

## IMPROVED *OROBANCHE CUMANA* CONTROL IN CLEARFIELD® PLUS SUNFLOWERS

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### Abstract

Broomrape (*Orobanche cumana* Wallr.) in sunflower is one of the most important constraints in sunflower production in Europe. In the last decade, the herbicidal control option within the Clearfield® Production System in sunflower and the relevant Clearfield® herbicides has been an important control strategy and complemented the genetic resistance against broomrape. The commercial formulation Pulsar® (Imazamox 40 g/l) exhibits, besides broad-spectrum weed and grass control, a unique efficacy on broomrape in sunflower. Season long broomrape control is depending on a lethal concentration of Imazamox in the host plant over the time broomrape is attacking. The uptake of Imazamox and therewith the herbicidal concentration in sunflower is strongly influenced by the herbicide formulation. Field trials were conducted at different locations in Bulgaria, Hungary, Romania and Spain to evaluate the broomrape efficacy of Pulsar® Plus (Imazamox 25 g/l), containing a new and improved adjuvant complex, for the recently introduced Clearfield Plus system. The Pulsar Plus herbicide formulation was evaluated at full and reduced dose rates and compared to Pulsar, at the same active ingredient rates. Pulsar Plus outperformed Pulsar, both in *O. cumana* control and sunflower yield.

**Keywords:** Clearfield, Clearfield Plus, dose-response, *Helianthus annuus*, Imazamox