

Agricultural aspects of Comparative assessment National Plant Protection Organization the Netherlands

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Comparative assessment of Bromuconazole 30 EC
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The NPPO has compiled this Comparative Assessment of agricultural aspects with the greatest care and to the best of its current knowledge, acting in full conformity with the criteria and guidelines of the Board for the Authorisation of Plant Protection Products and Biocides (Ctgb).

The NPPO can accept no liability for any harmful consequences, whatever their nature, that may result from these evaluations or their application.

It should also be noted that the Ctgb is the sole body in the Netherlands qualified to decide on requests for the authorisation of pesticides.

NPPO evaluation of the agricultural aspects of Comparative assessment

National addendum to the draft Registration Report (dRR)

1. General information

Country	Netherlands
Name applicant	
Product under evaluation	Bromuconazole 30 EC
Candidate for substitution (active substance name)	bromuconazole
Reasons for approval as candidate for substitution (delete as appropriate).	two of PBT
Formulation and content	EC
Mode of action	C14-demethylase in sterol biosynthesis (demethylation inhibitors)
FRAC-code	G1 (3)

2. Claim Major uses/minor uses

The proposed use of Bromuconazole 30 EC is a fungicide for professional use applied as foliar application in the following uses:

Major uses

Crop	Pest/disease/weed	Maximum number of applications per crop/season	Minimum interval between spray applications in days	Pre harvest interval in days
Winter wheat	<i>Septoria</i> spp.	1	n.a.	42
	<i>Puccinia recondite</i>			
	<i>Puccinia striiformis</i>			
	<i>Erysiphe graminis</i>			
	<i>Fusarium</i> spp.			
Spring wheat	<i>Septoria</i> spp.	1	n.a.	42
	<i>Puccinia recondite</i>			
	<i>Puccinia striiformis</i>			
	<i>Erysiphe graminis</i>			
	<i>Fusarium</i> spp.			

Minor uses

No minor uses requested.

Proposed restrictions

Application near surface water only permitted with 75% drift reduction measures.

3. Characteristics of the product (PPP)

Bromuconazole 30 EC is a fungicide based on the active substance bromuconazole. Bromuconazole is a triazole belonging to the chemical family C14-demethylase in sterol biosynthesis (FRAC group G1(3)). Because of slow penetration and its persistence, Bromuconazole 30 EC gives a long lasting preventive effect.

4. Comparative assessment of agricultural aspects

This assessment follows a step-wise approach which contains three area's (see chapters 4.1., 4.2. and 4.3.). As described in the EU Guidance document on comparative assessment the process may be terminated at any stage and it may not be necessary to continue through the whole scheme. In that case the CA-process can be finalized by filling in the final conclusions (chapter 5). If not, all steps have to be completed.

Where there are reasons to believe at the start of the comparative assessment that there might be a problem in a certain area, it may be useful to start the assessment in that particular area.

4.1. Conclusion alternatives available per use regarding limitations in the use (effectiveness, practical and/or economical disadvantages)

An overview of all alternatives, both chemicals (date: 02-08-2018) and non-chemical methods, for the proposed major uses of Bromuconazole 30 EC can be found in annexes I and II.

Crop	Pest	Conclusion NPPO
Winter wheat, spring wheat	<i>Septoria</i> spp.	Alternatives available: Amistar, Legado, Sinstar, Zoxis 250 SC, Ascra Xpro, Abringo, Balear 720 SC, Daconil 500 vloeibaar, DuPont Vertisan, DuPont Treoris, Proline, Delaro
	<i>Puccinia recondite</i>	Alternatives available: Amistar, Azbany, Legado, Sinstar, Zoxis 250 SC, Ascra Xpro, DuPont Vertisan, DuPont Treoris, Proline, Delaro
	<i>Puccinia striiformis</i>	Alternatives available: Amistar, Azbany, Legado, Sinstar, Zoxis 250 SC, Ascra Xpro, DuPont Vertisan, Proline, Delaro
	<i>Erysiphe graminis</i>	Alternatives available: Amistar, Ascra Xpro, Proline, Delaro, Property 180 SC
	<i>Fusarium</i> spp.	Alternatives available: Ascra Xpro, Proline, Delaro

4.2. Conclusion alternatives available per use regarding the risk of developing resistance (major uses)

An overview of all alternatives, both chemicals (date: 02-08-2018) and non-chemical methods, for the proposed major uses of Bromuconazole 30 EC can be found in annexes I and II.

