Hkkjrh; df"k vuqla/kku if=dk] 36(3): 186-191 DOI: 10.18805/BKAP354

mÙkjk[k.M d rjkb {k=k e dVgy ¼vkjVkdkjiiy gVjkQhyk½ yke½ d tuuæ0;k ¼telykTe½ dk :ikRed fo'k"krkvk ij çHkko

vfHk"kd j,;[1] jkgy cuth[2] çfrHkk[3]

Hkk—vu-i-& Hkkjrh; —f"k lkf[;dh vuqla/kku lLFkku] ykbcjh ,oU;] ub fnYyh&110 012] HkkjrA

ikIr% vxLr 2021 Lohdr% flrcj 2021

lkjk'k

oreku tkp mÙkjk[kM dh rjkb ifjfLFkfr;k e dVgy d tuuæ0;k ¼telykTe½ dk :ikRed fo'k"krkvk ij çHkko dk v/;;u dju d fy,] ly,V ucj 6] ,pvkjlh] ikFkjpêk] xkfoUn cYyHk ir —f"k ,o çk|kfxd fo'ofo|ky;] iruxj e vk;kftr dh xb FkhA reke miyC/k telykTe dk pkj ifä;k e yxk, x, FkA ç;kx dk ;k—fPNd [kM vfHkdYiuk ¼jkMkekbtM Cy,d fMtkbu½ e vk;kftr fd;k x;k Fkk ftle nl mipkj ,o rhu çfr—fr FkA ;g nl mipkj dVgy d nl tuuæ0;k ¼telykTe½ FkA :ikRed y{k.kk d tkp d ifj.kke l ;g Li"V gvk g dh dVgy&6 ,o dVgy telykTe&8 d iM NkV dn d ik, tkr g] ftue Qyu dh vknr gkrh gA mijkä v/;;u d vk/kkj ij ;g fu"d"k fudkyk tk ldrk g fd dVgy d fofHkUu telykTe d :ikRed pfj= e egRoi.k fHkUurk gkrh gA fofHkUu telykTe d chp(dVgy telykTe&6 ,o dVgy telykTe&8 ckuiu] Qyko ,o mit e J"B ik, x, gA

'kCn dtkW tuuæ0;] dVgy] :ikRed fo'k"krk, bR;kfnA

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Effect of Jackfruit (*Artocarpus heterophyllus* Lam.) Germplasms on the Morphological Characters under Terai Conditions of Uttarakhand

Avishek Roy[1], Rahul Banerjee[2], Pratibha[3]

ICAR- Indian Agricultural Statistics Research Institute, Library Avenue, New Delhi-110 012, India.

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ABSTRACT

The present study was carried out to find out the effects of the different Germplasms of Jackfruit on its Morphological characters under the Terai Conditions of Uttarakhand. The experiment was conducted in Plot No.6, HRC, Patharchatta at GBPUA and T, Pantnagar, Uttarakhand. In this experiment a screening of 10 Germplasms of Jackfruit widely found around the Terai areas of Uttarakhand was done through a Randomized Block design consisting of 10 treatments and 3 replications. The treatments being the 10 Germplasms labelled from 1 to 10 planted in rows. It was observed in the study that regarding the morphological characters Jackfruit Germplasm-6 and Jackfruit Germplasm-8 were found to be of short stature, with a spreading habit. Further, it can be concluded that there was significant

*Corresponding author's E-mail: rahuliasri@gmail.com

[1]fnYyh fodkl çkf/kdj.k] fodkl lnu] ckjkiYyg jkM] fnYyh&110 023] HkkjrA

[2]Hkk—vu-i-& Hkkjrh; —f"k lkf[;dh vuqla/kku lLFkku] ykbcjh ,oU;] ub fnYyh&110 012] HkkjrA

[3]m|ku foHkkx] xkfoUn cYyHk ir —f"k ,o çk|kfxd fo'ofo|ky;] iruxj&263 145] mÙkjk[k.M] HkkjrA

[1]Delhi Development Authority, Vikas Sadan, Barapullah Road, Delhi-110 023, India.

[2]ICAR- Indian Agricultural Statistics Research Institute, Library Avenue, New Delhi-110 012, India.

[3]Department of Horticulture, G.B. Pant University of Agriculture and Technology, Pantnagar-263 1453, Uttarakhand, India.

variation in morphological character of various germplasm of Jackfruit. Among the various germplasm; Jackfruit Germplasm-6 and Jackfruit Germplasm-8 were found to be superior as compared to others in dwarfness, spreading and yield.

