

lj ifo ; lr

qm =lj ifoj :t'	! !	! !
! ljZj df wfgsf]cj :yf	@ ^	@ ^
@ gkfnf wfgsf]cj :yf	# !)	# !)
# u0f:t/lo alpsf]5gf tyf alp pkrf/	\$ !)	\$ !)
s_ alpsf]5gf tyf alpsf]dfqf	% !!	% !!
v_ 3fddf ; sfg]tyf klfnf]alpsf]5gf	^ !@	^ !@
u_ alp pkrf/	! #	! #
3_ alp lehfg]tyf pdfg{	! \$	! \$
\$ Kñfi6s 6}f agf]p'kfbg ug{	! ^	! ^
s_ Aof8sf]tof/L	! ^	! ^
v_ dlann]df6f]tof/L	! &	! &
u_ kofk dfqdf Kñfi6s 6}f]tof/L	! (	! (
3_ Kñfi6s 6}f]Vg]lj lw / dlann]df6f]eg{	@	@
a_ Kñfi6s 6}g; {Lalp 5g{	@!	@!
r_ Kñfi6s 6}g; {ldf alp 5g{; do	@!	@!
5_ agf]s]Joj :yfk	@@	@@
% Kof/f; l6Ë lj lwaf/f wfgsf]/fkf0{	@#	@#
s_ v]sf]tof/L	@\$	@\$
v_ /fkf0{ug]pkoQm; do	@%	@%
u_ dnvfb Joj :yfk	@&	@&
3_ /fkf0{ug]t/Lsf	@*	@*
a_ l; Ff0 Joj :yfk	@*	@*
r_ emf Joj :yfk	@(	@(
5_ /f] sL/f Joj :yfk	\$^	\$^
= wfgafnldf nlg]kdv /f]x?	\$&	\$&
/ ltgsf]Joj :yfk		
^ ; Gbe{; fdfu{		
& n]ys kl/ro		



lbgf aG' kfbh  
kif:=  
lh=s]j-sfs+r'gk/

ljZj df wfgsf]cj :yf  
; ;f/sf]cfwf eGf a9Lhg; wfsf]vfbfGsf]kdv >ft wfg /xsf]5 . ; g\@)!! sf]tYofs cg' f/ ljZj sf !!% j 6f b}x?df !^,\$!, @\$,(\*) x\$6/ Ifqkmdf v]Lu/Lsl/a &@,&^),#) d}6g wfg p'kfbg ePsf]lyof]. ljZj sf]()=#\* kltzt wfg p'kfbg tyf vkt PlzofnL b}x?df xg]u/\$f]5 eg]; ;f/sf]sh wfg v]LuL/g] Ifqkmsf]\*\*-%! kltzt e"efu log}Pl; ofnL b}x?n]cf]6}f 5g\ cemsh p'kfbt wfgdW}\$(%\* kltzt p'kfbg lrg / ef/taf6 dfq}xg]u/\$f]5 . ; g\@)!! sf]tYofs cg' f/ ljZje/ / Pl; ofsf]wfgsf]cf]t p'kfbstj sdz M\$-\$ / \$-% d}6g klt x\$6/ /xsf]5 . To; h/Lwfg p'kfbgsf]b]6sf]0n]; aGf a9L p'kfbg ug{!) j 6f b}x? sdz Mrg, ef/t, 008f] of, aunnb}z, leotgdf, yf0Nof08, Dofgdf/, lknlkG; , aflhn / hfkfg xg\.

tfnstf MjZj df ; aGf a9L wfg p'kfbg ug{!) j 6f b}x?sf] Ifqkm, p'kfbg / p'kfbstj ; g\@)!!sf]tYofs cg' f/\_

s# =b}z	>ft	Ifqkm -x}z	ljZjsf]thgdf Ifqkm kltzt	p'kfbg -d}6g	ljZjsf]thgdf p'kfbg kltzt	p'kfbstj -d}6g=x}	
!	r]g	PkmP-cf]	30,311,300	18.47	202,667,270	28.04	6.69
@	ef/t	PkmP-cf]	44,100,000	26.87	155,700,000	21.54	3.53
#	008f] of	PkmP-cf]	13,201,300	8.04	65,740,900	9.10	4.98
\$	aunnb}z	PkmP-cf]	12,000,000	7.31	50,627,000	7.00	4.22
%	leotgdf	PkmP-cf]	7,651,900	4.66	42,331,600	5.86	5.53
^	yf0Nof08	PkmP-cf]	11,630,300	7.09	34,588,400	4.79	2.97
&	Dofgdf/	PkmP-cf]	8,038,000	4.90	32,800,000	4.54	4.08
*	lknlkG	PkmP-cf]	4,536,640	2.76	16,684,100	2.31	3.68
(	aflhn	PkmP-cf]	2,752,890	1.68	13,477,000	1.86	4.90
!)	hfkfg	oP; -8-P=	1,576,000	0.96	10,503,000	1.45	6.66
	sh hddf		135,798,330	82.74	625,119,270	86.49	4.60