Crop	Pest	Conclusion NPPO	Name(s) of alternative(s)
Winter wheat, spring wheat	<i>Septoria</i> spp.	There are alternatives with the same mode of action as the candidate.	Proline, Delaro, Ascra Xpro, Aviator Xpro, Fandango
Winter wheat, spring wheat	<i>Puccinia recondite</i>	There are alternatives with the same mode of action as the candidate.	Proline, Delaro, Ascra Xpro, Aviator Xpro, Fandango
Winter wheat, spring wheat	<i>Puccinia striiformis</i>	There are alternatives with the same mode of action as the candidate.	Proline, Delaro, Ascra Xpro, Aviator Xpro, Fandango
Winter wheat, spring wheat	<i>Erysiphe graminis</i>	There are alternatives with the same mode of action as the candidate.	Proline, Delaro, Ascra Xpro, Aviator Xpro, Fandango
Winter wheat, spring wheat	<i>Fusarium</i> spp.	There are alternatives with the same mode of action as the candidate.	Proline, Delaro, Ascra Xpro, Aviator Xpro, Fandango

There are alternatives for Bromuconazole 30 EC based on active substances from the same resistance group. The number of resistance groups will not change when Bromuconazole is replaced by another product.

4.3. Conclusions consequences for minor uses

There are no minor uses requested so no consequences for minor uses.

5. Overall NPPO conclusion on agriculture aspects

For the following uses, Bromuconazole 30 EC can be substituted by alternatives listed below.

Crop	Pest/disease	Product	Toelatings-nummer	Active substance
Winter wheat, spring wheat	<i>Septoria</i> spp.	Amistar	11767	azoxystrobin
		Legado	15592	
		Sinstar	15285	
		Zoxis 250 SC	14578	
		Ascra Xpro	15543	bixafen + fluopyram + prothioconazool
		Abringo	14328	chloorthalonil
		Balear 720 SC	14292	
		Daconil 500	7827	
Vloeibaar				
DuPont Vertisan	14935	penthiopyrad		
DuPont Treoris	14934	chloorthalonil + penthiopyrad		
Proline	12725	prothioconazool		
Delaro	12877	prothioconazool + trifloxystrobin		

Crop	Pest/ disease	Product	Toelatings- nummer	Active substance		
Winter wheat, spring wheat	<i>Puccinia recondite</i>	Amistar	11767	azoxystrobin		
		Azbany	15578			
		Legado	15592			
		Sinstar	15285			
		Zoxis 250 SC	14578			
		Ascra Xpro	15543		bixafen + fluopyram + prothioconazool	
Winter wheat, spring wheat	<i>Puccinia striiformis</i>	DuPont Vertisan	14935	penthiopyrad		
		DuPont Treoris	14934	chloorthalonil + penthiopyrad		
		Proline	12725	prothioconazool		
		Delaro	12877	prothioconazool + trifloxystrobin		
		Winter wheat, spring wheat	<i>Erysiphe graminis</i>	Amistar	11767	azoxystrobin
				Legado	15592	
Ascra Xpro	15543			bixafen + fluopyram + prothioconazool		
Proline	12725			prothioconazool		
Delaro	12877			prothioconazool + trifloxystrobin		
Winter wheat, spring wheat	<i>Fusarium spp.</i>	Property 180 SC	15400	pyriofenone		
		Ascra Xpro	15543	bixafen + fluopyram + prothioconazool		
		Proline	12725	prothioconazool		
Winter wheat, spring wheat	<i>Fusarium spp.</i>	Delaro	12877	prothioconazool + trifloxystrobin		

Annex I: Alternative authorised plant protection products in the Netherlands

An overview of chemicals alternatives (date: 02-08-2018), for the proposed major uses of Bromuconazole 30 EC.

