

(Rastgar, 2005)

(Gliessman, 1998)

(Nadi & Haqus, 2008)

(Park et al., 2002)

(Bulson et al., 1997; Carr et al., 1998;
.Morgado & Willey, 2003; Neumann et al., 2007)

(Assefa & Ledin, 2001)

(Mazaheri, 1998)

(Assefa & Ledin, 2001
.Kuusela et al., 2004; Nnadi & Haque, 2008)
(2003) Giacomini et. al.

(Tajbakhsh, 1996)

(2004) Shirley et al.

(Titterton et al., 2002)

(Maasdorp &
.Titterton, 1997; Titterton et al., 2002)

(2006) Lithourgidis et al. .

(Topps & Oliver, 1993; Maasdorp &
.Titterton, 1997)

(
)
(Topps & Oliver, 1993)

(Saleem, 1995)

Cu (ppm)	Zn (ppm)	Fe (ppm)	Mn (ppm)	K (ppm)	P (ppm)	(%)	EC (mm/cm ²)	pH
/	/	/	/	/	/	/	/	/

Maasdorp
%

(1997) & Titterton

Carr et al. .

(2004)

()

(Cwf)

(Cwo)

(C + M)

(C + M)

(C + M)

(C + M)

(C + M)

(C + M)

(C + M)

(C + M)

(Mwf)

(Mwo)

(Mazaheri, 1998)

()

/

1. *Vigna radiata*
2. *Zea mays*

(2003) Jafari et al.
SAS

Excel 2003

×

(Mead & Willy,

1980)

$$LER = \frac{Y_{1,2}}{Y_{1,1}} + \frac{Y_{2,1}}{Y_{2,2}}$$

()

:Y

:Y

:Y

:Y

(NIR)

/

()
)
(

5. Ash

-
1. Dry Matter Digestible (DMD)
 2. Protein Percent (CP)
 3. Water Soluble Content (WSC)
 4. Acid Detergent Fiber (ADF)

...

:

/	/ **	/	/ *	/ **	/ **	/
/	/	/	/	/	/	/
/ **	/ **	/ **	/ **	/ **	/ **	/ **
/ **	/	/	/	/	/	/ *
/	/	/	/	/	/	/

** *

(%)	(%)	(%)	(%)
/ b	/ b	/ a	/ b
/ a	/ a	/ b	/ a
/	/	/	/ CV(%)

*

/

()

()

/

()

()

Lithourgidis et al.

()

(2006)

(2006) Lithourgidis et al.

(2003) Morgado & Willey

(2004) Carr et al.

()

()	()	()	()
/ a	/ a	/ a	Cwf
/ ab	/ e	/ d	Cwo
/ ab	/ e	/ cd	C +M
/ abc	/ d	/ cd	C +M
/ bcd	/ d	/ bcd	C +M
/ cde	/ d	/ bc	C +M
/ def	/ d	/ ab	C +M
/ efg	/ c	/ e	C M
/ fg	/ c	/ f	C M
/ g	/ b	/ g	C M
/ h	/ a	/ h	Mwf
/h	/ a	/ i	Mwo

*

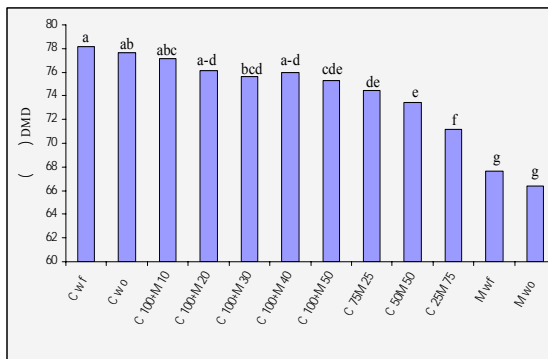
×

()	()	()	()	()
ab	/ a*	/ bcde	/ bcd*	Cwf
/ bcd	/ bcd	/ ef	/ def	Cwo
/ abcd	/ bcd	/ cdef	/ bcdef	C +M
/ bcd	/ abcd	/ bcd	/ bc	C +M
/ bcd	/ ab	/ bcde	/ a	C +M
/ abc	/ ab	/ b	/ a	C +M
/ ab	/ ab	/ bcd	/ a	C +M
/ cde	/ de	/ bcd	/ bc	C +M
/ e	/ e	/ cdef	/ bcd	C +M
/ fg	/ fg	/ cdef	/ f	C M
/ gh	/ hi	/ bcdef	/ f	Mwf
/ hi	/ i	/ f	/ g	Mwo

*

(2002) Titterton et al.

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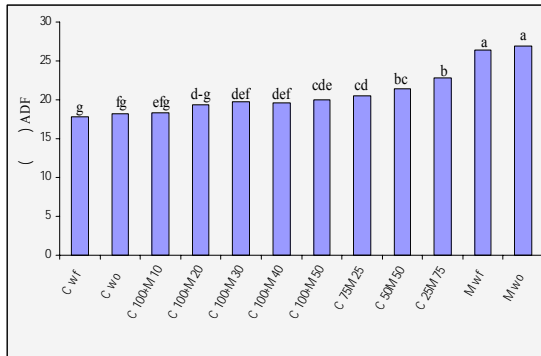


(/)

()

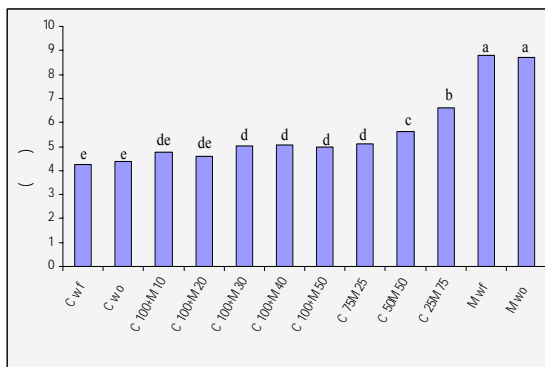
Giacomini et al. .

(2003)



Tajbakhsh .

(1996)



Lithourgidis et al. .

(2006)

Haugaard-Nielsen & Jensen

Bulson et al. (2001)

Agegnehu et al. (1997)

(2006)

/

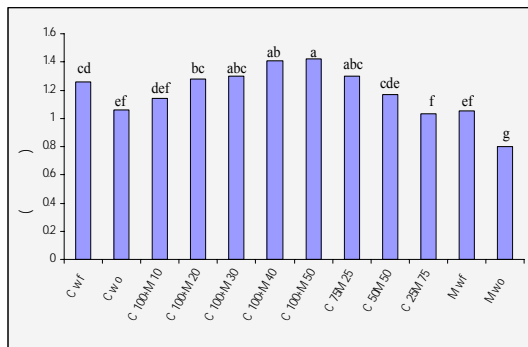
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Kuusela et al. (2001) Assefa & Ledin

(2008) Nnadi & Haque (2004)

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