ljZj df wfg pTkfbgsf]; Gbedf xg]xf]eg]xf0la\$ wfg nfufpg] bzx?n]a9Ldfqdf wfg pTkfbg u/\$f]b]vG . ljZj sf]sh !,(@^,@) \$ x\$ Ifqkmdf xf0la\$ wfg xg]u/\$f]5 . h; dW]; aPbf a9LIfqkm cfh6sf bzx? sdzMr Ig !,^&),,))) x\$ -\*^=\* kltzt, ef/t !),,))) x\$ -%=( kltzt, leotgdf &@,) x\$ #-&& kltzt, lkmlkG #,%),,))) x\$ -!=@ kltzt, oP; P@),,))) x\$ -!=\$ kltzt, aunftz !,(,)) x\$ -)=( ( kltzt, kfls:tfg ^#,) x\$ -)=# kltzt, Dofgd/ #@,&) \$ x\$ -)=& kltzt, 008fg]z of !,%) x\$ -)= kltzt / cG bzx? #,) x\$ -)= kltzt / x\$] 5 .

; g\@)!! sf]cf]sf cg; f/ ljZj df klt x\$6/ wfg pTkfbgsf]cfw/df !) j6f bzx? sdz MlhK6 -(=% d}g, ci6]nof -(=%\$ d}g, 6sK-(=)% d}g, p?lj ]-\*#\* d}g, cd]sf -&=(@ d}g, :kg -&\$ d}g, sf]of -&#\* d}g, k? -&# d}g, ; f]lnof -&)@ d}g / ch]6gf -^=\*! d}g /x\$] 5g\ To; }u/LPl; ofnLbzx?df klt x\$6/ cf]t wfg pTkfbgsf]cfw/df blif sf]of -&#\* d}g, rlg -^^( d}g / O]fg -%-% d}g= sdzMk]nf] bf] f] / t] f] bzx? xg\ o:t}leotgdf -%-%# d}g, hfkfg -%## d}g, 008fg] of -\$=( \* d}g, aunftz -\$@@ d}g, Dofgd/ -\$=) \* d}g klg pTkbsTj sf]cfw/df dxTj kOf]bzx? xg\ ef/t, yf0Nof08, lkmlkG , kfls:tfg / >Insf]sf] pTkbsTj eg] sd b]vPsf] 5 .

wfg pTkfbgdf xg]sd / j]4n]ljZj sf]vB ; /Ifdf k]oIf c; / kfb\$ . vB ; /Ifdf dxTj kOf]eldsf v]g]wfg, uxF ds]kq]v tlg afnIx?dW]wfg afnIsf]kq]v :yfg /x\$]5 . ljZj sf] \*) kltzt bzx?n]wfg v]Lub\$g\ vB c; /Ifsf]; d:ofnf0{; dfwfg ug] Psdfq af6f]eg\$]klt 0sf0 Ifqkmdf pTkfbg a9Pdf dfq ; Dej 5 . To; df klg cG vBf]gsf]eGf wfgsf]pTkfbg lbg]Ifdtf /fd] ePsf]c]Tolws pTkfbg lbg]hftx?sf]lj sf; / gj lgt d klj lw?sf] kof] u/L pTkbsTj df j]4 ug]Psdfq pkoQmlj sNk /x\$]5 .



ljZj sf]xfnsf]hg; Vof & c/a /x\$]5 eg]; g\@) #) ; Dd ( c/aeGf a9Lk]g]PkmP-c]sf]cgdfg /x\$]5 . ljZj df j]4 e0/x\$] hg; Vofnf0(dWgh/ u/L; g\@) #) ; Ddf ; g\((% df ePsf]sh wfg pTkfbgsf]eGf ^) kltzt a9Lwfg pTkfbg ug]kg]cgdfg ul/Psf]lyof]t/ ; g\@)!! sf]tYofs cg; f/ ; g\((% sf]eGf #@) @& kltzt dfq wfg pTkfbg ePsf]5 .

