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Poster Communication Abstract – 6.24

PRELIMINARY SCREENING OF DURUM WHEAT BREEDING LINES UNDER ORGANIC CONDITIONS

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organic, durum wheat, T. durum, stress tolerance

Seventy-two durum wheat lines, including breeding lines, ancient and new varieties, have been evaluated under organic and poor soil in order to test their adaptability for organic agriculture, before proceeding with molecular analysis on the selected lines. The accessions, coming from the Italian, Austrian and Hungarian partners of the ECOBREED project, have been evaluated in the three countries in a randomized block design (RBD) with two to three replications for a preliminary screening in order to proceed with deeper analyses and a crossing program in the next seasons. The accessions have been characterized for several important morphological traits such as duration of phenological phases, tillering, plant height, flag leaf traits and area, spike fertility and productivity traits and yield. Moreover, the root system of the same accessions has been evaluated in the greenhouse in Viterbo (Italy), growing single plants in net-pots (15 cm diameter) in a RBD with five replications. The proceeding of primary roots outflow and the root angles at anthesis have been measured.

The analyses allow the ranking of the germplasm for their performance under organic agriculture and the selection of 25 accessions with high potentials to be registered for their utilization under organic agriculture and to be included in future breeding programs.

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Data related to Forte et al. (2019)

SR (Stem rust resistance): MR = medium resistant; MS = medium susceptible; R = resistant; S = susceptible
LR (Leaf rust resistance): MR = medium resistant; MS = medium susceptible; R = resistant; S = susceptible
PM (Powdery mildew score): 1 = no symptoms/resistant; 9 = symptoms/pustules even on the awns/heavenly susceptible
GYLD (Grain yield)

OBS	Genotype	UNITUS Code	SR	LR	PM	GYLD (g/m²)
1	Aghram (47)	UNITUS-11	MR	S	5.5	224.18
2	Aghrass	UNITUS-9	R	MR	8.5	283.20
3	Aghrass (70)	UNITUS-15	R	S	7.5	193.33
4	Azeghar (39)	UNITUS-21	S	S	8.5	221.24
5	Azeghar (63)	UNITUS-32	S	R	7.5	213.51
6	Azeghar 1-2 (56)	UNITUS-14	MR	S	8.5	216.00
7	Azeghar 3-4 (40)	UNITUS-18	MR	R	7	137.78
8	Azizen	UNITUS-12	S	S	7	145.51
9	Duilio	.	.	.	.	217.07
10	Efeso	.	S	.	.	196.00
11	Elsadur	.	.		6.5	.
12	Fuego	.	R	.	.	239.02
13	Gammary (55)	UNITUS-25	S	R	6	268.18
14	Geromtel 1-2 (43)	UNITUS-26	R	R	6.5	200.18
15	Geromtel 1 (49)	UNITUS-19	MR	R	7	207.38
16	Gibraltar	.	MR	.	.	299.38
17	HFN94	UNITUS-28	S	R	6.5	292.44
18	IcaJin 38 (64)	UNITUS-2	S	S	6.5	160.71
19	Icarasha (66)	UNITUS-4	S	S	8	187.91
20	Icasyr	UNITUS-1	S	R	7	216.27
21	Icasyr (69)	UNITUS-5	S	R	7	227.20
22	Iride	.	S	6	.	258.22
23	Levante	.	S	S	7.5	283.02
24	Lupidur	.	.	.	7	.
25	Maamoor (53)	UNITUS-23	S	S	6	273.60
26	Marsyr (51)	UNITUS-10	S	S	7	209.51
27	MGN13 Aghrass 2 (58)	UNITUS-13	S	7	.	177.42

28	Miradoux	UNITUS-31	S	S	6	260.44
29	Morl	UNITUS-8	MR	S	7	174.31
30	Mv Hundur	.	S	S	5.5	166.67
31	Mv Makaroni	.	R	S	8	213.69
32	Mv Masnidur	.	MR	S	6.5	256.89
33	Mv Pelsodur	.	MS/S	S	6.5	264.80
34	Mv Pennedur	.	S	S	6	180.27
35	Mv Szuladur	.	S	S	8	233.60
36	MVTD11-15 (Mv Vekadur)	.	MR	S	6	290.93
37	MVTD126-19	.	.	S	7	182.49
38	MVTD127-19	.	S	MS	7	240.00
39	MVTD128-19	.	MR	S	6	166.04
40	MVTD129-19	.	S	S	7	200.89
41	MVTD13-16	.	S	S	7	210.67
42	MVTD131-19	.	S	S	6	158.84
43	MVTD132-19	.	MR	S	7	79.47
44	MVTD133-19	.	S	S	5	159.20
45	MVTD136-19	.	MR	S	6	216.27
46	MVTD15-19	.	S	S	6	308.00
47	MVTD16-19	.	MR	S	7	249.24
48	MVTD17-19	.	S	S	7	166.84
49	MVTD18-19	.	S	S	7	207.82
50	MVTD19-19	.	S	S	7	209.51
51	MVTD20-17	.	S	MS	6.5	134.76
52	MVTD20-19	.	S	S	7	255.20
53	MVTD21-19	.	S	S	7	142.84
54	MVTD22-17	.	S	S	6	298.67
55	MVTD22-19	.	S	S	7	111.29
56	MVTD23-19	.	S	R	6	162.40
57	MVTD24-19	.	MR	S	6	218.93
58	MVTD25-18	.	S	S	6	244.44
59	MVTD25-19	.	S	S	7	228.44
60	Ousloukos	UNITUS-6	.	.	8	282.31
61	Quarmal	UNITUS-20	MR	S	7	179.91
62	R112-17om-	.	S	S	.	250.67

63	R112-31om+	.	R	R	.	219.11
64	R23-26om-	.	S	S	.	227.38
65	R23-64om+	.	R	R	.	194.84
66	R5A-8om+	.	R	R	.	180.00
67	R5D-8om-	.	S	S	.	265.69
68	Sambadur	.	.	.	6	.
69	Saragolla	.	R	MR	6	273.78
70	Sebatel	UNITUS-17	MR	MR	7	171.64
71	Sebatel 2 (45)	UNITUS-22	MR	R	8	285.78
72	Senatore Cappelli	UNITUS-27	S	S	6	206.49
73	Simeto	.	S	S	7	256.53
74	Vulci	.	R	MS	.	273.42
75	YSF (65)	UNITUS-29	R	R	8	186.13