita* (NNNT). Furthermore Babara Tulloch writes in her article that *Cheerfulness*, *Primrose Beauty*, *Aspasia*, and *Saint Agnes*, all NNT with two chromosome sets of *N. poeticus* and one of *N. tazetta*, are pollen fertile with 30 to 48 %. The values of the pollen size for *Geranium* and all these varieties are about 0.05 mm which she also measured for *Matador* (NNTT) with NT-pollen. That means in my opinion that all these *tazetta* crosses create NT-pollen.

The question is whether the results of Barbara Tulloch influenced the work of the daffodil breeders. As far as I know there are no crosses made with the mentioned fertile *tazetta* hybrids except *Matador*. Perhaps they were done and no seeds resulted?

In any case it seems reasonable to repeat the old crosses. Today there are better poeticus varieties to get NT plants and much better tetraploid poeticus and standard daffodils to get NNT daffodils. I have late flowering *N. tazetta* clones from near Figueres in Spain with five up to ten flowers per stem. One clone survived a severe frost period in 2011/2012. I crossed them successfully with *Ufo*, *Loch Coire*, *TS 108*, *Symptom*, *Decoy*, *Assertion*, *Actaea*, and *Fanad Head*.





A combination of poeticus sorts and *N. elegans* (TT) should also be possible. Here the red colours in the crowns of the two daffodils could be combined. A hybridization with different tetraploid standard daffodils should also be tried, perhaps with higher temperatures for sprouting the pollen.

Crosses of *N. elegans* and other diploid tazettas with different species are feasible too. In 2015 and 2016 I got seeds from diploid Y-O tazettas and *N. elegans* as the pollen parents with the seed parents *N. assoanus*, *N. jonquilla minor*, and *N. calcicola*. I think there is allways a high possibility that some of these tazetta crosses are fertile.

Theo