tfnsf MjZj df ; j)eGf a9Lwfg pTkfbg ug]!) j6f bzx?sf] cfoft-]lgoff - j flif\$ cf]t kl/df0f

lgoff -d}g

qm #	b}zsf]gfd ; ft	; dof]lw					s]kmt
		1961-1970	1971-1980	1981-1990	1991-2000	2001-2010	
!	rlg PkmP-cf]	1,287,405	1,731,291	896,440	1,627,312	1,316,134	*!( *^ sf]t]k]sf]; ft oP; -8]P-xf]
@	ef/t PkmP-cf]	6,060	112,455	416,274	2,112,162	3,755,364	
#	008fg] of PkmP-cf]	1	1,042	53,265	56,902	5,875	
\$	aunftz PkmP-cf]		*2,013	2,000	132	6,034	
%	leotgdf PkmP-cf]	62,076	9,990	264,500	2,696,486	4,688,650	
^	yf0Nof08 PkmP-cf]	1,419,883	1,864,584	4,352,595	5,606,990	8,534,916	
&	Dofgd/ PkmP-cf]	1,097,858	486,248	476,670	247,878	350,719	
*	lkmlkG PkmP-cf]	3,982	49,758	25,356	4,566	230	
(	af]hn PkmP-cf]	108,799	91,070	11,680	15,092	239,817	
!)	hfkfg PkmP-cf]	96,021	334,752	160,991	59,287	80,455	

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cfoft -d}g

qm #	b}zsf]gfd ; ft	; dof]lw					s]kmt
		1961-1970	1971-1980	1981-1990	1991-2000	2001-2010	
!	lrg PkmP-cf]	59,287	73,218	336,565	427,443	522,172	*!( *^ sf]t]k]sf]; ft oP; -8]P-xf]
@	ef/t PkmP-cf]	799,185	204,758	211,958	25,138	213	
#	008fg] of PkmP-cf]	715,180	1,397,671	289,832	1,608,875	773,151	
\$	aunftz PkmP-cf]	339,166	322,596	293,247	612,521	741,598	
%	leotgdf PkmP-cf]	709,378	454,610	197,063	2,612	5,042	
^	yf0Nof08 PkmP-cf]			*200	337	5,723	
&	Dofgd/ PkmP-cf]	4	1		1,984	17,734	
*	lkmlkG PkmP-cf]	170,087	154,991	163,708	594,709	1,587,178	
(	af]hn PkmP-cf]	31	108,059	312,789	865,976	688,292	
!)	hfkfg PkmP-cf]	398,744	33,323	42,827	554,171	663,380	

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df]ysf]tf]nsf]df ePsf]tYof] cyft ljZj sf] wfg pTkfbg ug]!)



j 6f kdV bzx?n]lj ut \$( jifsf]cj lwdf u/\$f]cfoft÷lgofft  
kl/df0fn0lj Znif0f ug{xf]eg]yf0Nbf08n]; g\ (^! blv @!) ; Dd  
quds 2kdf lgofft a9fpf}j flif\$ cift \$# nfv %\$ xhf/ d}6g  
e6f w}lgofft u/\$f]5 . Dofgd/n]; g\ (^! blv @!) ; Dd quds  
2kdf lgofft sd ub}j flif\$ cift % nfv @& xhf/ d}6g e6f w}  
lgofft u/\$f]5 . ; g\ (^! blv !(\*) ) ; Dd ef/t / leotgfdn]sdzM  
j flif\$ cift 2kdf \$ nfv \$@ xhf/ / % nfv %\$ xhf/ d}6g e6f  
w}cfoft u/klg ; g\ (\*! blv @!) ; Dd j flif\$ 2kdf sdzM@  
nfv d}6g / @\$ nfv \*! xhf/ d}6g e6f w}lgofft ug{; km ePsf  
5g\ rIgn]; g\ (^! blv @!) ; Dd j flif\$ cift !) nfv d}6g  
e6f w}lgofft u/\$f]5 . rlgf]lgofft sf]; 6edf sg}bzsd  
cTolws w}/ sg}bzsd sd ePsf]blvG5 t/ xfn cP/ hg; Vofsf]  
j 4 b/sf]sf/0fn]ubf{pTkbsTj /fd]ePklg lgofft sd xP]uPsf]  
5 . aflhnn]; g\ (^! blv !(& ) ; Dd j flif\$ cift ! nfv d}6g  
lgofft u/klg ; g\ (& blv @!) ; Dd j flif\$ cift \$ nfv d}6g  
e6f w}cfoft ug{u/\$f]5 . hfkfgn]; g\ (& blv !() ; Dd  
j flif\$ cift @ nfv d}6g e6f a9Llgofft u/klg ; g\ (^! blv  
!(& ) / ; g\ (!! blv @!) ; Dd j flif\$ cift \$ nfv ^) xhf/  
d}6g e6f w}cfoft ul//xsf]5 . To; }u/L008fg]; of, aunbZ /  
lkmlkG n]; g\ (^! blv @!) ; Dd j flif\$ cift 2kdf sdzM(  
nfv ## xhf/ d}6g, \$ nfv %( xhf/ d}6g / % nfv !& xhf/ d}6g  
e6f w}cfoft ul//xsf]5g\

