

# New Varieties

## Spring Wheat Dafne

**Registered:** Czech Republic, 2011

**Breeders' rights:** SELGEN, a.s., Prague, Czech Republic

**Breeder and maintainer:** SELGEN, a.s., Plant Breeding Station at Stupice, Czech Republic

**Pedigree:** Picolo × Vinjet

**Breeding method – pedigree:** Crosses were made in 2000 when 77 hybrid grains were obtained. Selections started in F<sub>2</sub> generation (2001) via individual plant harvesting, as well as in F<sub>3</sub> generation. Yield trials started in F<sub>5</sub> generation. At the same time disease resistance to yellow rust, leaf rust and powdery mildew was evaluated in special nurseries with artificial infection and under natural field conditions. In F<sub>6</sub> generation yield trials were done with an increased number of replications and in this generation artificial infection tests of resistance to leaf blotch and Fusarium head blight were performed. Quality parameters were examined since F<sub>1</sub> generation; in early generations for protein content and SDS sedimentation volume, later also for gluten index, % gluten, falling number, specific weight and mixograph index and in late generations in baking tests. In F<sub>7</sub> (2007) the selected breeding line was found to be satisfactory in every important aspect and it was submitted to the Official Trials under the code SG-S989-06. The trials were performed in 2008–2010 and the line was registered as the new variety Dafne in 2011.

**Yield:** The Dafne variety has a very high yield potential which was approved in the Official Trials of the Czech Central Institute for Supervising and Testing in Agriculture (2008–2010). Dafne was a very high yielding variety also in the Danish Farmer Union Trials in 2010–2011, where it outyielded the control variety Amaretto by 7%.

**Disease resistance:** Resistance to important fungal diseases can be considered as satisfactory. It is highly resistant to yellow rust (8–9), medium resistant to leaf rust (6–8), powdery mildew (7) and brown leaf spot diseases (6–7), and moderately susceptible to stem rust (5–6). Reaction to artificial infection with rusts at the Prague-Ruzyně location is shown in Table 1. Resistance to Fusarium head blight was found to be medium (6–7). Data on accumulation of the mycotoxin DON following artificial inoculation with *Fusarium culmorum* in experiments with registered spring wheat varieties (candidates for registration) are presented in Table 2.

**Quality:** In the Official Trials the baking quality of Dafne was classified as A (Figures 1 and 2). Quality parameters were as follows: sedimentation test of Zeleny 46 ml, protein content 13.5%, falling number 250 s, specific weight 779 g/l, PSI index 15%. It has medium thousand grain weight (38 g). The glutenin subunits are: (0) (7+9) (5+10).

Table 1. Reactions to leaf rust, yellow rust and stem rust in artificial infection tests (Crop Research Institute, Prague 2010–2012; 9 – resistant, 1 – susceptible)

| Variety | Leaf rust | Yellow rust | Stem rust |
|---------|-----------|-------------|-----------|
| Dafne   | 8.5       | 9.0/7.0*    | 5.5       |
| Trappe  | 6.8       | 9.0/6.0*    | 3.0       |
| Seance  | 6.5       | 9.0         | 5.3       |

\*2012 Okley race of yellow rust

Table 2. Average deoxynivalenol (DON) content in artificial infections tests (Crop Research Institute, Prague 2009–2011)

| Variety                         | DON (mg/kg) |
|---------------------------------|-------------|
| Dafne                           | 47.9        |
| Septima                         | 43.3        |
| Seance                          | 49.2        |
| Average of all tested materials | 46.2        |
| Sumai 3 – resistant             | 10.6        |



Figure 1. Dafne showed a very high bread volume in RMT (baking test, Stupice 2011)

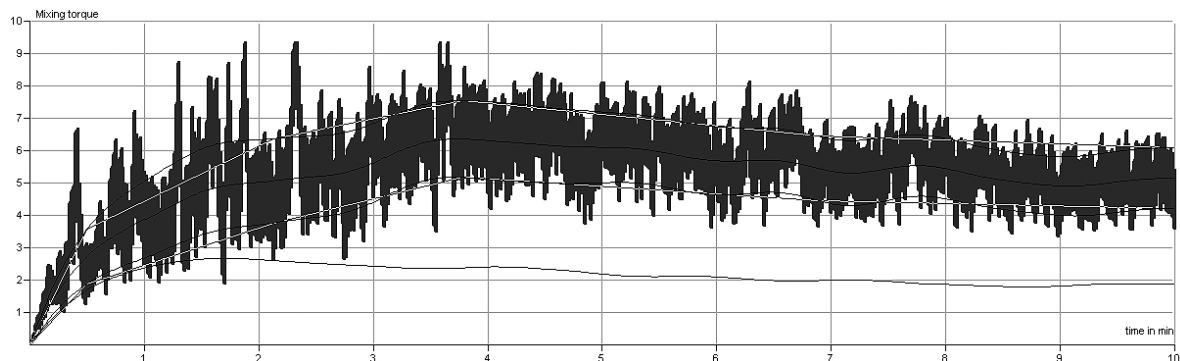


Figure 2. Mixograph curve of Dafne

**Other characteristics:** Dafne is a medium early variety (1 day later in heading than the Seance variety). Plant length is medium to long (98 cm). Resistance to lodging is medium. The ear is white (1), parallelly sided (2) and of lax to medium density (4), with medium long scurs at the tip of the ear. Ear, stem and flag leaf have strong glaucosity.

Small quantities of seeds for research and breeding purposes can be obtained from the variety breeder and maintainer.

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