Crop	Pest/disease/weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
Winter wheat, spring wheat	<i>Septoria tritici</i>	Abringo	chloorthalonil	M05	-	yes	yes
		BALEAR 720 SC	chloorthalonil	M05	-	yes	yes
		Daconil 500 Vloeibaar	chloorthalonil	M05	-	yes	yes
		UPL CHLOROTHALONIL	chloorthalonil	M05	-	yes	yes
		Acanto	picoxystrobin	C3	Use permitted until 1-11-2018	no	no
		Adexar	fluxapyroxad,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Allegro	kresoxim-methyl,epoxiconazool	C3, G1	Candidate for substitution	no	no
		Allegro Plus	kresoxim-methyl,epoxiconazool, fenpropimorf	C3, G1, G2	Candidate for substitution	no	no
		Amistar	azoxystrobin	C3	-	yes	yes
		LEGADO	azoxystrobin	C3	-	yes	yes
		Sinstar	azoxystrobin	C3	-	yes	yes
		Zoxis 250 SC	azoxystrobin	C3	-	yes	yes
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes
		Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes
		Bravo Premium	propiconazool,chloorthalonil	G1, M05	Candidate for substitution	no	no
		Caramba	metconazool	G1	Candidate for substitution	no	no
		Cerix	fluxapyroxad,epoxiconazool,pyraclostrobine	C2, G1, C3	Candidate for substitution	no	no
		COMRADE	cyproconazool,azoxystrobin	G1, C3	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		DITHANE DG NewTec	mancozeb	M03	Candidate for substitution	no	no
		Penncozeb 80 WP	mancozeb	M03	Candidate for substitution	no	no
		PENNCOZEB SC	mancozeb	M03	Candidate for substitution	no	no
		DuPont CIELEX	cyproconazool,penthiopyrad	G1, C2	Candidate for substitution	no	no
DuPont TREORIS	penthiopyrad,chloorthalonil	C2, M05	-	yes	yes		
DuPont VERTISAN	penthiopyrad	C2	-	yes	yes		
Winter wheat,	<i>Septoria</i>	Elatus Era	Benzovindiflupyr,prothioconazool	C2, G1	Candidate for substitution	no	no

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
spring wheat	<i>tritici</i>						
		Elatus Plus	Benzovindiflupyr	C2	Candidate for substitution	no	no
		Epox extra	folpet,epoxiconazool	M04, G1	Candidate for substitution	no	no
		Epox top	fenpropidin,epoxiconazool	G2, G1	Candidate for substitution	no	no
		Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Comet	pyraclostrobine	C3	It is not permitted to use straw from treated wheat for animal consumption or trade.	no	yes
		Fezan Plus*	chloorthalonil,tebuconazool	M05, G1	Candidate for substitution	no	no
		Imtrex XE	fluxapyroxad	C2	Until the spraying fluid is dried up, It is not permitted to enter treated areas without protective clothing and gloves.	no	yes
		Kestrel	tebuconazool,prothioconazool	G1, G1	Candidate for substitution	no	no
		Mirador Xtra	azoxystrobin,cyproconazool	C3, G1	Candidate for substitution	no	no
		Olympus	azoxystrobin,chloorthalonil	C3, M05	90% drift reduction required on fields adjacent to surface water.	no	yes
		Opus	epoxiconazool	G1	Candidate for substitution	no	no
		Opus EC	epoxiconazool	G1	Candidate for substitution	no	no
		RUBRIC	epoxiconazool	G1	Candidate for substitution	no	no
		Opus team	epoxiconazool,fenpropimorf	G1, G2	Candidate for substitution	no	no
		Osiris	epoxiconazool,metconazool	G1, G1	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Prosaro	prothioconazool,tebuconazool	G1, G1	Candidate for substitution	no	no
		Retengo Plust	epoxiconazool,pyraclostrobine	G1, C3	Candidate for substitution	no	no
		Seguris	epoxiconazool,isopyrazam	G1, C2	Candidate for substitution	no	no
		Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no
		Soleil	tebuconazool,bromuconazool	G1, G1	Candidate for substitution	no	no
Winter wheat, spring wheat	<i>Septoria tritici</i>	Sphere	cyproconazool,trifloxystrobin	G1, C3	Candidate for substitution	no	no

