Boscalid - Biological characteristics, redistribution properties and biological efficacy

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Boscalid is the new active ingredient of a series of fungicides from BASF. It shows excellent preventative properties against a broad range of pathogens. Microscopic studies including CLSM and SEM indicate that this is due to its strong inhibition of spore germination, as exemplified by the activity against *Botrytis cinerea* and *Monilinia laxa*. In some fungi, Boscalid also demonstrates an effect against mycelial growth and spore development. Laboratory studies with radiolabeled Boscalid demonstrate translaminar movement and movement with the water stream in an acropetal direction to the leaf tip and margins. The vapor pressure and the resulting vapor phase activity are low. These redistribution properties and the high intrinsic activity characterize Boscalid as a fungicide with classical systemic properties. Through its inhibition of complex II, BOSCALID disrupts fungal growth by preventing energy production. It also inhibits fungal growth by eliminating the availability of the chemical building blocks for the synthesis of other essential cellular components. In opposition to other anilides, Boscalid effectively controls a wide range of fungal pathogens including Ascomycetes like *Sclerotinia* spp. in oilseed rape and many other crops, Deuteromycetes such as *Alternaria* spp. in oilseed rape and *Botrytis* spp. in many crops. Due to it's new mode of action there is no danger of cross- resistance with strobilurine fungicides to be expected. In many field trials, carried out during the recent years, Boscalid shows an outstanding control of *Sclerotinia sclerotiorum, Alternaria brassicae, Leptosphaeria maculans* and other pathogens in oilseed rape. The compound has a favorable toxicological and ecotoxicological profile. It has been classified by US-EPA as a 'reduced risk candidate'. Boscalid is developed and registered, or in process to be registered, as a solo product (CANTUS, FILAN) and with various pre-mix partners, in a range of formulations. Market introduction in many countries will be for the 2003 season.