NAMING AND RELEASE OF PHC-12 AND PHC-38, TWO RUNNER BEAN CULTIVARS WITH TOLERANCE TO SUB-OPTIMAL TEMPERATURE

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The Legumes Breeding Group at the Misión Biológica de Galicia (MBG), National Spanish Research Council (CSIC), announces the release of two runner bean (*Phaseolus coccineus* L.) cultivars named PHC-12 AND PHC-38.

The scarlet runner bean is a climbing perennial crop but it is often grown as an annual for dry seeds and immature green pods production in some parts of Europe. The runner bean cultivars are appreciated for their large seeds and culinary quality together with high yield.

As observed by the authors and local farmers, the runner bean generally requires moderate temperatures for good germination and growth and the optimum temperature ranges from 20ºC to 30ºC. Thus, temperature is a limiting factor for runner bean production and temperature under 10ºC at sowing delays both germination and plant emergence, lengthening the crop cycle and increasing production costs. Therefore, an alternative to make maximum utilization of the available growing period is to use cultivars tolerant to sub-optimal temperature at the germination and emergence stages.

The performance of cultivars under different growing conditions was evaluated in growing chamber at optimal (17ºC-day/15ºC-night) and sub-optimal (14ºC-day/8ºC-night) temperature on the basis of germination, earliness, ability to grow and vigor (Rodiño et al. 2007). Global culinary quality (GQ) of seeds was evaluated on a homogeneous sample of each runner bean cultivar by twelve independent observers according to Sanz and Atienza (2001) and Santalla et al. (2004) being scores above 40=bad quality; 39–30=acceptable; 29–20=very good, and scores lower than 19=excellent.

PHC-12 (previously tested as PHA-0311) has white large seeds (160 g 100 seeds^{-1}), very good culinary quality (GQ=25.1), earliness (46 days to first flower) and very high production under experimental conditions (50000 plants ha^{-1}), yielding 199 g plant^{-1}.

PHC-38 (previously tested as PHA-1025) has white large seeds (175 g seeds^{-1}), very good culinary quality (GQ=27.2), earliness (50 days to first flower) and high production under experimental conditions (50000 plants ha^{-1}), yielding 59 g plant^{-1}.

These cultivars are particularly recommended either for productions and breeding in temperate areas where spring season is humid and relatively cold. The cultivars are maintained and regenerated by hand pollination in nethouses at the MBG-CSIC and are released as a public nonexclusive germplasm. Small amounts of seeds are available from A. M. De Ron (amderon@mbg.cesga.es) and M. Santalla (msantalla@mbg.cesga.es), Legume Breeding Group, MBG-CSIC, P. O. Box 28, Pontevedra, Spain.

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