Intraspecific variability of sage (*Salvia officinalis* L.)

E. Pióro-Jabrucka*, K. Bączek and Z. Węglarz

Warsaw University of Life Sciences – SGGW
Faculty of Horticulture and Landscape Architecture
Department of Vegetable and Medicinal Plants
Nowoursynowska 166, Warsaw, Poland
http://krwil.sggw.pl
* ✉ ewelina_pioro_jabrucka@sggw.pl

INTRODUCTION

Common sage (*Salvia officinalis* L., *Lamiaceae* family) is a small, aromatic perennial evergreen subshrub. It is an important medicinal plant. The raw materials (*Salviae folium* and *Salviae herba*) reveal antiseptic, antispasmodic, astringent, carminative, cholagogue and tonic activity. Sage is also used as a spice and in perfume industry (Kohlmünzer 2000, Duke 2002).

This species is native to the Mediterranean region but cultivated all over the world. It is planted by seeds. The yield of seeds and their quality are determined by genetic, environmental and developemental factors such as age of plants, position of the seeds in inflorescence and their maturity (Come 1996, Woyke 1996).

The aim of the research was to evaluate the intraspecific variability of sage with special respect to seed setting and germinability.

MATERIALS AND METHODS

The experiment was carried our in the years 2007-2008. The seedling prepared in a greenhouse was planted in mid May 2007 in spacing 50×50 cm at the experimental field of the Department of Vegetable and Medicinal Plants. Individual plants were evaluated in 2008 in respect of the number of fertile shoots, number of whorls in inflorescence, number of flowers in whorl, number and weight of seeds per flower and per plant. The 1000-seed weight and germinability of the seeds were estimated, too. The quality of seeds was determined according to ISTA (2008). The poster presents only selected obtained results.

RESULTS AND DISCUSSION

The individual plants differed in respect of investigated traits. The number of fertile shoots per one plant fluctuated from 5 to 15, of whorls in inflorescence – from 6 to 10 and of flowers per one whorl – from 2 to 12 (Figure 1 and 2). From a single flower 3 seeds were obtained, on average (Picture 3). The weight of seeds per plant fluctuated from 17 to 25 g (Figure 3). There was clear relation between position of seeds in inflorescence and their quality, especially germinability (70% for seeds from the lowest whorl and 98% for the seeds from upper one) (Figure 4). There were no distinct differences between plants in the 1000-seed weight (Figure 5).