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
		Sportak EW	prochloraz	G1	Candidate for substitution	no	no
		Faxer	prochloraz	G1	Candidate for substitution	no	no
		Prochlorus	prochloraz	G1	Candidate for substitution	no	no
		Tebusha 250 EW	tebuconazool	G1	Candidate for substitution	no	no
		Venture	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Venture N	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no
Winter wheat, spring wheat	<i>Septoria nodorum</i>	Abringo	chloorthalonil	M05	-	yes	yes
		BALEAR 720 SC	chloorthalonil	M05	-	yes	yes
		Daconil 500 Vloeibaar	chloorthalonil	M05	-	yes	yes
		Acanto	picoxystrobin	C3	Use permitted until 1-11-2018	no	no
		Adexar	fluxapyroxad,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Allegro	kresoxim-methyl,epoxiconazool	C3, G1	Candidate for substitution	no	no
		Allegro Plus	kresoxim-methyl,epoxiconazool, fenpropimorf	C3, G1, G2	Candidate for substitution	no	no
		Amistar	azoxystrobin	C3	-	yes	yes
		LEGADO	azoxystrobin	C3	-	yes	yes
		Sinstar	azoxystrobin	C3	-	yes	yes
		Zoxis 250 SC	azoxystrobin	C3	-	yes	yes
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes
		Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes
		Bravo Premium	propiconazool,chloorthalonil	G1, M05	Candidate for substitution	no	no
		Caramba	metconazool	G1	Candidate for substitution	no	no
		Cerix	fluxapyroxad,epoxiconazool,pyraclostrobine	C2, G1, C3	Candidate for substitution	no	no
		COMRADE	cyproconazool,azoxystrobin	G1, C3	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		DITHANE DG NewTec	mancozeb	M03	Candidate for substitution	no	no
		Penncozeb 80 WP	mancozeb	M03	Candidate for substitution	no	no
Winter wheat, spring wheat	<i>Septoria nodorum</i>	PENNCOZEB SC	mancozeb	M03	Candidate for substitution	no	no
		DuPont CIELEX	cyproconazool,penthiopyrad	G1, C2	Candidate for substitution	no	no

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
Winter wheat, spring wheat	<i>Septoria nodorum</i>	DuPont TREORIS	penthiopyrad,chloorthalonil	C2, M05	-	yes	yes
		DuPont VERTISAN	penthiopyrad	C2	-	yes	yes
		Elatus Era	Benzovindiflupyr,prothioconazool	C2, G1	Candidate for substitution	no	no
		Elatus Plus	Benzovindiflupyr	C2	Candidate for substitution	no	no
		Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Comet	pyraclostrobine	C3	It is not permitted to use straw from treated wheat for animal consumption or trade.	no	yes
		Imtrex XE	fluxapyroxad	C2	Until the spraying fluid is dried up, It is not permitted to enter treated areas without protective clothing and gloves.	no	yes
		Kestrel	tebuconazool,prothioconazool	G1, G1	Candidate for substitution	no	no
		Mirador Xtra	azoxystrobin,cyproconazool	C3, G1	Candidate for substitution	no	no
		Olympus	azoxystrobin,chloorthalonil	C3, M05	90% drift reduction required on fields adjacent to surface water.	no	yes
		Opus	epoxiconazool	G1	Candidate for substitution	no	no
		Opus EC	epoxiconazool	G1	Candidate for substitution	no	no
		RUBRIC	epoxiconazool	G1	Candidate for substitution	no	no
		Opus team	epoxiconazool,fenpropimorf	G1, G2	Candidate for substitution	no	no
		Osiris	epoxiconazool,metconazool	G1, G1	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Propi 25 EC	propiconazool	G1	Candidate for substitution	no	no
		Seguris	epoxiconazool,isopyrazam	G1, C2	Candidate for substitution	no	no
		Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no
		Soleil	tebuconazool,bromuconazool	G1, G1	Candidate for substitution	no	no
		Sphere	cyproconazool,trifloxystrobin	G1, C3	Candidate for substitution	no	no
Sportak EW	prochloraz	G1	Candidate for substitution	no	no		
Tarcza 250 EW	tebuconazool	G1	Candidate for substitution	no	no		