lj zifu/Lwfgsf]pTkbg tyf pTkbsTj j 4 ; g\ (^ ^ ^& af6 z?  
ePsf]xl/t qmGtnf0]ng ; lsG5 . xl/t qmGtsf]cj; /df IRRIN]  
a9LpTkbg lbg]lfdt ePsf hftx?sf]lj sf; tyf klt 0sf0 Iqkmdf  
sd nfutdf a9LpTkbg lbg]klj lw?sf]lj sf; u/\$f/ oLpknAw?sf]  
lj Zj el/ g}k6f] ePsf]wfgsf]pTkbgdf rdTsf/ g}cPsf]lyof].  
lj ut kfF bzssf]cj lwdf lj Zj sf]vBfG @ s/f\$ ^ nfv !@ xhf/  
d}6g af6 &@ s/f\$ @& nfv ^) xhf/ #)) d}6g ku\$]5 . o; h/L  
kfF bzscj lwdf rlg / ef/tn]vBfG pTkbg qndzM% s/f\$ ^@  
nfv !& xhf/ ^)) d}6g / % s/f\$ # \$ nfv (\$ xhf/ %) d}6gaf6

@) s/f\$ @^ nfv ^& xhf/ @&) d}6g / !% s/f\$ %& nfv d}6g  
k6fPsf]5 .

vB ; /Iffsf]; 6edf xfdx? xfn; Dd c; lfd ePsf]s/f xfd]cul8  
tnsf tVofsx?n]; st ul//xsf]5g\ xfn lj Zj df () s/f\$ hg; Vof  
ef\$ d/laf6 ul; t /xsf]5g\ o; dW]#) ldnog afnafnsf  
kb\$g\ kT6 jiflj Zj df () nfv hg; Vof ef\$ d/Ltyf skf]0hG  
/f]x?sf]sf/0fn]dTo'xg]u/\$f]5 . olb blgs lx; fa ug{xf]eg]  
@\$,) hg; Vofsf]dTo'ef\$e/Ltyf skf]0hG /f]n]e0/xsf]5  
eglo; dW]cfw hlt hg; Vof s6fs6x?sf]/xsf]5 . :f:ysf]nflu  
sh blgs cfj Zostf dW]lj Zj / Pl; ofdf ePsf hg; Vofn]Sofn]/L  
sdzM\*=(# / @\*-& kltzt tyf kf]0foQmk}6g sdzM@&\$  
/ !(=( kltzt wghG pTkbgaf6)klt ug{u/\$f]xP skf]0f  
x6fpg vBfG pTkbgdf j 4 ug{klg cfj Zos blvG5 . vt lofb  
hldg kT6 jiflj Zj df 36Lxsf]5 . klt JolQmv]tofb hldg  
aunbZ # hgf klt x} leotgd !! hgf klt x} ef/t / 008fg]; of  
!) hgf klt x} lkmlkG \* hgf klt x} / gkndf ^-& hgf klt  
x} hldg kb\$ eg]sj n yf0Nbf08, Dofgd/ / sDaf]8of sf]@-\$  
hgf klt x} hldg /xsf]5 .

lj Zj sf]pknAw e"efu nueu !-#% s/f\$ x} kT6 jifc6 pZosf]  
nflu k6f] e0/xsf]5 / o:tf]hldgsf]cfw efu vtL ul/Psf]  
hldgdW]af6 k6f] e0/xsf]/ lj Zj df hg; Vofsf]j 4b/sf]sf/0fn]  
; d} eljiodf rfdn lgofft ug{bzx?sf]cejf e0; lK0f]bzx?n]  
c6 bzx?af6 cfoft ug{kg]:ylt cfpG ; Sg]kj n ; Defj gf dlysf  
tVofsx?n]b}Psf]5 . o:tf]cj:yfdf ckn}bzdf rfdn vfg  
gku\$]; 6edf sg}klg bzn]c6 bzdf rfdn lgofft ug{5gg\  
To:tf]cj:yfdf Ps]jifdf pTkbgf gof]of]klj lw?sf]canDj g  
u/LPssf; LrdTsf/L 2kdf pTkbg a9fpG ; Dej xg]5g . h; sf]  
nflu kT6 jif]lgoldt 2kdf pTkbsTj df j 4 ug{kg{xG5 . olb  
sd pTkbsTj ePsf bzx? cfh}lv g}; hs gxg]xf]eg]; g\@#)

Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw

; Dddf ljZj sf]hg; Vof () nfv eGf klg w}xg]cj:yfdf cGtM sd pTkfbg ug{bzx?df ef}d/L nfg} :ki6 b}vPsf] 5 .

gkndf wfgsf]cj:yf ljZj sf]wfgsf]Ifqkmsf]sl/a )=(!@ kl'tzt / Pl; of dxfbzsf] wfgsf]Ifqkmsf]sl/a !)=# kl'tzt e"efu lnPsf]gkmsf]pTkfbg sdzM)^\$ / )^\* kl'tzt /x\$}f]5 .

sg}; dodf 7h}kl/df0df wfg-rfdn lgoft ug{xfdf]bzn}xfn cfoft ug{yfn\$}f]5 . ut kfF bzssf]wfgsf]Ifqkm, pTkfbg, pTkbsTj, cfoft, lgoft, pkefih ul/g]Sofnf]L/ kl't jif{rfdn pkefih}lj/j/Of tflnsdf byfOPsf]5 .

tflnsf Mwfgsf] Ifqkm, pTkfbg, pTkbsTj, cfoft / lgoft -j fiif\$ cift kl/df0f

; fdfoj lw	Ifqkm	pTkfbg	pTkbsTj	lgoft	cfoft	rda ab chit}g] Sofnf]-hgs sh c}fzstf]kl'tz.	it. Wfrrmah kl' v}w}f] pkefih}kl'tz.	kl't Jo}Qm rdnstf] pkefih -sh}=-jif	s}kmt
1961-1970	1125195	2158374	1.92	286650	41.23	727.5	76.4		
1971-1980	1238168	2335957	1.89	108804	42.02	738.7	77.5		
1981-1990	1375861	2819244	2.05	16687	17730	41.87	830	87.1	
1991-2000	1463239	3489008	2.38	2430	50804	36.75	815.8	85.6	
2001-2010	1528294	4191223	2.74	194.6	87701	29.76	696.1	73.1	

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o; /Ldflys}tflnsfaf6 s}:ki6 xG eg]lj utsf bzsx?df wfg vt]sf]Ifqkm, pTkfbg / pTkbsTj df ; dt j} e0{x\$}f]5 t/ xfn cP/ Ifqkmdf j} ug{; Dej 5g . cfudLlbgx?df sjn kl't 0sf0 Ifqkmdf pTkfbg dfq j} ug{; lsg]Ps dfq ljsNk vhf /x\$}f]5 . o; /Lk}b\$ bzsd sf sh pTkfbt kl/df0f w}x}b}x}klg xfd}bzn} sdz}Mgof} sd / cfoft w}ul//x\$}f]dVo sf/Of hg; Vof j}4b/ / cfzfltt }kdf pTkbsTj j}4 gxg'g}xf]. cfj=@)^\*^)( df ef/taf6 @;!&!)%^\*^ d}6g / rlgaf6 !@&) d}6g=u/Lsh

Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw

@;!&!&=\*%^ d}6g=wfg-rfdn sjn ef/t / rlgaf6 dfq cfoft ePsf]lyof]h; af6 }=# ca{#^ s/f} \$% nfv ^@ xhf/ ^& ?k}fF vr{ePsf]lyof]. To; h/Lcfj=@)^)(÷&) sf]kyd cf7 dlxgdf !,\*%,(%)=)^ d}6g=wfg-rfdn cfoftaf/f }=# ca{& s/f} @ nfv \$% xhf/ %@@ ?k}fFafxl/Psf]lyof]eg]o; }cj lwdf dfq @!^ d}6g lgoft e0{ }=!! nfv (% xhf/ \*#) lelqPsf]b}vG . cfudL lbgdf of]kl/df0df j}4 e0/xG / cGt Mgof} gxg}/ cfoft dfq ug{kg}cj:yf cP} .

