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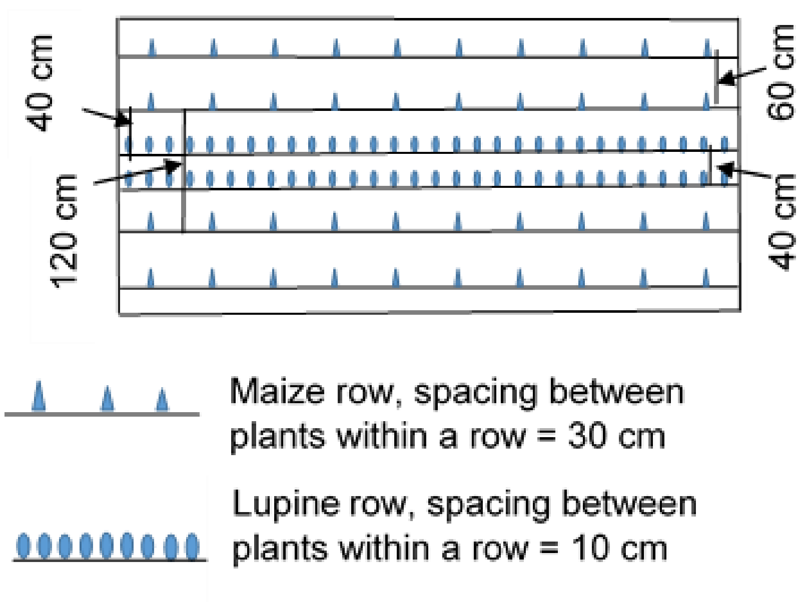
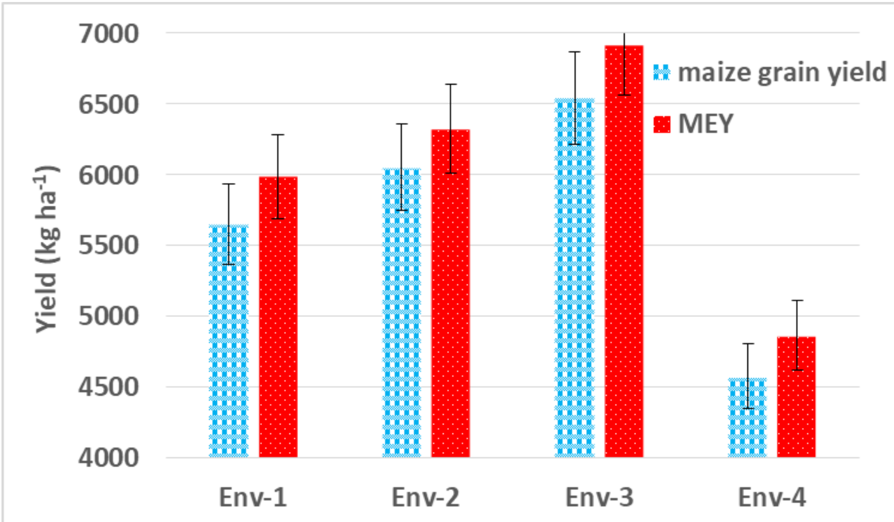
Zea mays L