Pic. 1. Blooming plants

Pic. 2. Shoots with overbloomed flovers

Pic. 3. Infructescences

Pic. 4. Seeds

Fig. 1. The number of fertile shoots per plant

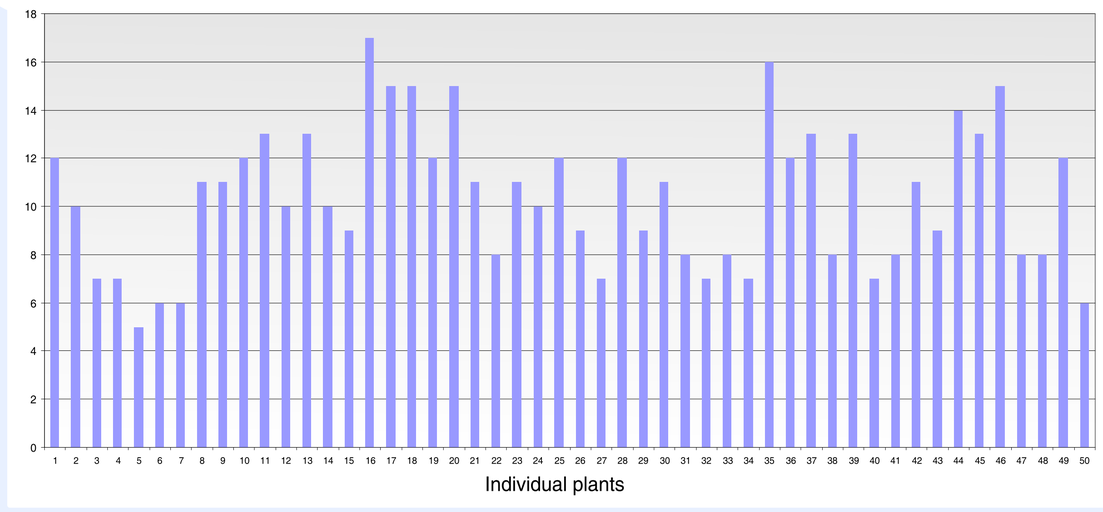


Fig. 2. The number of whorls in one inflorescence

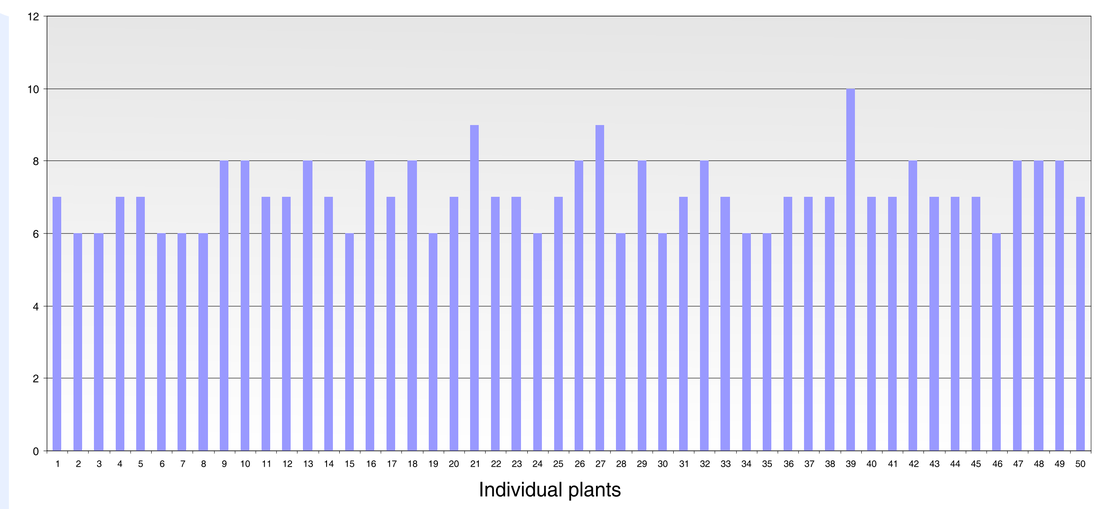


Fig. 3. The weight of seeds per one plant (g)

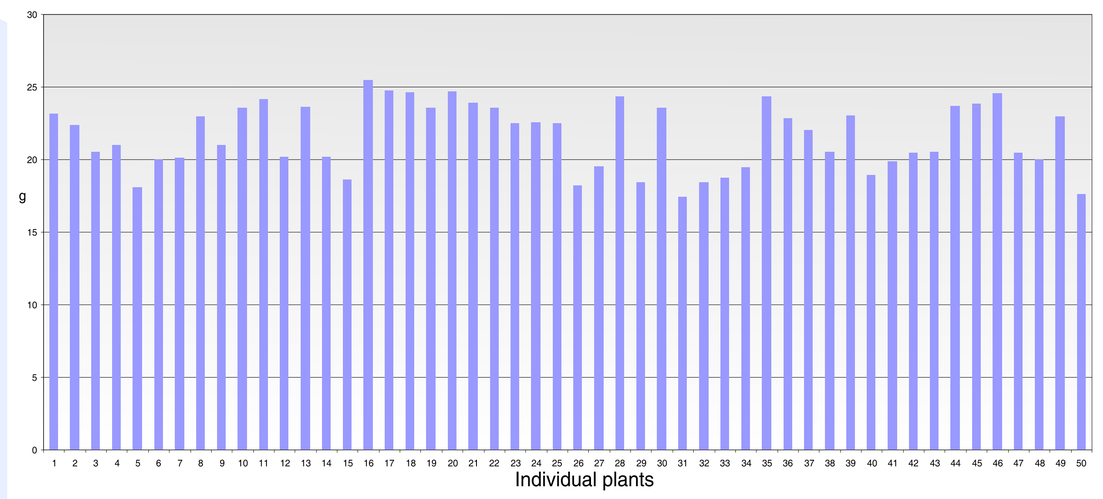


Fig. 4. The germinability of seeds (%)

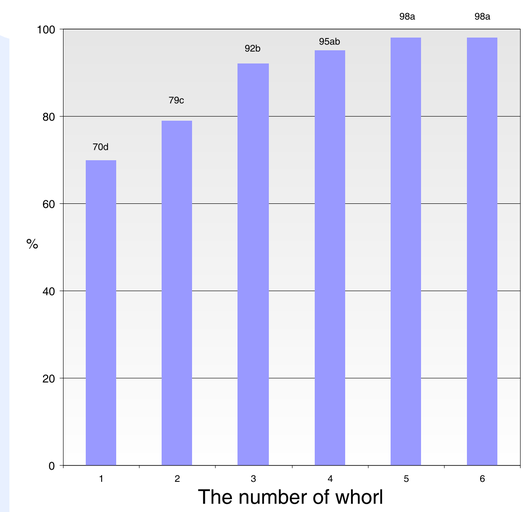
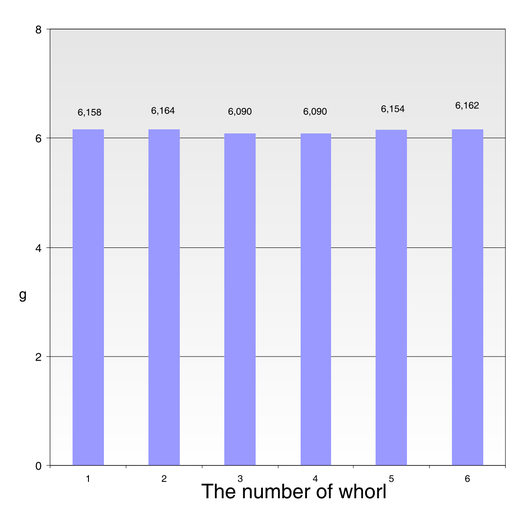


Fig. 5. The 1000-seed weight (g)



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