gkndf klg wfg Ifqkm, pTkfbg / pkefih}slx; fan}k}v vBfG afnLxg\$; fy}b}zsf]cy{Gdf ; a}Gf a9Lof}bfg ug{afnLxf] wfg pTkfbgdf sd-j} Lx}f gkmsf]c}ly\$ l:ylt g}tndfy xg] s/f dflys}tVof}n}ki6 }kdf byfPsf]5 . gknlx?sf]j:f:ysf nflu cfjZos kg}b}gs Sofnf]Isf]sl/a #) kl'tzt / k}f}o}Qm k}f}gsf]sl/a @% kl'tzt wghG pTkfbgaf6}k}f} ug{u/\$f 5g\ s}f lj sf; dGqnos}tVof} cg! / ; g\@)!!÷!@ df gkmsf] sh vBfG afnLsf]Ifqkm dV}wfgn}dfq \$#=(% kl'tzt Ifqkm cf}6\$}f]5 eg]pTkbsgf]b}6s}f}n}klg vBfG afnLsf]sh pTkbsgf] %#^# kl'tzt pTkfbg wfgsf]dfq /x\$}f]5 . gkndf sh !%#,\$ (# x} Ifqkmdf wfg vt]LePsf]5, h; sf]pTkfbg %),&,@\$\* d}6g= / pTkbsTj ##! d}6g÷x} /x\$}f]5 . of]afnLsf]pTkbsTj eg]cG b}z}sf]thgdf lgs}sd /x\$}f]5 . wfgsf]sh pTkfbgdf j}4 ug{ ; G}df xfn Ifqkm a9fpg ; Dej 5g . ct MjleG a9LpTkfbg lfdt ePsf htsf]lj sf; tyf k}f} ug{ cfwgs tyf ljZj df ; km ePsf gj lgt d sd nfutdf a9LpTkfbg lbg}klj lwx?sf]k}f} ug{ ; Gnt vB t}j sf]Jo}y}fkg ug{/ sd kglaf6 l; Ff0 xg] tyf sd l; Ff0sf]cfjZostf kg}klj lwx?sf]cjn}j g u/Lkl't x\$6/ pTkfbgdf j}4 ug{kg}cfjZostf b}vG . log}tVox?nf0{dWgh/ u/LjZj e/df wfgsf]pTkfbg a9fpg ; km ePsf klj lwx?nf0{lj leG dfWdaf/f Ps cs}df c}bfg k}f} ug{kg}lgtG cfjZostf /x\$}f] 5 . cg! Gwfgsf]Ifqdf x}f}klg wfg afnLdf ; a}Gf a9Lsf}d ePsf]





b}vG t/ xfn lazif u/Loj fx?sf]s}if Ifqdf sd cfsif{ xg]u/\$f] / cG >lds x? klg s}if Ifqdf sfd ubf{sd Hbfnf k0G}ePsf] lgdf{, 9}jfgL tyf cG ux| s}if Ifqdf ; n}lg ePsf] b}vG . o; sf]k}oIf c; / s}if Ifqdf To; df klg lj zif u/L wfg afnLsf]/fkf0{sfo}df b}vg]u/\$f]5 . wfg /fkf0{ug{w}}>lds n}lg] / clxn|cP/ ; dodf >ldssf]cejf / pknAw >ldssf]nflu ; d}t of]sfo{sl7g ePsf]dx; ; ePsf]5 . >lds x?sf]sdL/ a9bf]Hbfnf b/n]ubf{/fkf0{n}fut a9Lx\$}f]5 ; fy}; dodf >lds x? gkfp]g]sf/Ofn] sf]sx?n]wfg l9nf]cyff ebf} Dd klg /fkf0}ePsf]p}Tkfb}Tj df k}oIf xf; cfp]g]h:tf ; d:of b}vfk/\$f 5g\ oLof]t sf/Ofx?nfO} Wfgdf /fv] lj ut s}Lj ifb}v k/Dk/fut tl/sfn]/fkf0{ug}Gf Knfi6s 6}df wfgsf]g; {L/flv ; f]la?j f dl; g}af/f j f dl; gsf]kxF gePsf ul/a, u}ldOf tyf kxf8L Ifqsf sf]sx?sf]nflu Kof/f; l6E lj lw}af/f ; d}t wfg /fkf0}p}Tkfb}g lng ; lsg]klj lwsf]yfngLePsf] 5 . of]klj lw lj leG b}zx?df kof}h}df c}f0{x\$}f]5 eg]r}lgsf lj leG k}Gx?sf sf]sx?n]eg]Jofks ; kdf Joj; fols tj/n]of]klj lw c}j}n}Dj g ubf}cfPsf 5g\ o; klj lw}af/f Ps JolQm]Ps lbgdf \*-!) sf cyff %%-^% /fkf0}Lhldgdf wfg /fkf0} ; Sb5 . hals xdf]oxf /fkf0{ug}k/Dk/fut tl/sfaf6 Ps JolQm]Ps lbgdf a9Idf !-@ /fkf0}Ldfq /fkf0} ; Sb5 . o; /Lof]klj lw c}j}n}Dj g ubf}{xfn kof}h} eO{x\$}f]>ldsdf &} kltzt sd >lds cyff >ldsdf n}lg]cgf]Zos Hbfnf s6f}Lug}; lsG .

