

PRODIVA

WP 3 Variety mixtures for weed suppression

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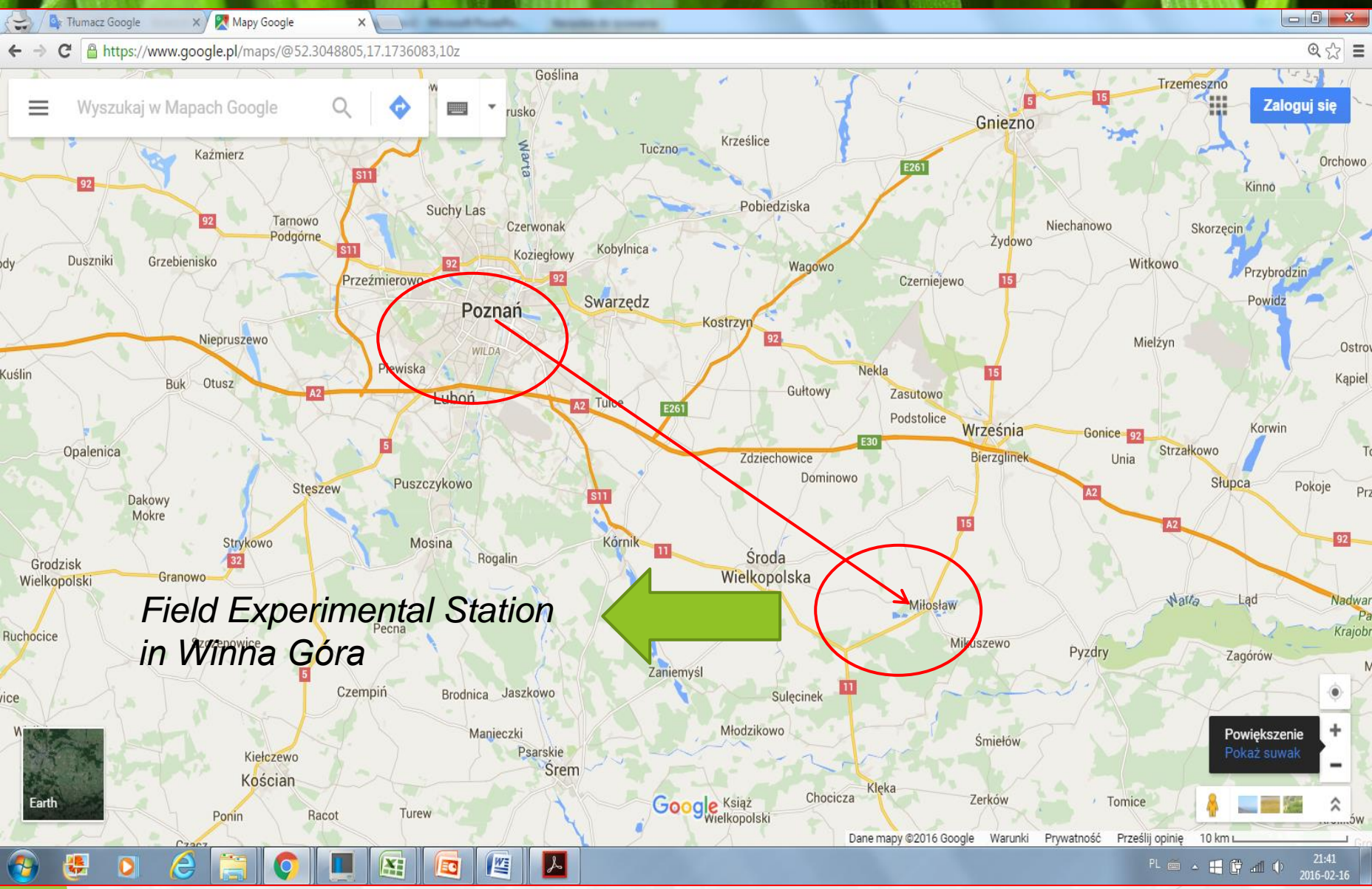
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Field experiments 2017

- ▶ The same barley and oat varieties as in 2015 and 2016 + 2 new ones: barley EVELINA and oat EARL



Field experiments 2017



*Field Experimental Station
in Winna Góra*

Powiększenie
Pokaż suwak

Zaloguj się

Wyszukaj w Mapach Google

Dane mapy ©2016 Google Warunki Prywatność Prześlij opinię 10 km

21:41
2016-02-16

BARLEY

1. KWS Olof (Ol)
2. KWS Artika (At)
3. KWS Orphelia (Or)
4. Kucyk (K)
5. Raskud (R)
6. Argento (Ae)
7. Evelina (Ev) **NEW**