Key words: Germplasm, Jackfruit, Morphological characters.

çLrkouk

m".kdfVc/kh; {k=k e mxk; tku oky Qy o{kk e dVgy ,d dkQh vge iM gA ;g d ekjlh Qfeyh d vrxr vkrk gA ;g Hkkjr e lcl ykdfç; ,o egRoi.k Qyk e l ,d g] ,o ;g fo'o dk lcl cMk Qy ekuk tkrk gA vkVkdkil thul d vUrxr 8 çtkfr;k gkrh g ftue eu"; d [kku ;kX; Qy gkr gA mue l doy nk çtkfr;k dk ckxokuh egRo g% dVgy ¼*Artocarpus heterophyllus* Lam.½ ,o cMÝV ¼*Artocarpus altilis*½A bldh mRifÙk Hkkjr d if'peh ?kkV e gb Fkh ¼Samaddar *et al*] 1990½ rRi'pkr ;g eyf'k;k ,o ioh vÝhdk e Qyk ¼Dutton] 1976½A oreku e bldh [krh Hkkjr] ckXykn'k] cek] nf{k.kh phu] DohlyM ¼v,LVfy;k½ ,o e,jh'kl e dh tkrh gA dVgy ,d lnkcgkj iM g tk vkerkj ij 8&25 ehVj dh Åpkb rd igprk gA ble 25 ehVj ych tM ,o ,d ?kuk edV gkrk g ¼Samaddar *et al*] 1990½A NkV iMk e ruk vkerkj ij 80&120 leh 0;kl dk gkrk g fdUr o) iMk e bll vf/kd gk ldrk gA ;g ,d cgmí'kh; Qynkj o{k g D;kfd bld gj fgLl dk mi;kx fd;k tkrk gA bldk jlhyk vkj lxf/kr Qy rktk [kk;k tkrk g ;k ljf{kr fd;k tkrk g fofHkUu rjhdk l] vifjiDo Qy dk ,d e'kgj lCth d :i e [kk;k tkrk gA dkVgy d ;ok Qy d dn e 11-90% çkVhu] 58-00%] dkckgkbMV] 4-70% [kfut ,o 0-014% foVkfeu lh gkrk g tcfd] id Qy d dn e 4-80% çkVhu] 82-50% dkckgkbMV] 82-40% phuh vkj 3-50% [kfut] 0-007% foVkfeu lh ,o 0-10% foVkfeu , gkrk g ¼Azad] 1999½A Qy d 100 xke iYi e 250&1740 ekbØkxke djkVhu ik;k tkrk g ¼Hossain] 1996½A Hkkjr e dVgy d y{k.k o.ku e cgr fHkUurk n[ku dk feyrk g] bl fn'kk e vHkh Hkh cgr de 'kks/k gvk gA Hkkjr e e[; :i l nk çdkj d dVgy% eyk;e ekly ,o –< ekly oky fdLe miyC/k gA gekj n'k d fdlku dVgy d vf/kd fu;kr oky fdLe d lECU/k e de tkx:d g ,o mUg dVgy d fofHkUu çdkj dh dVkb d b"Vre le; d ckj e tkudkjh Hkh ugh gA fdlkuk dk ;g Hkh ugh irk fd m|kxk e fdl fdLe d dVgy dk mi;kx fd;k tkrk g ,o fdl fdLe dk mi;kx lkekU; mí';k d fy, fd;k tkrk gA vr% fofHkUu fdLe d dVgyk d :ikRed y{k.kk ij Kku fdlkuk dk enn dj ldrh g] okLrfod y{k.kk dh lgh igpku dju d fy, ftll mRikn dh x.koÙkk e btkQk dh tk ldA

lkexh ,o ijh{k.k fof/k

Hkkxkfyd –f"V l iruxj fgeky; dh rygVh e fLFkr gA ftldk Hkkxkfyd fun'kkd 29° mÙkjh v{kk'k ,o 79- 3° ioh n'kkUrj g] ;g leæ ry l 243-84 ehVj dh Åpkb ij fLFkr gA iruxj dh tyok; vkn mik".kdfVc/kh; fdLe dh gA mPpre rkieku xfe;k e 32°C l 43°C rd ,o lfn;k e U;ure rkieku 0°C l 9°C rd jgrk gA