wfg /fkf0}klj lwdf Kof/f; 6 Pp6f dxTj kO{; w/ ul/Psf]lj lw xf]. Kof/f; 6nfO{; lhn]efiffdf wfgsf agf? tof/ u/LxNofPsf]v}t}df kfn] /fkf0}lj lwsf] ; kdf aemg ; lsG . Knfi6s 6}df ePsf agf? dl}nnf]df6f] f}lg:sg]ePsf]lo agf?nfO{Knfi6s 6}af6 lgsfnL wfg /fkf0}v}t} d}fy x}j}df k}n}g'kg}xG o; /Ld}fy k}fn]Psf agf}sf h/fx? tof/ u/\$f]v}t}df u?Tj fsif{ -u}e6L sf]k}e}j}n]u8b5g\ o; lj lwdf lazif u/] wfg /fkf0}gsf]nflu Knfi6s 6}df g; {L/fvg' kb5 .

- o; klj lwsf dVo knfO}fx? tkf;n adf]hd /x\$}f 5g\
- ▷ sd d}hb/sf]cfj}Zostf kb5 .
- ▷ cG klj lw}af/f wfg /fkf0}agf}{hldgdf r}f8}/fd}f] f}g; g}xG t/ o; lj lw}af6 /fkf0{ubf}{la?j fsf]h/fdf klxn]g}df6f]xgfn]la?j f ; lhn}; g}sf ; fy}r}f8}g}u}Hb}fb}5 .
- ▷ afnL s}L lbg r}f8}k}fSg}sf ; fy}p}Tkfb}gdf ; d}t j}l4 xG .
- ▷ sd nfut n}lg}sf ; fy}a9Ldgfkn}xG .
- ▷ alp b/ / g; {L/fvg r}f}xg]h}uf sd n}fb}5 .

k}fs:tf}gsf]wfg cg; Gwfg ; yf}gn]; g\@)) # / @)) \$ df u/\$f] Kof/f; 6, nfOg / k/Dk/fut wfg /fkf0}lj lwsf]s}fs :t/df lj leG !):yf}gdf u/\$f]thg}f}ds c}Wfogsf]c}h}t kl/Ofid o; k}sf/ /x\$}f] 5 .

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#	sf]sx?sf] k/Dk/fut lj lw}af/f /fkf0}	!^(,%\$)*	@!-@)	#!@-%)	^@-@)	*-\$#)	@)=*^	#-&(

>ft M-comparison of Parachute, Line and Traditional Rice Transplanting Methods at Farmer's Field in Rice Growing Area: Pak. J. Agri. Sci., Vol. 45(4), 2008

pk/f}QmcWogdf gf06}hg \$% s}h}L; k}m}k}f]; \*\$ s}h}L- / k}f}f; ^@ s}h}L- klt x\$6/sf b/n]ol/of, l8-P-kL- / k}f}f]; od ; Nk}f]sf] ?kdf kof}h} ul/Psf]lyof]. nfOg / k/Dk/fut lj lw}af/f #) lbgf] la?j f / Kof/f; 6}af/f @ lbgf]la?j f /fkf0}Psf]lyof]. To; u/Lenf/ lgoG}Ofsf]nflu ; a}pkrf/df /fkf0{u/\$f}#-% lbg}leq A6f}Snf] / Af}S6]/on l}nk}m}anfO6 / afpg l}nk}m}k6sf]nflu 9l; gf; s lj ifb}L kof}h} ul/Psf]lyof].

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ePsf]by]Psf]5 eg]s]fsx?sf]k/Dk/fut lj lwaf/f ebf Kof/f; 6  
lj lwaf/f /fkf0(u/\$f]wgsf]pTkfbsTj a9Lb]vPsf]5 . To; h/L klt  
af\$ ufisf]; Vof, klt afnf bfgsf]; Vof, klt !)) bfgsf]tfn; dT  
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5 eg]:6]ln6L-afEfk\_g\_ kltzt Kof/f; 6 lj lwdf sd b]vPsf]5 .  
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lj zif u/] hf8f]; hgdf alp z'; Kfj :yfdf xg]ePsfh]af]f]wfg  
-sf]Qs klnf]xkfb]v clGd xkf; Dd Aof8 /Vg]k4lt\_ tyf r}]  
wfg -df3÷knug df Aof8 /Vg]k4lt\_ /fk]s]fsx?sf]nflu z'; Kfj :yf  
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kg]xG . lj leG sLkgL ; xsf/L tyf s]fs ; dx?af/f pTkfbg  
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; knug]kg]xG . o; sf]nflu ahf/af6 vl/b ul/Psf]alp j f cknug]  
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xg] alpdf ePsf]:6fr{3hgZIn ; u/df kl/Of xg\$ ; fy}00nf0{x?sf]  
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3fdfs]cN6Ej f0h\$ ls/Ofn]gi6 ug] alp e08f/Ofsf]cfj :yfdf alpn]  
Zj; kZj; sf]sd]df x]g\$ /s sfj \$8f0\$S; f0\$ Uf; lg:sg]ePsfh]  
; f]Uf; nfO{x6fpg]sfo}; dT alpnf0{3fddf ; s}fbf xG . alpsf]  
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lg:s\$ h/f tyf 6; fx? sdhf] xg]ePsfh]tksddf ; fd]f kl/j tg  
cfp]f ; dT db\$g\ To; sf/Of 7hf, ki6 tyf klf6nf bfgfx? alpsf]  
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tyf klfstTj xG To; alpaf6 pd\$]f ag]f? :j:Yo xGg\ o; /L  
alp hlxn]klg dly elgP emki6 tyf rdsbf/ / !)) bfgsf]