1. Ol + At
2. Ol + Or
3. Ol + K
4. Ol + R
5. Ol + Ae
6. At + Or
7. At + K

8. At + R
9. At + Ae
10. Or + K
11. Or + R
12. Or + Ae
13. K + R
14. K + Ae
15. R + Ae

16. Ev + Ol **NEW**
17. Ev + At **NEW**
18. Ev + Or **NEW**
19. Ev + K **NEW**
20. Ev + R **NEW**
21. Ev + Ae **NEW**



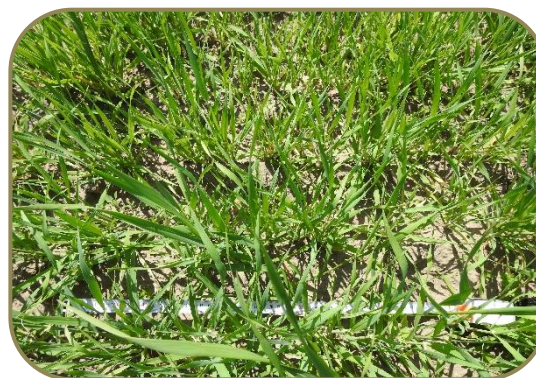
OLOF



ARTIKA



ORPHELIA



KUCYK



RASKUD



ARGENTO



EVELINA

OAT

1. Sławko (S)

2. Nagus (N)

3. Rajtar (R)

4. Earl (E) **NEW**

1. S + N

2. S + R

3. N + R

4. E + S **NEW**

5. E + N **NEW**

6. E + R **NEW**



SŁAWKO



NAGUS



RAJTAR



EARL

BARLEY

4 replication	401 Or + R	402 Ol + At	403 Ol + K	404 At + R	405 E	406 Or + Ae	407 At + Or	408 K + R	409 K	410 At + K	411 Or	412 Ae	413 K + E	414 Ol + R	415 At + Ae	416 Or + K	417 Ol	418 At	419 At + E	420 Or + E	421 R + Ae	422 R + E	423 R	424 Ae + E	425 Ol + Ae	426 Ol + E	427 Ol + Or	428 K + Ae
3 replication	301 Or + Ae	302 Or + R	303 K + E	304 Or + K	305 Ol + E	306 At + E	307 R + E	308 Ae	309 K + Ae	310 R	311 Ol + Ae	312 K + R	313 K	314 Ae + E	315 E	316 At + K	317 R + Ae	318 Ol + R	319 At + Or	320 Ol + Or	321 Ol	322 At	323 Ol + At	324 Or + E	325 At + Ae	326 Or	327 Ol + K	328 At + R
2 replication	201 R	202 E	203 Ol + R	204 Or + Ae	205 Or + E	206 Ol + Or	207 Ol	208 Ol + E	209 R + Ae	210 R + E	211 At	212 At + E	213 Or + R	214 K + E	215 Or	216 Ol + At	217 Ol + Ae	218 K + R	219 Ol + K	220 K	221 At + R	222 Ae + E	223 Or + K	224 Ae	225 At + K	226 K + Ae	227 At + Or	228 At + Ae
1 replication	101 Ol	102 At	103 Or	104 K	105 R	106 Ae	107 E	108 Ol + At	109 Ol + Or	110 Ol + K	111 Ol + R	112 Ol + Ae	113 Ol + E	114 At + Or	115 At + K	116 At + R	117 At + Ae	118 At + E	119 Or + K	120 Or + R	121 Or + Ae	122 Or + E	123 K + R	124 K + Ae	125 K + E	126 R + Ae	127 R + E	128 Ae + E

OAT

IV replication	401 S + R	402 R + E	403 N + E	404 S + N	405 N	406 N + R	407 E	408 S + E	409 R	410 S
III replication	301 N + E	302 N + R	303 S	304 S + R	305 R	306 R + E	307 S + N	308 N	309 E	310 S + E
II replication	201 E	202 S + N	203 S + E	204 S	205 N	206 N + R	207 R + E	208 R	209 S + R	210 N + E
I replication	101 S	102 N	103 R	104 E	105 S + N	106 S + R	107 S + E	108 N + R	109 N + E	110 R + E

Field experiment design

OAT EXPERIMENT						
	S + N	S	N + R	R	S + R	N
IV replication	401	402	403	404	405	406
	S + R	R	S + N	N	N + R	S
III replication	301	302	303	304	305	306
	N	S + R	S	N + R	R	S + N
II replication	201	202	203	204	205	206
	S	N	R	S + N	S + R	N + R
I replication	101	102	103	104	105	106

Example of plot (16,5 m²=1,5x11 m) for variety mixtures included two sub-plots

1/3 of plot size

Variety X + Variety Y
Model weed, without
natural weed flora

2/3 of plot

Variety X + Variety Y
Natural weed flora



Analysis

- ▶ Barley and oat plant density
- ▶ Tillering
- ▶ Weeds number and weight
- ▶ Dry weight of barley and oat plants
- ▶ Barley and oat plant height
- ▶ Leaf area index
- ▶ Grain yield

