

Performance of winter wheat CCP's in comparison to reference varieties in organic field trials in Belgium



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Composite cross populations of winter wheat were tested in field trials at the organic farm of Inagro in Beitem (BE) during the growing seasons 2013-2014 and 2014-2015. Up to 9 CCP's and 4 commercial varieties were assessed. The results confirm that these winter wheat CCP's produce resilient crops with overall similar performance as varieties.

Material and methods

CCP's of winter wheat, developed in 2001 in the UK, histories of organic cultivation in a.o. the United Kingdom and Germany
Comparison with 4 reference varieties for the region Beitem (Belgium): sandy loam; fertile without limitations

Results

Comparable yield and performance as varieties in 2 years
Growth limiting: yellow rust (2013-2014), drought (2014-2015)
Yellow rust: resilient CCP's under large pressure
Large heterogeneity inside of plots
Inter-CCP differences

- linked to history / evolution (C vs. I vs. II): none or small
- linked to parental basis (OA vs. OQ vs. OY): significant in quality traits

Interested farmers; legal framework not adapted



Figure 1. Farmers get to know CCP's (June 2014)

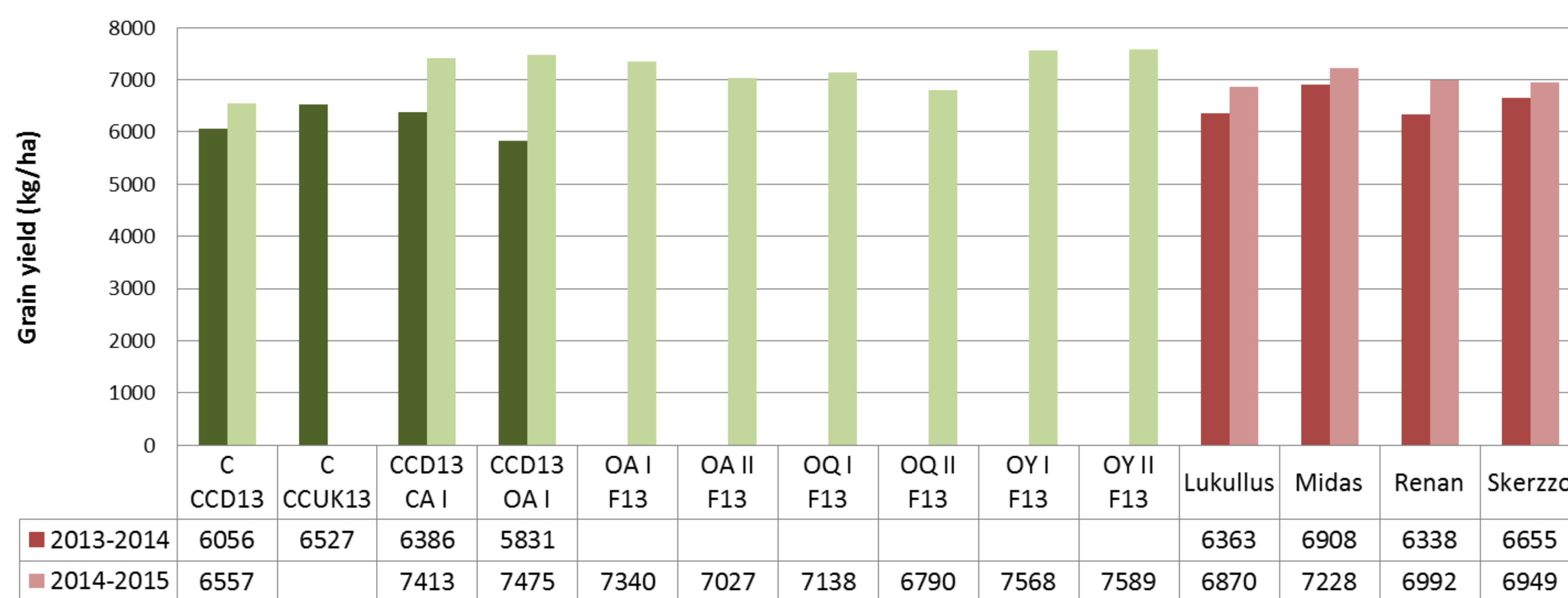


Figure 1. Grain yield of CCP's (green) and varieties (red) in two seasons

References

- Dissemination reports to organic farmers in Flanders: www.biopraktijk.be and www.inagro.be
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- Finckh M.R., Heinrich S., Brumlop S. 2014. Performance of wheat composite crosses on-station and on-farm: diversity, N-uptake, baking qualities, and resilience. In: SOLIBAM congress proceedings 7-9 July 2014. 107-108.