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
		Tebusha 250 EW	tebuconazool	G1	Candidate for substitution	no	no
		Venture N	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no
Winter wheat, spring wheat	<i>Puccinia recondita</i>	Acanto	picoxystrobin	C3	Use permitted until 1-11-2018	no	no
		Adexar	fluxapyroxad,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Allegro	kresoxim-methyl,epoxiconazool	C3, G1	Candidate for substitution	no	no
		Allegro Plus	kresoxim-methyl,epoxiconazool, fenpropimorf	C3, G1, G2	Candidate for substitution	no	no
		Amistar	azoxystrobin	C3	-	yes	yes
		Azbany	azoxystrobin	C3	-	yes	yes
		LEGADO	azoxystrobin	C3	-	yes	yes
		Sinstar	azoxystrobin	C3	-	yes	yes
		Zoxis 250 SC	azoxystrobin	C3	-	yes	yes
		Ampera	tebuconazool,prochloraz	G1, G1	Candidate for substitution	no	no
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes
		Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes
		Bravo Premium	propiconazool,chloorthalonil	G1, M05	Candidate for substitution	no	no
		Caramba	metconazool	G1	Candidate for substitution	no	no
		Cerix	fluxapyroxad,epoxiconazool,pyraclostrobine	C2, G1, C3	Candidate for substitution	no	no
		COMRADE	cyproconazool,azoxystrobin	G1, C3	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		DuPont CIELEX	cyproconazool,penthiopyrad	G1, C2	Candidate for substitution	no	no
		DuPont TREORIS	penthiopyrad,chloorthalonil	C2, M05	-	yes	yes
		DuPont VERTISAN	penthiopyrad	C2	-	yes	yes
Elatus Era	Benzovindiflupyr,prothioconazool	C2, G1	Candidate for substitution	no	no		
Elatus Plus	Benzovindiflupyr	C2	Candidate for substitution	no	no		
Winter wheat, spring wheat	<i>Puccinia recondita</i>	Epox extra	folpet,epoxiconazool	M04, G1	Candidate for substitution	no	no
		Epox top	fenpropidin,epoxiconazool	G2, G1	Candidate for substitution	no	no

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
Winter wheat, spring wheat	<i>Puccinia recondita</i>	Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Imtrex XE	fluxapyroxad	C2	Until the spraying fluid is dried up, It is not permitted to enter treated areas without protective clothing and gloves.	no	yes
		Kestrel	tebuconazool,prothioconazool	G1, G1	Candidate for substitution	no	no
		Mirador Xtra	azoxystrobin,cyproconazool	C3, G1	Candidate for substitution	no	no
		Olympus	azoxystrobin,chloorthalonil	C3, M05	90% drift reduction required on fields adjacent to surface water.	no	yes
		Opus	epoxiconazool	G1	Candidate for substitution	no	no
		Opus EC	epoxiconazool	G1	Candidate for substitution	no	no
		RUBRIC	epoxiconazool	G1	Candidate for substitution	no	no
		Opus team	epoxiconazool,fenpropimorf	G1, G2	Candidate for substitution	no	no
		Osiris	epoxiconazool,metconazool	G1, G1	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Propi 25 EC	propiconazool	G1	Candidate for substitution	no	no
		Tilt 250 EC	propiconazool	G1	Candidate for substitution	no	no
		Prosaro	prothioconazool,tebuconazool	G1, G1	Candidate for substitution	no	no
		Retengo	pyraclostrobine	C3	90% drift reduction required on fields adjacent to surface water.	no	yes
		Comet	pyraclostrobine	C3	90% drift reduction required on fields adjacent to surface water.	no	yes
		Retengo Plust	epoxiconazool,pyraclostrobine	G1, C3	Candidate for substitution	no	no
		Seguris	epoxiconazool,isopyrazam	G1, C2	Candidate for substitution	no	no
		Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no
		Soleil	tebuconazool,bromuconazool	G1, G1	Candidate for substitution	no	no
Sphere	cyproconazool,trifloxystrobin	G1, C3	Candidate for substitution	no	no		
Tarcza 250 EW	tebuconazool	G1	Candidate for substitution	no	no		
Tebusha 250 EW	tebuconazool	G1	Candidate for substitution	no	no		