voykdu

iM dh Åpkb

iM dh Åpkb dk ,d ekiu oky Vi dh lgk;rk l ekik x;kA tehuh Lrj l mPpre edV Lrj rd vkj ehVj e 0;ä fd;k x;kA

ru dh ifjf/k

ru dh ifjf/k dk tehuh LVkj l 15 leh Åij ,d ekiu oky Vi dk mi;kx djd ekik x;k Fkk ,o bl lVhehVj e 0;ä fd;k x;kA

iM d Qyko

çR;d iM d Qyko dk io&if'pe ,o mÙkj&nf{k.k fn'kkvk e e ekik x;k ,o ml fuEufyf[kr l= l fudyk x;kA bl ehVj e 0;ä fd;k x;kA

$$\text{iM d Qyko} = \frac{\text{¼mÙkj&nf{k.k½ + ¼io&if'pe½}}{2}$$

iM dk vk;ru

iM dh vk;ru dh x.kuk fuEufyf[kr l= dk mi;kx djd dh xb Fkh vkj m^3 e 0;ä fd;k x;k A

$$\text{iM dk vk;ru} = \frac{4}{3}\pi a^2 b$$

tgk¡

a = çlkj dk v/kA

b = vk/kh ÅpkbA

ru dk Ø,l lD'kuy {k=Qy

ru d ifjf/k dk tehuh Lrj l iæg lVhehVj Åij ukik x;k ,o ml fuEufyf[kr l= }kjk Ø,l lD'kuy {k=Qy e ifjofrr fd;k x;k tk fd ¼Glenn and Rogers] 1964½ u fn;k FkkA

$$Ø,l\ lD'kuy\ \{k=Qy\ ¾ \frac{¼ifjf/k½^2}{4\pi}$$

iÙkh dh yckbZ ,o pkMkbZ

ifÙk;k dh yEckbZ iÙkh dh ukd rd uih x;h ,o iÙkk dh pkMkbZ iÙkh fd vf/kdre pkMkbZ d fcn ij e lfjx Ldy dh lgk;rk l ekik x;k Fkk] lkj vkl rh; eY; fudy x, ,o ml lVhehVj e 0;ä fd;k x;kA

ifÙk;k dk rktk ,o l[kk otu

lHkh fn'kkvk l çR;d thukVkbi d n l ifÙk;k d ueu fy, x, ,o çR;d ifÙk;k d rktk otu ukik x;kA lHkh ueuk dk 48 ?kV d fy, xe gok d vkou e 80 fMxh lfYl;l rkieku e l[kk;k x;k ,o l[k ifÙk;k dk otu fu/kkfjr fd;k x;k] ml dk vkl r eY; fu/kkfjr fd;k x;k ,o ml xke çfr iM dh bdkbZ e 0;ä fd;k x;kA

iÙkk {k=Qy

iÙkh dk {k=Qy iÙkh {k= ehVj ¼LI-COR Portable Leaf Area Meter LI-3000 A½ dh lgk;rk l ekik x;k Fkk ,o vkl rh; {k=Qy dk m² e 0;ä fd;k x;kA