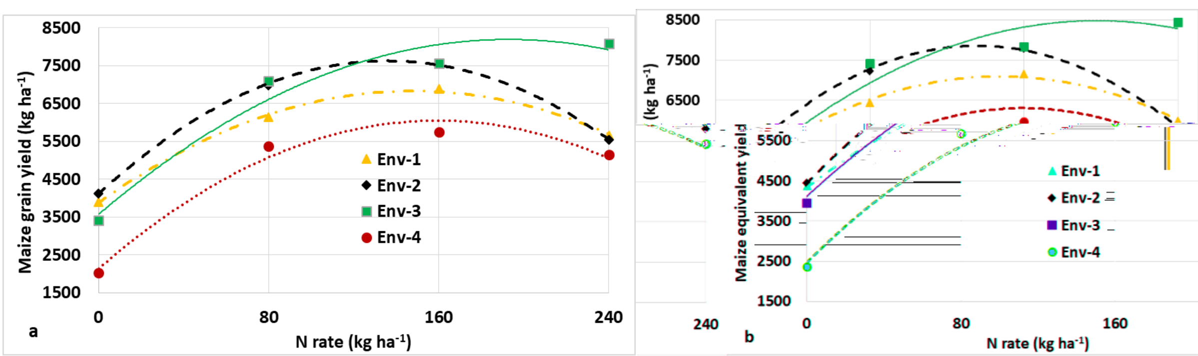
Lupineus angustifolius

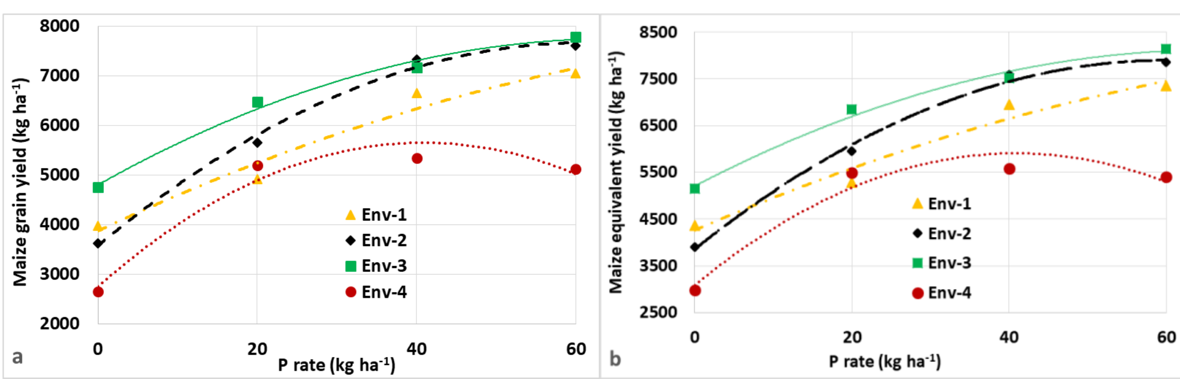

40 cm
120 cm
60 cm
40 cm
Maize row, spacing between plants within a row = 30 cm
Lupine row, spacing between plants within a row = 10 cm

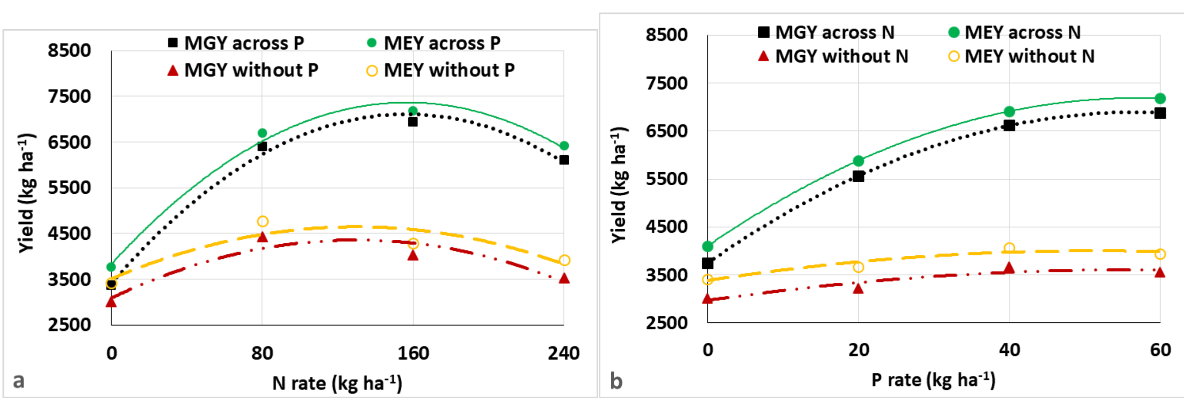
Env-1=South Achefer 2017-tef precursor, Env-2=Mecha 2017-noug precursor, Env-3=South Achefer 2018-potato precursor, Env-4=Mecha 2018-finger millet precursor; numbers followed by different letters within a column showed significant difference at Duncan multiple range test of 5% probability level of significance

Maize grain and equivalent yield


7000
6500
6000
5500
5000
4500
4000
Yield (kg ha-1)
maize grain yield
MEY
Env-1
Env-2
Env-3
Env-4