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
		Venture	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Venture N	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no
Winter wheat, spring wheat	<i>Puccinia striiformis</i>	Acanto	picoxystrobin	C3	Use permitted until 1-11-2018	no	no
		Adexar	fluxapyroxad,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Allegro	kresoxim-methyl,epoxiconazool	C3, G1	Candidate for substitution	no	no
		Allegro Plus	kresoxim-methyl,epoxiconazool, fenpropimorf	C3, G1, G2	Candidate for substitution	no	no
		Amistar	azoxystrobin	C3	-	yes	yes
		Azbany	azoxystrobin	C3	-	yes	yes
		LEGADO	azoxystrobin	C3	-	yes	yes
		Sinstar	azoxystrobin	C3	-	yes	yes
		Zoxis 250 SC	azoxystrobin	C3	-	yes	yes
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes
		Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes
		Bravo Premium	propiconazool,chloorthalonil	G1, M05	Candidate for substitution	no	no
		Cerix	fluxapyroxad,epoxiconazool,pyraclostrobine	C2, G1, C3	Candidate for substitution	no	no
		COMRADE	cyproconazool,azoxystrobin	G1, C3	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		DuPont CIELEX	cyproconazool,penthiopyrad	G1, C2	Candidate for substitution	no	no
		DuPont VERTISAN	penthiopyrad	C2	-	yes	yes
		Elatus Era	Benzovindiflupyr,prothioconazool	C2, G1	Candidate for substitution	no	no
		Elatus Plus	Benzovindiflupyr	C2	Candidate for substitution	no	no
		Epox extra	folpet,epoxiconazool	M04, G1	Candidate for substitution	no	no
Epox top	fenpropidin,epoxiconazool	G2, G1	Candidate for substitution	no	no		
Winter wheat, spring wheat	<i>Puccinia striiformis</i>	Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Imtrex XE	fluxapyroxad	C2	Until the spraying fluid is dried up, It is not permitted to enter treated areas without protective clothing and gloves.	no	yes

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
		Kestrel	tebuconazool,prothioconazool	G1, G1	Candidate for substitution	no	no
		Mirador Xtra	azoxystrobin,cyproconazool	C3, G1	Candidate for substitution	no	no
		Olympus	azoxystrobin,chloorthalonil	C3, M05	90% drift reduction required on fields adjacent to surface water.	no	yes
		Opus	epoxiconazool	G1	Candidate for substitution	no	no
		Opus EC	epoxiconazool	G1	Candidate for substitution	no	no
		RUBRIC	epoxiconazool	G1	Candidate for substitution	no	no
		Opus team	epoxiconazool,fenpropimorf	G1, G2	Candidate for substitution	no	no
		Osiris	epoxiconazool,metconazool	G1, G1	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Propi 25 EC	propiconazool	G1	Candidate for substitution	no	no
		Tilt 250 EC	propiconazool	G1	Candidate for substitution	no	no
		Prosaro	prothioconazool,tebuconazool	G1, G1	Candidate for substitution	no	no
		Retengo	pyraclostrobine	C3	90% drift reduction required on fields adjacent to surface water.	no	yes
		Retengo Plust	epoxiconazool,pyraclostrobine	G1, C3	Candidate for substitution	no	no
		Seguris	epoxiconazool,isopyrazam	G1, C2	Candidate for substitution	no	no
Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no		
Venture N	boscalid,epoxiconazool	C2, G1	Candidate for substitution	no	no		
Winter wheat, spring wheat	<i>Erysiphe graminis</i>	Acanto	picoxystrobin	C3	Use permitted until 1-11-2018	no	no
Winter wheat, spring wheat	<i>Erysiphe graminis</i>	Adexar	fluxapyroxad,epoxiconazool	C2, G1	Candidate for substitution	no	no
		Allegro	kresoxim-methyl,epoxiconazool	C3, G1	Candidate for substitution	no	no
		Allegro Plus	kresoxim-methyl,epoxiconazool, fenpropimorf	C3, G1, G2	Candidate for substitution	no	no
		Amistar	azoxystrobin	C3	-	yes	yes
		LEGADO	azoxystrobin	C3	-	yes	yes
		Ampera	tebuconazool,prochloraz	G1, G1	Candidate for substitution	no	no
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes
Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes		