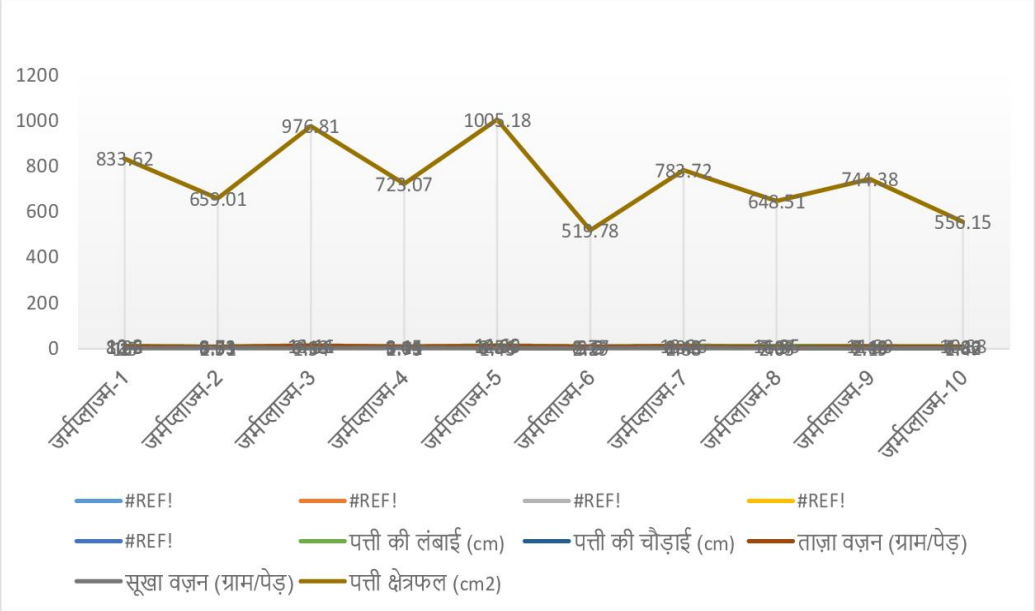
ifj.kke vkj foopuk

iM dh vf/kdre Åpkb ¼9-66 ehVj½ Fkh tk fd dVgy telykTe&1 e nt fd;k x;k rRi'pkr f}rh; vf/kdre Åpkb dVgy telykTe&2 ¼9-33 ehVj½ e n[ku dk feykA yfdu ;nk telykTe lkf[;dh; :i l cjkcj Fk ik/k dh Åpkb d lc/k eA ;g tkudkjh Singh and Srivastav] ¼2001½ dh fu"d"kk d lkFk lkeku FkkA ftlu crk;k fd dVgy d ik/k dh Åpkb 7-8 ehVj l 11-3 ehVj d chp ik, tkr gA Rai *et al.*] ¼2003½ l irk pyk g fd ik/k dh Åpkb vyx&vyx gkrh g vyx&vyx thukVkbi fd; ,o ;g 5-6 ehVj l 9-05 ehVj d chp jgrh g tk dh oreku v/;;u dk leFku djrk gA blh rjg d ifj.kke Morton ¼1987½ }kjk Hkh fjikV fd;k x;k FkkA iM dh vf/kdre ?kjkifjf/k ¼137-72 leh½ dVgy telykTe&3 e nt fd;k x;k rRi'pkr f}rh; vf/kdre ifjf/k dVgy telykTe&9 ¼132-33 leh½ e n[ku dk feyk yfdu ;nk tuuæ0; lkf[;dh; :i l g LVe ifjf/k d lc/k e leku FkA ;g fu"d"k Singh and Srivastav] ¼2001½; Rai *et al.*] ¼2003½ and Morton ¼1987½ d vu:i gA LVe ifjf/k e fHkUurk fofHkUu telykTe vkuof'kd ifjoru'khyrk d lkFk&lkFk —f"k&tyok; dh fLFkfr d dkj.k gk ldr gA iM dk vf/kdre dukih ¼8-49 ehVj½ dVgy telykTe &2 e nt fd;k x;k Fkk] rRi'pkr f}rh; vf/kdre dukih dVgy telykTe&8 ¼8-16 ehVj½ e n[ku dk feyk

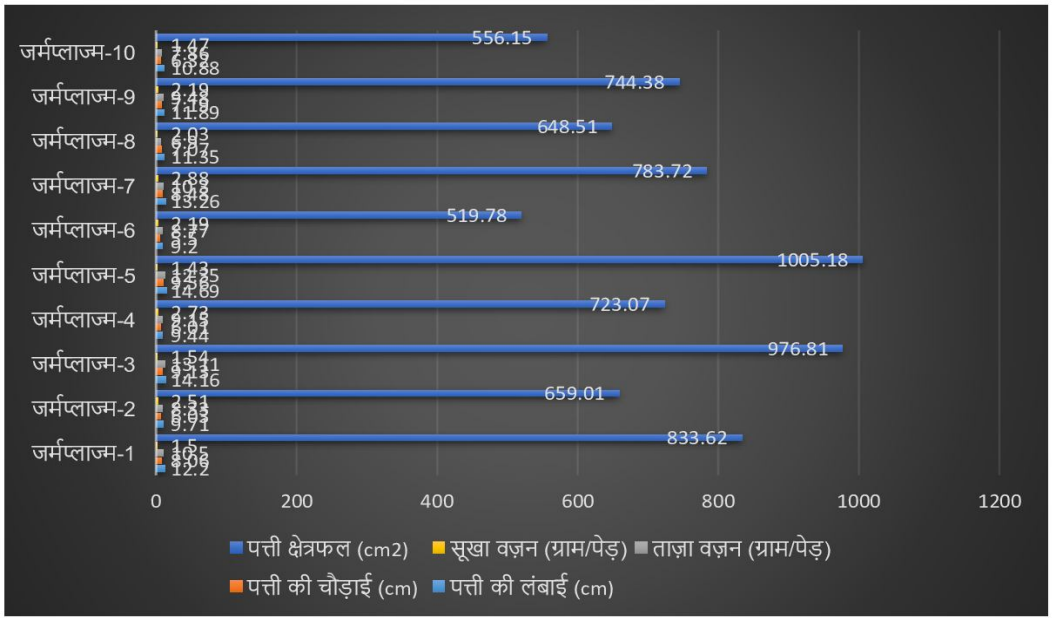
rkfydk 1¼ dVgy d fofHkUu tuuæ0;k ¼telykTe½ dk :ikRed fo'k"krkvk ij çHkkoA

