

Corrected presentation!

Recent findings and present situation



Leif Johansson, Swedish Board of Agriculture



Europeiska jordbruksfonden för
landsbygdsutveckling: Europa
investerar i landsbygdsområden

Testing practises

- Black grass - about 15 samples/year, more biased than randomised!
- Financed by companies and Swedish Board of Agriculture
- Other species – often on call from advisers, 1-5 samples/year. Also companies testing.



- First case, fat-hen, *Chenopodium album*, ALS-herbicide foramsulfuron.
- First cases, black grass, *Alopecurus myosuroides*, ACCase-herbicide pinoxaden
- First cases, loose silky-bent, *Apera spica-venti*, ALS-herbicide pyroxsulam
- New case, rye-grass, *Lolium multiflorum*, ALS-herbicides pyroxsulam & mesosulfuron, ACC-ase herbicide **clodinafop**
- New case, rye-grass, *Lolium multiflorum*, ALS-herbicides pyroxsulam & mesosulfuron
- First case, hemp-nettle, *Galeopsis speciosa*, ALS-herbicides jodsulfuron





Jordbruks
verket

Resistance black grass 2019 2021-04-14

DK-ID	Atlantis OD + Renol				Agil 100 EC				Focus Ultra				Primera Super+ Contact				Select Plus				Boxer			
	mesosulfuron				propaquizafop				cycloxydim				fenoxaprop				kletodim				prosulfocarb			
	¼	½	1	4	0.3	0.6	1.2	4.8	0.3	0.7	1.5	6	0.2	0.5	1	4	0.25	0.5	1	4	1.25	2.5	5	20
ID 1202/1279	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
ALOMY143	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
ALOMY138	3	4	4	3	S	1	S	S	2	1	3	S	4	5	3	4	S	S	S	S	3	2	S	S
ID1223/1282	S	S	S	S	S	S	S	S	S	S	S	S	2	3	2	2	S	S	S	S	1	S	S	S
ALOMY147	2	1	S	S	5	5	5	1	4	5	5	2	5	4	5	4	S	S	S	S	2	S	S	S
ALOMY163	5	3	4	2	S	1	S	S	S	S	S	S	5	5	3	3	S	S	S	S	4	2	S	S
ALOMY164	4	3	5	1	3	1	3	S	4	3	4	S	5	5	5	4	S	S	S	S	3	2	S	S
ALOMY165	5	4	3	4	4	4	1	S	5	4	3	S	5	5	5	5	S	S	S	S	5	2	S	S
ALOMY166	3	2	2	2	5	3	3	S	4	2	3	S	5	5	5	3	S	S	S	S	4	3	1	S
ALOMY167	2	1	S	S	4	3	1	S	4	3	3	S	4	5	4	3	S	S	S	S	4	4	S	S
ALOMY168	3	2	1	1	1	1	S	S	S	1	S	S	3	3	4	1	S	S	S	S	3	2	1	S
ALOMY169	S	1	S	S	S	S	S	S	S	S	S	S	4	3	1	1	S	S	S	S	4	2	2	1
ALOMY170	3	1	S	S	5	5	3	S	3	4	5	S	5	5	5	5	S	S	S	S	2	2	S	S
ALOMY171	4	5	2	2	3	2	1	S	3	5	5	2	5	5	4	4	S	S	S	S	3	3	1	S
ALOMY172	5	4	4	3	1	2	S	S	3	4	3	S	5	4	4	4	S	S	S	S	2	3	S	S
ALOMY173	5	5	4	5	S	S	S	S	S	S	S	S	3	4	2	1	S	S	S	S	4	2	S	S
ALOMY174	S	S	S	S	1	2	S	S	S	1	S	S	5	3	1	3	S	S	S	S	2	S	S	S
ALOMY175	5	5	2	S	S	S	S	S	S	S	S	S	5	5	4	5	S	S	S	S	5	2	2	S
ALOMY176	S	S	S	S	S	S	S	S	S	S	S	S	4	3	2	2	S	S	S	S	4	3	S	S
ALOMY177	S	S	S	S	S	S	S	S	S	S	S	S	1	S	S	S	S	S	S	S	1	S	S	S