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
Winter wheat, spring wheat	<i>Erysiphe graminis</i>	Cerix	fluxapyroxad,epoxiconazool,pyraclostrobine	C2, G1, C3	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		DuPont CIELEX	cyproconazool,penthiopyrad	G1, C2	Candidate for substitution	no	no
		EpoX extra	folpet,epoxiconazool	M04, G1	Candidate for substitution	no	no
		EpoX top	fenpropidin,epoxiconazool	G2, G1	Candidate for substitution	no	no
		Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Imtrex XE	fluxapyroxad	C2	Until the spraying fluid is dried up, It is not permitted to enter treated areas without protective clothing and gloves.	no	yes
		Kestrel	tebuconazool,prothioconazool	G1, G1	Candidate for substitution	no	no
		Mirador Xtra	azoxystrobin,cyproconazool	C3, G1	Candidate for substitution	no	no
		Olympus	azoxystrobin,chloorthalonil	C3, M05	90% drift reduction required on fields adjacent to surface water.	no	yes
		Opus team	epoxiconazool,fenpropimorf	G1, G2	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Prosaro	prothioconazool,tebuconazool	G1, G1	Candidate for substitution	no	no
		Property 180 SC	pyriofenone	U8	-	yes	yes
		Seguris	epoxiconazool,isopyrazam	G1, C2	Candidate for substitution	no	no
		Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no
		Soleil	tebuconazool,bromuconazool	G1, G1	Candidate for substitution	no	no
		Sphere	cyproconazool,trifloxystrobin	G1, C3	Candidate for substitution	no	no
		Tilt 250 EC	propiconazool	G1	Candidate for substitution	no	no
		Tarcza 250 EW	tebuconazool	G1	Candidate for substitution	no	no
Tebusha 250 EW	tebuconazool	G1	Candidate for substitution	no	no		
Winter wheat, spring wheat	<i>Fusarium spp.</i>	Ampera	tebuconazool,prochloraz	G1, G1	Candidate for substitution	no	no
		Ascra Xpro	bixafen,fluopyram,prothioconazool	C2, C2, G1	-	yes	yes

Crop	Pest/ disease/ weed	Product	Active substance	RAC- code	Differences in limitations in the use of the alternative (e.g. according to the label)	Alternative regarding limits in the use	Alternative regarding resistance management
		Aviator Xpro	prothioconazool,bixafen	G1, C2	90% drift reduction required on fields adjacent to surface water.	no	yes
		Caramba	metconazool	G1	Candidate for substitution	no	no
		Delaro	prothioconazool,trifloxystrobin	G1, C3	-	yes	yes
		Elatus Era	Benzovindiflupyr,prothioconazool	C2, G1	Candidate for substitution	no	no
		Fandango	prothioconazool,fluoxastrobin	G1, C3	Because of possible fytotoxicity overlap of spray should be avoided.	no	yes
		Osiris	epoxiconazool,metconazool	G1, G1	Candidate for substitution	no	no
		Proline	prothioconazool	G1	-	yes	yes
		Prosaro	prothioconazool,tebuconazool	G1, G1	Candidate for substitution	no	no
		Skyway Xpro	prothioconazool,bixafen,tebuconazool	G1, C2, G1	Candidate for substitution	no	no
		Soleil	tebuconazool,bromuconazool	G1, G1	Candidate for substitution	no	no
		TEBUCUR 250 EW*	tebuconazool	G1	Candidate for substitution	no	no
		Tebusha 250 EW	tebuconazool	G1	Candidate for substitution	no	no

* only authorized in winter wheat.