telykTe	iM dh Åpkb ¼m½	ru dk ifjf/k ¼cm½	iM dk dukih ¼m½	iM dk vk;ru ¼m³½	ru dk {k=Qy ¼cm²½	iÙkh dh yckb ¼cm½	iÙkh dh pkMkb ¼cm½	rktk otu ¼xke@iM½	l[kk otu ¼xke@iM½	iÙkh {k=Qy ¼cm²½
telykTe&1	9·66	109·24	6·38	208·85	969·59	12·20	8·06	10·50	1·50	833·62
telykTe&2	9·33	98·62	8·49	344·40	781·97	9·71	6·03	8·33	2·51	659·01
telykTe&3	9·16	137·72	6·35	194·38	1511·09	14·16	9·13	13·11	1·54	976·81
telykTe&4	8·83	97·89	5·22	125·91	765·40	9·44	6·01	9·15	2·73	723·07
telykTe&5	7·00	109·09	8·07	239·87	954·25	14·69	9·56	12·35	1·43	1005·18
telykTe&6	5·90	102·88	6·33	124·57	843·13	9·20	5·50	8·77	2·19	519·78
telykTe&7	7·50	85·23	7·13	200·62	584·19	13·26	8·48	10·30	2·88	783·72
telykTe&8	5·16	114·42	8·16	180·77	1127·91	11·35	7·07	6·90	2·03	648·51
telykTe&9	6·00	132·33	6·50	132·65	1416·80	11·89	7·19	9·48	2·19	744·38
telykTe&10	6·86	82·95	4·53	98·97	559·72	10·88	6·32	7·86	1·47	556·15
ekud =fV	0·444	9·440	0·308	19·340	172·869	1·150	0·801	1·131	0·305	100·938
lhMh ¼5%½	1·319	28·048	0·917	57·465	513·640	3·417	2·380	3·361	0·906	299·913

yfdu ; nk tuuæ0; lkf[;dh; :i l dukih d lc/k e leku Fk(;g fu"d"k Rai *et al.*] ¼2003½ d vu:i g(ft lu n[kk fd] fofHkUu telykTe dk ik/kk dukih 4-45 ehVj l 9-30 ehVj rd fHkUu gkrk gA bl h rjg] Ali *et al.*] ¼2015½ u ik;k fd fofHkUu dVgy telykTe d iM dk çlkj fHkUu gkrk g ,o ;g vke rkj ij 7-8 ehVj l 20 ehVj gkrk g ,o ;oreku 'kk/k dk leFku djr gA ;g fHkUurk fofHkUu telykTe dh vkuof'kd ifjoru'khyrk ,o ik"kd rRo vo'kk"k.k {kerk d dkj.k gkrh gA iM dh vf/kdre vk;ru ¼344-40 m³½ dVgy telykTe &2 e nt fd;k x;k ,o U;ure ek=k ¼98-97 m³½ dVgy telykTe&10 e nt fd;k x;k] rRi'pkr f}rh; U;ure vk;ru dVgy



fp= 1% dVgy d tuuæ0;k dk :ikRed fo'k"krkvk ij çHkkoA



fp= 2% dVgy d fofHkUu telykTe dk iÙkh dh yckb] iÙkh dh pkMkb] rktk otu ,o l[kk otu ij çHkkoA

