

Herbicide technologies by SYNGENTA in maize

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SYNGENTA is one of the leading companies in Bulgaria when it comes to crop protection in maize. This leading position has been successfully achieved thanks to the exceptionally diverse herbicide portfolio in this crop. SYNGENTA offers numerous innovative and economically advantageous solutions when aiming for successful weed control and achieving maximum results.

In the pre-emergence and early post-emergence segment, farmers can choose between 3 products – CAMIX®, GARDOPRIM PLUS GOLD® and DUAL GOLD®.

For the management of mixed weed infestations, again there are 3 proposals: ELUMIS® – one of the most preferred products by professional maize growers, MISTRAL PLUS® and the MISTRAL 4 OD + CASPER

package.

For the control of broadleaf weeds, including persistent ones, SYNGENTA offers CASPER® – the most preferred partner for all “shattercane” herbicides, as well as PEAK® – a product that solves otherwise unsolvable problems. Both products have a wide application window – up to the 8th leaf, thanks to their excellent selectivity.

Based on its broad-spectrum portfolio, as well as on the challenges in the field, SYNGENTA offers three herbicide programmes.

Programme 1: Pre-emergence or early post-emergence application of GARDOPRIM® PLUS GOLD and post-emergence treatment with ELUMIS® – a programme that provides great flexibility in intensive production on large areas. It is widely used by farmers aiming for maximum results.

Programme 2: Pre-emergence or early post-emergence treatment with CAMIX® and post-emergence application of MISTRAL® PLUS. The programme is an excellent choice for maize production on medium to large areas and in cases of simultaneous emergence of grass and broadleaf weeds.

Programme 3: Application of CAMIX® pre-emergence or early post-emergence and application of MISTRAL 4 OD + CASPER during vegetation. The programme is suitable for medium to large areas. It provides flexibility for the two products to be applied together or sequentially, depending on the emergence period of grass and broadleaf weeds.

The pre-emergence herbicide is the first important choice when we talk about crop protection. In order to achieve top yields, the use of a pre-emergence herbicide is mandatory. It is important that it is sufficiently effective against weeds and safe for the crop. It is advisable that the herbicide has a decisive effect, long residual activity and high selectivity.

CAMIX® is an extremely flexible product that SYNGENTA offers for pre-emergence and early post-emergence application. A fact that is important to note is that the price of CAMIX® is unrivalled, especially if we take into account the bonus that farmers will receive when participating in SYNGENTA's voucher campaign. It contains two active substances with different modes of action – S-metolachlor and mesotrione. Thanks to the synergism between the active substances, CAMIX® provides excellent control of a wide range of grass and broadleaf weeds. S-metolachlor is taken up by grass weeds through the roots and coleoptile, while mesotrione is taken up by the root, stem and leaves and is translocated through the xylem and phloem. Under optimal soil and climatic

conditions, CAMIX® has a long residual effect of 6 to 8 weeks. CAMIX® works with a minimal amount of rainfall – at least 2 l/m² of rainfall is required for product activation. When there is moisture in the soil, CAMIX® binds very well to soil particles and thus maintains its long-lasting efficacy. On the other hand, mesotrione has excellent solubility and acts directly on weeds when applied early post-emergence. CAMIX® can also be applied post-emergence in maize regardless of the growth stage of the crop. This means that the product is extremely selective. It does not cause phytotoxicity or additional stress when applied pre-emergence or post-emergence.

ELUMIS® is the star in SYNGENTA's post-emergence portfolio for maize. The complex of mutually complementary advantages establishes ELUMIS® as a solution chosen by the best professionals. ELUMIS® is a broad-spectrum herbicide against mixed weed infestations. ELUMIS® OD provides highly reliable control of economically important annual and perennial grass weeds (including rhizomatous johnsongrass) and broadleaf weeds, including difficult-to-control species such as thistle. ELUMIS® OD has a flexible application rate – it can be applied once at a dose of 130–200 ml/da depending on the growth stage, species composition and density of the weeds (at a dose of 150 ml/da it reliably controls rhizomatous johnsongrass). ELUMIS® OD has powerful post-emergence activity and, when applied at a dose above 175 ml/da, also has additional residual soil activity (provided by mesotrione), which ensures control of later-emerging weeds after application. The product does not cause phytotoxicity or suppress crop development in a way that would negatively affect phenological development. In field trials carried out in Bulgaria by scientific experts, ELUMIS® OD “ensures” the highest yield compared to other combinations of active substances popular on the Bulgarian market. This is due not only to the decisive control of mixed weed infestations, but also to the high selectivity of ELUMIS® OD to maize. Last but not least, ELUMIS® OD has a competitive price and high economic benefit. ELUMIS® OD fully pays back its cost price and is also included in the voucher campaign with an additional bonus.

If CAMIX has been applied pre-emergence or early post-emergence, in order to avoid excessive accumulation of mesotrione, SYNGENTA recommends one of the post-emergence solutions described below.

MISTRAL® PLUS is also an innovation by SYNGENTA. It is in OD formulation with built-in adjuvants that are carefully selected to provide the optimal balance between efficacy and selectivity. MISTRAL® PLUS is a universal solution regardless of the weed spectrum. It is easy and convenient to apply and has an excellent effect on a wide range of weeds. It controls both annual grass and broadleaf weeds, as well as perennial weeds, including difficult-to-control species. MISTRAL® PLUS is also an excellent solution against volunteers from herbicide-tolerant sunflower. It is characterised by rapid action and a pronounced knockdown effect compared to similar products. Six hours after application, the weeds stop growing and are no longer competitors to maize. MISTRAL® PLUS has a flexible application rate from 80 to 120 ml/da. A dose of 100 ml/da uncompromisingly

controls rhizomatous johnsongrass. In the 2021 season, MISTRAL® PLUS is included in a voucher programme, which makes its price even more attractive for users.

The MISTRAL 4 OD + CASPER package provides the opportunity for the two products to be applied simultaneously or separately, depending on the wave of weeds (mixed or two waves – of grass and broadleaf weeds). MISTRAL 4 OD + CASPER is a SYNGENTA package that can be applied up to the 8th leaf stage and is offered at a very favourable price plus an additional bonus when participating in a voucher programme. Thanks to the OD formulation with a built-in sticker, MISTRAL 4 OD has extremely high efficacy in the control of grass weeds both under dry conditions and in cases of excessive rainfall.

CASPER® has established itself on the market as the most widely used herbicide in maize for the control of broadleaf weed infestations, applied both alone and as a partner. With its double systemic action and the different mode of action of the active substances, which also have soil activity, CASPER® provides excellent control of broadleaf weeds (including those with a waxy coating, such as common lambsquarters). It has a low application rate up to the 8th leaf stage of the crop and excellent selectivity. The spectrum of controlled annual and perennial broadleaf weeds is extremely broad and impressive.

To be successful in the 2021 season, farmers can rely on expert solutions from SYNGENTA's specialised teams. Through an individual approach, the teams provide the most appropriate solutions for achieving maximum yields and increasing the return on every investment.