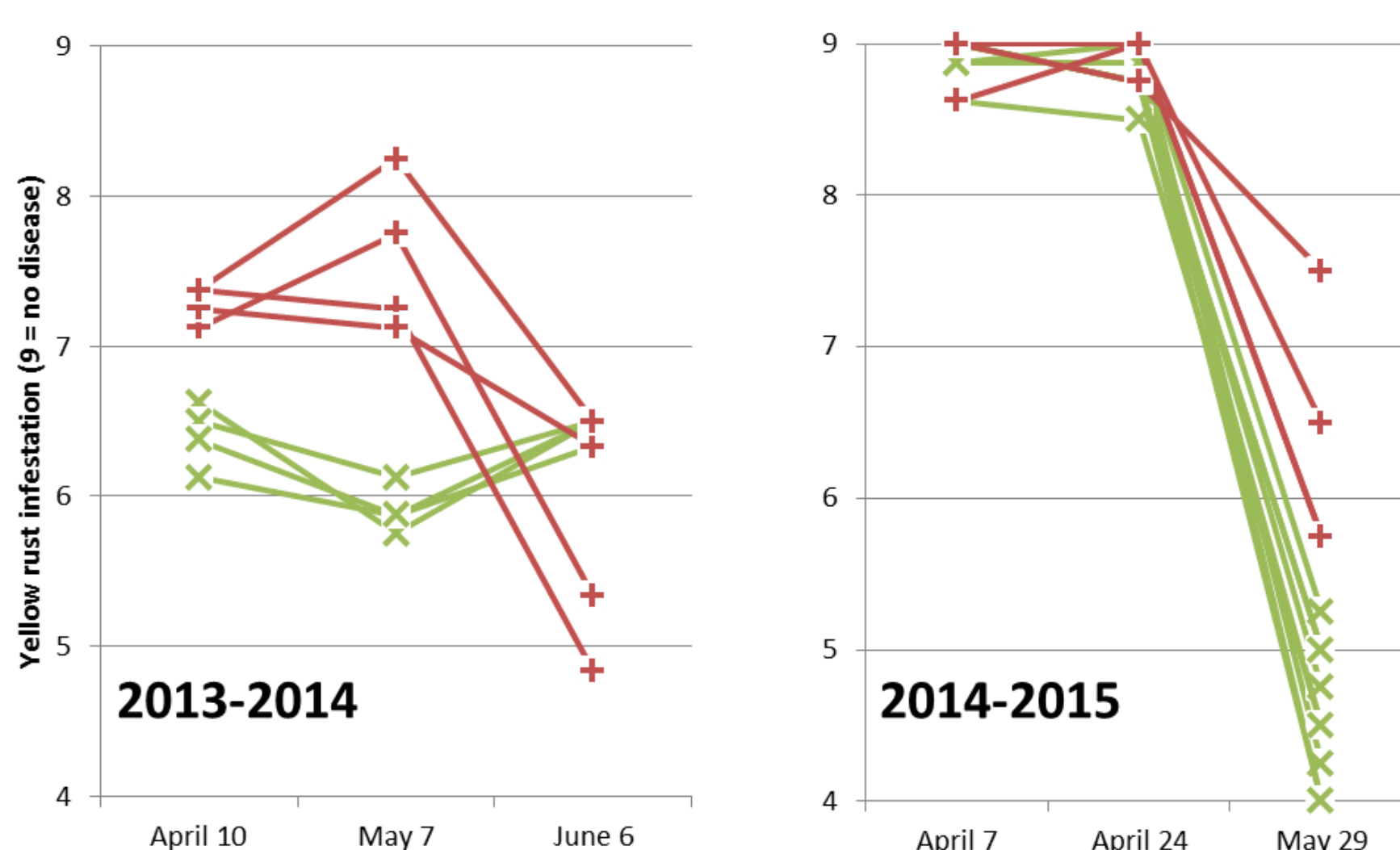


Figure 2 & 3. Yellow rust scoring for CCP's (green) and varieties (red; 9 = no disease)

Table 1. Results for baking quality parameters

Name/var.	Origin	2013-2014			2014-2015		
		protein (%) 15% moisture	sed. value Zeleny	falling nr. Hagberg	protein (%) 15% moisture	sed. value Zeleny	falling nr. Hagberg
C CCD13	UK08-DK09-TUM10-HU11-NL12-D13	9,3 ab	29 cd	290 bc	8,6 ab	26,8 abcd	227 bc
C CCUK13	HU08-NL09-D10-CH11-F12-UK13	9,0 ab	24 de	236 c			
CCD13 CA I	D13, conventional culture	9,0 ab	22 e	240 c	8,3 ab	18,0 efg	212 bc
CCD13 OA I	D13, organic culture	9,3 ab	26 de	235 c	8,2 ab	20,0 cdef	209 bc
OA I F13	D14, organic culture				8,2 ab	20,3 bcde	202 bc
OA II F13	D14, organic culture				7,9 ab	19,0 defg	196 bc
OQ I F13	D14, organic culture				8,7 ab	30,5 a	229 bc
OQ II F13	D14, organic culture				8,5 ab	27,3 abcd	210 bc
OY I F13	D14, organic culture				7,8 b	11,8 fg	177 c
OY II F13	D14, organic culture				7,8 b	11,0 g	179 c
Lukullus	Biocer (France)	9,5 a	40 a	323 ab	8,5 ab	28,5 ab	305 a
Midas	Biocer (France)	8,9 ab	32 bc	355 a	8,1 ab	27,5 abc	340 a
Renan	Biocer (France)	9,4 ab	34 b	295 abc	8,8 a	34,5 a	222 bc
Skerrzo	Biocer (France)	8,7 b	31 bc	290 bc	8,3 ab	28,5 ab	240 b
Average		9,1	30	283	8,3	23,3	227
V.C.		2,9	7,0	9,3	5,3	14,3	10,1
p-value		0,01	0,00	0,00	0,01	0,00	0,00



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Flanders is agriculture and fisheries