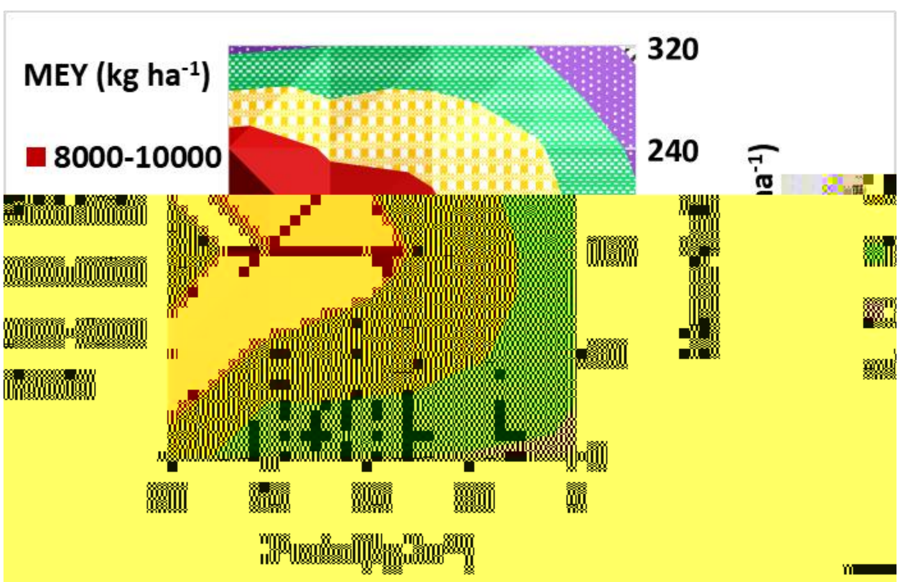

8500
7500
6500
5500
4500
3500
2500
1500
Maize grain yield (kg ha-1)
Env-1
Env-2
Env-3
Env-4
0
80
160
240
N rate (kg ha-1)
a
8500
7500
6500
5500
4500
3500
2500
1500
Maize equivalent yield (kg ha-1)
Env-1
Env-2
Env-3
Env-4
240
0
80
160
N rate (kg ha-1)
b

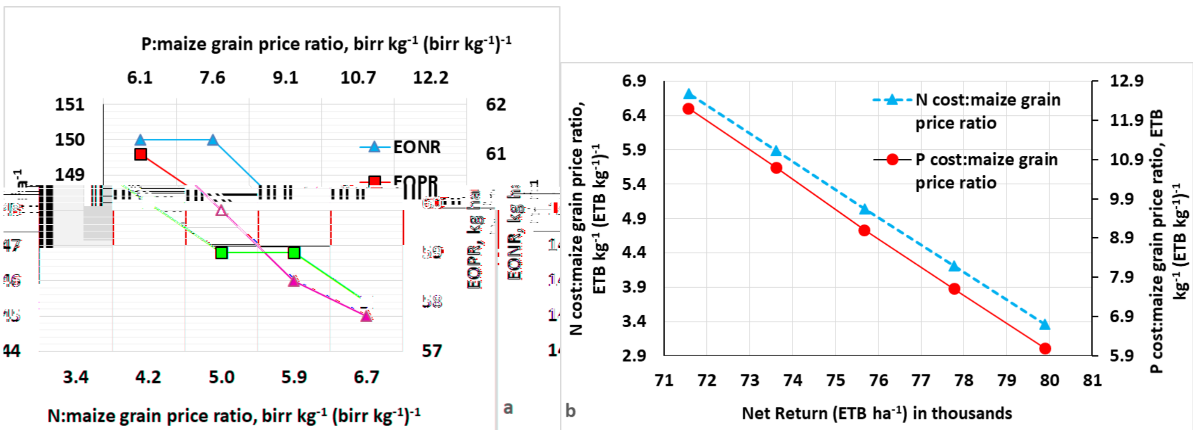

8000
7000
6000
5000
4000
3000
2000
Maize grain yield (kg ha-1)
Env-1
Env-2
Env-3
Env-4
0
20
40
60
P rate (kg ha-1)
a
8500
7500
6500
5500
4500
3500
2500
Maize equivalent yield (kg ha-1)
Env-1
Env-2
Env-3
Env-4
0
20
40
60
P rate (kg ha-1)
b



MGY across P
MEY across P
MGY without P
MEY without P
Yield (kg ha-1)
N rate (kg ha-1)
a
MGY across N
MEY across N
MGY without N
MEY without N
Yield (kg ha-1)
P rate (kg ha-1)
b

$$MEY = 3411.12936 + 21.80237N + 32.32185P - 0.08585N^2 - 0.38894P^2 + 0.99137NP - 0.00193N^2P - 0.00463NP^2$$




P:maize grain price ratio, birr kg-1 (birr kg-1)-1
6.1
7.6
9.1
10.7
12.2
151
150
149
62
61
EONR
47
44
57
3.4
4.2
5.0
5.9
6.7
N:maize grain price ratio, birr kg-1 (birr kg-1)-1
EOPR, kg ha-1
EONR, kg ha-1
a
b
6.9
6.4
5.9
5.4
4.9
4.4
3.9
3.4
2.9
12.9
11.9
10.9
9.9
8.9
7.9
6.9
5.9
N cost:maize grain price ratio
P cost:maize grain price ratio
N cost:maize grain price ratio, ETB kg-1 (ETB kg-1)-1
P cost:maize grain price ratio, ETB kg-1 (ETB kg-1)-1
71
72
73
74
75
76
77
78
79
80
81
Net Return (ETB ha-1) in thousands