Weed composition in 2017



OAT RANKING / NATURAL INFESTATION

VARIETY	DENSITY	HEIGHT	MASS	LAI JUNE	LAI JULY	TILLERING	YIELD
1	L	H	H	L	M	H	M
2	L	M	M	H	H	H	L
3	M	L	L	H	H	L	H
4	H	M	H	M	L	M	L

L-low, H-high, M-medium

WEEDS NO	WEEDS MASS
1+3	1+3
1+2	1+2
1+4	2+9
2+4	1+4
2+3	2+3
3+4	3+4


OAT VARIETIES	
1	Sławko (S)
2	Nagus (N)
3	Rajtar (R)
4	Earl (E)
1+2	S + N
1+3	S + R
1+4	S + E
2+3	N + R
2+4	N + E
3+4	R + E

OAT/MODEL WEED

VARIETY	DENSITY	HEIGHT	MASS	LAI JUNE	LAI JULY	TILLERING	YIELD
1	L	H	M/H	H	H	L	H
2	M	M	L	M/H	L	L	L
3	H	L	H	L	M	H	M
4	M	M	M/L	M/L	M	M	M

OAT VARIETIES	
1	Sławko (S)
2	Nagus (N)
3	Rajtar (R)
4	Earl (E)
1+2	S + N
1+3	S + R
1+4	S + E
2+3	N + R
2+4	N + E
3+4	R + E

WEEDS NO	WEEDS MASS
2+4	2+4
2+3	1+2
3+4	3+4
1+4	1+4
1+3	2+3
1+2	1+3



RANKING BARLEY/ NATURAL INFESTATION

WEEDS NO	WEEDS MASS
2+3	2+3
2+6	2+6
2+4	1+2
1+6	1+6
1+7	2+4
2+5	1+7
3+5	3+5
1+5	1+4
3+5	2+5
4+7	3+5
6+7	3+4
1+2	1+3
4+6	1+5
3+6	3+6
1+3	4+7
3+4	3+7
1+4	5+6
3+7	4+6
5+6	6+7
5+7	5+7
4+5	4+5



VARIETY	DENSITY	HEIGHT	MASS	LAI JUNE	LAI JULY	TILLERING	YIELD
1	M/L	M	M	H	L	M	M/H
2	H	H	H	H	H	M	M/H
3	L	L	L	H	M	M	H
4	H	H	H	M	M	M	H
5	M/L	L	M/L	L	M	M	L
6	M/L	M/L	H	M	H	H	H
7	M/H	M	M	L	L	L	H

L-low, H-high, M-medium

BARLEY VARIETIES	
Olof (OL)	1
Artika (AT)	2
Orphelia (OR)	3
Kucyk (K)	4
Raskud (R)	5
Argento (AE)	6
Earl (E)	7
OL+AT	1+2
OL+OR	1+3
OL+K	1+4
OL+R	1+5
OL+AE	1+6
OL+E	1+7
AT+OR	2+3
AT+K	2+4
AT+R	2+5
AT+AE	2+6
OR+K	3+4
OR+R	3+5
OR+R	3+5
OR+AE	3+6
OR+E	3+7
K+R	4+5
K+AE	4+6
K+E	4+7
R+AE	5+6
R+E	5+7
AE+E	6+7

WEEDS NO WEEDS MASS

6+7	1+5
5+7	3+5
5+6	1+2
4+5	2+5
4+6	3+6
3+5	1+4
2+6	3+5
3+5	1+7
3+4	3+4
1+4	1+3
1+2	1+6
1+5	2+4
1+6	2+6
1+3	5+7
4+7	2+3
2+5	4+5
3+6	6+7
3+7	4+6
2+4	4+7
1+7	5+6
2+3	3+7

RANKING BARLEY/MODEL WEED

VARIETY	DENSITY	HEIGHT	MASS	LAI JUNE	LAI JULY	TILLERING	YIELD
1	M/H	L	L	L	L	M/H	L
2	M/H	M	H	H	H	M/L	H
3	L	L	M	M	H	H	M
4	H	H	M	H	M	M/H	M
5	L	L	M/L	L	L	L	M
6	M/L	L	M	L	H	H	M
7	M/H	L	M	L	L	M/L	L

L-low, H-high, M-medium

BARLEY VARIETIES

Olof (OL)	1
Artika (AT)	2
Orphelia (OR)	3
Kucyk (K)	4
Raskud (R)	5
Argento (AE)	6
Earl (E)	7
OL+AT	1+2
OL+OR	1+3
OL+K	1+4
OL+R	1+5
OL+AE	1+6
OL+E	1+7
AT+OR	2+3
AT+K	2+4
AT+R	2+5
AT+AE	2+6
OR+K	3+4
OR+R	3+5
OR+AE	3+6
OR+E	3+7
K+R	4+5
K+AE	4+6
K+E	4+7
R+AE	5+6
R+E	5+7
AE+E	6+7

THANK YOU