Annex II: Alternative non-chemical methods

An overview of non-chemicals alternatives (date: 02-08-2018), for the proposed major uses of Bromuconazole 30 EC.

Crop	Pest/disease/weed	alternative	description	Assessment NPPO regarding limits in the use	Alternative regarding limits in the use	Alternative regarding resistance management
winter wheat, spring wheat	<i>Septoria tritici</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no
		Delayed sowing	Sowing crops later than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Disease forecasts	Disease forecasts can help in monitoring disease pressure and choosing the right timings for disease control.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no
winter wheat, spring wheat	<i>Septoria nodorum</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no
		Delayed sowing	Sowing crops later than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no

Crop	Pest/ disease/ weed	alternative	description	Assessment NPPO regarding limits in the use	Alternative regarding limits in the use	Alternative regarding resistance management
winter wheat, spring wheat	<i>Puccinia recondita</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no
		Control volunteers and weeds	Volunteers and weeds can be a source of fungicidal pathogens. Removing them contributes to disease control.	This method is only beneficial.	no	no
		Early sowing	Sowing crops earlier than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Delayed sowing	Sowing crops later than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Avoid excessive N application	Excessive nitrogen will exacerbate diseases such as powdery mildew and rusts in cereals.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no
		Spatial separation	Spatial separation of new crops from those of the previous year would decrease the risks of severe early infection.	This method is only beneficial.	no	no
		Select low-risk locations	Some regions have conditions where disease pressure is lower.	This method is only beneficial.	no	no
winter wheat, spring wheat	<i>Puccinia striiformis</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no

Crop	Pest/ disease/ weed	alternative	description	Assessment NPPO regarding limits in the use	Alternative regarding limits in the use	Alternative regarding resistance management
winter wheat, spring wheat	<i>Puccinia striiformis</i>	Control volunteers and weeds	Volunteers and weeds can be a source of fungicidal pathogens. Removing them contributes to disease control.	This method is only beneficial.	no	no
		Early sowing	Sowing crops earlier than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Avoid excessive N application	Excessive nitrogen will exacerbate diseases such as powdery mildew and rusts in cereals.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no
		Spatial separation	Spatial separation of new crops from those of the previous year would decrease the risks of severe early infection.	This method is only beneficial.	no	no
		Select low-risk locations	Some regions have conditions where disease pressure is lower.	This method is only beneficial.	no	no
winter wheat, spring wheat	<i>Erysiphe graminis</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no
		Control volunteers and weeds	Volunteers and weeds can be a source of fungicidal pathogens. Removing them contributes to disease control.	This method is only beneficial.	no	no
		Early sowing	Sowing crops earlier than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Delayed sowing	Sowing crops later than usual can reduce the severity of some diseases.	This method is only beneficial.	no	no
		Nutrition	Adequate nutrition is a basic requirement as some nutrient deficiencies can increase disease susceptibility.	This method is only beneficial.	no	no

Crop	Pest/ disease/ weed	alternative	description	Assessment NPPO regarding limits in the use	Alternative regarding limits in the use	Alternative regarding resistance management
winter wheat, spring wheat	<i>Erysiphe graminis</i>	Avoid excessive N application	Excessive nitrogen will exacerbate diseases such as powdery mildew and rusts in cereals.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no
winter wheat, spring wheat	<i>Fusarium spp.</i>	Ploughing in crop residue	Burial of crop debris by ploughing can reduce inoculum for some necrotrophic pathogens which produce inoculum on plant debris.	This method is only beneficial.	no	no
		Resistant varieties	Using resistant cultivars is an effective control measure. However, because most cultivars are grown for their specific characteristics, choosing resistant cultivars is not always feasible.	This method is not always feasible.	no	no
		Control volunteers and weeds	Volunteers and weeds can be a source of fungicidal pathogens. Removing them contributes to disease control.	This method is only beneficial.	no	no
		Seed testing	The use of certified seed is important for most crops to ensure that heavily infected seed stocks are not used, and can be an effective approach to reducing some diseases.	This method is only beneficial.	no	no
		Rotation and break crops	Rotations of three or more years are essential to prevent build-up of most diseases that are capable of long term survival.	This method is only beneficial.	no	no