Ref: Solvejg Kopp Mathiassen, Aarhus Universitet

Class	% efficacy	
	Minimum	Maximum
S	85	100
1	70	<85
2	55	<70
3	40	<55
4	25	<40
5	0	<25

Resistance black grass 2020

DK-ID	Atlantis OD + Renol mesosulfuron				Agil 100 EC propaquizafop				Focus Ultra cycloxydim				Primera Supert+ Contact fenoxaprop				Select Plus kletodim				Axial 50 pinoxaden				Boxer prosulfocarb				
	¼	½	1	4	0.30	0.60	1.2	4.8	0.38	0.75	1.5	6	0.25	0.5	1	4	0.25	0.5	1	4	0.28	0.56	1.1	4.4	1.25	2.5	5	20	
ID 1202/1279	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
ALOMY143	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	1	1	S	S
ALOMY138	4	5	4	3	2	1	1	S	5	3	2	S	5	4	5	3	S	S	S	S	3	2	1	S	5	3	S	S	
ID1223/1282	S	S	S	S	S	S	S	S	S	S	S	S	5	2	2	1	S	S	S	S	S	S	S	S	3	S	S	S	
ALOMY178	3	2	3	1	5	2	S	S	5	5	5	S	5	5	4	4	S	S	S	S	3	1	S	S	4	2	S	S	
ALOMY179	4	3	4	2	5	2	S	S	4	4	3	S	5	5	5	3	S	S	S	S	5	3	1	S	3	2	S	S	
ALOMY180	1	1	S	S	S	S	S	S	S	S	S	S	1	1	1	1	S	S	S	S	S	S	S	S	3	4	1	S	
ALOMY181	3	3	2	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	1	S	S	S	5	3	S	S	
ALOMY182	2	2	S	S	5	5	3	S	5	5	4	S	5	5	5	5	S	S	S	S	5	4	2	S	5	2	S	S	
ALOMY183	2	1	1	S	4	3	2	S	3	4	3	S	5	5	4	4	S	S	S	S	4	3	1	S	4	2	S	S	
ALOMY184	3	2	2	1	3	2	1	S	3	3	1	S	3	2	3	3	S	S	S	S	1	2	S	S	4	1	S	S	
ALOMY185	4	3	4	1	S	S	S	S	S	S	S	S	2	4	4	2	S	S	S	S	3	2	1	S	5	2	1	S	
ALOMY186	1	1	S	S	3	3	1	1	3	2	3	S	4	5	4	5	S	S	S	S	4	4	2	1	2	2	1	S	
ALOMY187	1	1	S	S	S	S	S	S	S	S	S	S	3	2	2	S	S	S	S	S	1	2	S	S	4	4	1	S	
ALOMY188	3	4	3	1	S	S	S	S	S	S	S	S	3	4	3	1	S	S	S	S	3	1	S	S	4	4	1	S	
ALOMY189	4	3	3	3	S	S	S	S	S	S	S	S	3	5	3	2	S	S	S	S	3	2	S	S	5	4	1	S	
ALOMY190	2	2	1	S	5	5	4	2	5	5	5	3	5	5	5	5	S	S	S	S	5	5	3	S	4	2	S	S	
ALOMY191	2	1	1	S	S	S	S	S	S	S	S	S	1	2	2	1	S	S	S	S	2	1	1	S	5	4	2	S	
ALOMY192	2	2	1	1	S	S	S	S	S	S	S	S	1	2	1	S	S	S	S	S	2	1	S	S	4	S	S	S	

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Black grass testing

Number of samples resistant to different herbicides in 9 years tests (15 samples per year).

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mesosulfuron	0	0	0	4	4	4	3	5	5
Cycloxdim	2	0	2	3	2	2	3	7	6
Fenoxaprop		1	3	10	9	9	5	10	10
Propaquisafop						1	3	3	2
Kletodim							0	0	0
Pinoxaden									1
Prosulfocarb	0	0	0	0	0	0	1	0	0

Thank You!!!