telykTe&4 ¼125-91 m³½ e feyk] ; nk telykTe lkf[;dh; :i l iM dh vk;ru d lc/k e leku FkA oreku v/;;u d fu"d"kk l ;g irk pyrk g fd fofHkUu telykTe dh iM dk vk;ru fHkUu gkrk g ,o bl fHkUurk dk dkj.k telykTe dk vkuof'kd çHkko gk ldr gA bl v/;;u d ifj.kke igy d fu"d"kk Khan *et al*-] ¼2010½; Rai *et al*-] ¼2003½ and Ali *et al*-] ¼2015½ d leku gh ik, x, ¼rkfydk 1 ,o fp= 1½A iM d ru dk vf/kdre {k=Qy ¼1511-09 cm²½ dVgy telykTe&3 e nt fd;k x;k] tcfd U;ure {k=Qy ¼559-72 cm²½ dVgy telykTe&10 e nt fd;k x;k FkkA iM d ru dk {k=Qy iM dh iM fd ifjf/k l çHkkfor gkrk g] tk fd vuokf'kd dkj.kk l fu;fU=r gkrk gA bl v/;;u d ifj.kke igy d fu"d"kk ¼ Chadha and Pareek ¼1993½; Rai *et al*-] ¼2003½ and Ali *et al*-] ¼2015½A d leku gh ik, x,A vf/kdre iÙkh dh yckb ¼14-69 cm½ FkA tk fd dVgy telykTe&5 e ik;k x;k] bld ckn dVgy telykTe&3 ¼14-16 cm½ ,o dVgy telykTe&7 ¼13-26 cm½ e iÙkh dh yckb ik;k x;k] U;ure iÙkh dh yckb ¼9-20 cm½ dVgy telykTe&6 e nt dh xbA bl v/;;u e l] ;g Li"V gkrk g dh fofHkUu telykTe dh iÙkh dh yckb e egRoi.k vrj n[k dk feyrk g ,o telykTe fd vkuof'kd ifjoru'khyrk bldk dkj.k curh gA bl v/;;u d ifj.kke igy d fu"d"kk Sarker and Zuberi ¼2011½; Selvaraj and Pal ¼1989½ ,o Chandrasekhar ¼2014½ d leku gh ik, x,A iÙkh dh vf/kdre pkMkb dVgy telykTe&5 ¼9-56 cm½ e ikb xb rRi'pkr dVgy telykTe&3 ¼9-13 cm½ ,o dVgy telykTe&7 ¼8-48 cm½ e ik;k x;k ,o ;g telykTe lkf[;dh; :i l leku FkA tcfd U;ure iÙk dh pkMkb ¼5-50 cm½ dVgy telykTe&6 e ikb xbA bu ifj.kkek dk leFku Sarker and Zuberi ¼2011½ }kjk Hkh fd;k tkrk g ftUgku crk;k fd dVgy d iÙkk dh pkMkb 4-64 cm l ydj 13 cm rd jgrk g ,o ;g fHkUurk dk dkj.k gk vkuof'kd ifjoru'khyrk ldrk gA mPpre rktk otu ¼13-11 xke@iM½ dVgy telykTe &3 e nt fd;k x;k] rRi'pkr dVgy telykTe&5 ¼12-35 xke@iM½ e feyk] tcfd lcl de rktk otu dVgy telykTe&8 ¼6-90 xke@iM½ e nt fd;k x;k ,o 'k"k telykTe e rktk otu d eY; e/;orh nt fd; x, gA bl v/;;u d ifj.kke igy d fu"d"kk Shamsudin *et al*., ¼2009½ ,o Rahman *et al*-] ¼1994½ d leku gh ik, x, ¼fp= 2½A

mPpre 'k"d otu ¼2-88 xke@iM½ dVgy telykTe &7 e nt fd;k x;k rRi'pkr f}rh; mPpre 'k"d otu dVgy telykTe&4 ¼2-73 xke@iM½ e nt fd;k x;k FkA] ;g nk telykTe lkf[;dh; :i l ,d nlj d cjkcj FkA ifÙk;k d 'k"d otu e fHkUurk(fofHkUu çdkj dh telykLe fd ifÙk;k e ikuh dh ek=k d dkj.k gk ldrh gA ifÙk;k dk {k=Qy lokf/kd dVgy telykTe&5 ¼1005-18 cm²½ e FkA rRi'pkr dVgy telykTe&3 ¼976-81 cm²½ e ik;k x;k ,o ;g nk telykTe lkf[;dh; :i l ,d nlj d cjkcj ik, x,A Shamsudin *et al*-] ¼2009½ ,o Rahman *et al*-] ¼1994½ dh [kkt oreku v/;;u dk leFku djr gA iÙkh {k=Qy dh fHkUurk] fofHkUu ik/kk dh vkuof'kd ljpuk d dkj.k gk ldrk gA

InHk

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