efu blv; s}k15 alpsf]tksd 36fP/ @\* -#@ l8ul; {Gu}df Nofpgkb5 . lbgdf #- \$ k6s alp dly kfgL5s] tksd sd ug{; lsG . ha alpsf]cfs/eGf !-@ ugf nfd]h/f tyf 6; f alpsf]nDj f0sf]cfwf xG To:tf]cj:yfdf; fdfG tksddf alp /Vgkb5 . o; /L6; f0x s}f] alp Knfi6s 6}df 5g}f]nflu pkoQmG . olb Aof8df t?G 5g}f] nflu Aof8 tof/ gePsf]cj:yfdf jf af]f]wfgsf]nflu jftfj /Of kltsh ePsf]cj:yfdf !\$-!^ l8ul; {Gu} tksddf s}Llbg alp /fvLjftj /Ofdf cfj Zos ; wf/ cfP kZrft jf Aof8sf]tof/L; DkG eP kZrft alp 5g}; lsG . sf]sx?n]kfoMlp lehfo} s}k15 @\$-# 306f; Dd #-#\* l8ul; {Gu} tksddf uDofp}ePsf]alp df ePsf]kffst]j h/f tyf 6; fx?sf]j} ugdf cgj Zos 2kdf vr{ eO{x}f]xG . To; sf/Of alp df ePsf]kffst]j sf]cgj Zos 2kdf Iflt xgaf6 hffpg () kltzt alp k6} ; }f]efu blvPkl5 uDofp}sf]; }f alp k}f0{dflyaf6 xNsf kftnf]h6 af]fn]9fsL lbgdf b0{ltg k6s kfgL 5s} tksd sd ug{ kb5 .

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Knfi6s 6}g; {Lsd ; do tyf >d rfxg] Aof8sf]Ifqkm sd rfxg] alp tyf pTkfbg vr{sd nfg}sf]; fy}JoJ:yfkg ug{; lhnf]lj lw xfl. lo k}f0{fx?sf cll/Qmo; n]cTolws 2kdf pTkfbg ; dt j} ub5 . Knfi6s 6}df g; {L/Vg]lj lwn]kf/f; 6 lj lw jf wfgdf ; 3lgs} kOfnLlj lw -System of Rice Intensification\_ af/f wfg /f}g}nflu uOf:t/oQm/fu/lxt :j:Yo agf]pTkfbg ug{ub5 . uOf:t/lo agf] ; lsG h/f]sf]lj sf; ug] ufix?sf]; Vofdf j} xg}sf]; fy}afnfx?sf] ; Vofdf j} eO{cGtMpTkfbst]j ; dt j} xG . o; klj lwaf6 pTkfbg ul/Psf agf]sf]sf/Ofn]dfq wfgsf]pTkfbgdf )-%! d}6g klt x}6/ pTkfbst]j df j} ePsf]tYof]x? 5g\ o; sf ; fy}Knfi6s 6}df pTkfbg ul/Psf agf] xftaf/f, d]; gaf/f / l; w}/f}g klg ; lsG . o; klj lwaf6 agf]pTkfbg ubf{pGt wfgsf]nflu !)-@\*% ju{ld6/ / xfa\$ wfgsf]nflu (!-!\$@ju{ld6/ Ifqkm klt x} cfj Zos kb5, hals k/Dk/fut tl/sdf %) ^&% ju{ld6/ Ifqkm

klt x} cfj Zostf kb5 . o; /Ug; {L/vbf k/Dk/fut tl/sfn]g; {L /vbfGf pGt wfgsf]nflu %&-%\* -^@ kltzt / xfa\$ wfgsf] nflu &\*-(^-\*!\*= kltzt hldg sd nfg]ePsf]Aof8 /vbf ; dt >ldssf]cfj Zostf sd xG . of]Ifqkmdf Aof8 /Vg sjn %-^ hgf >ldssf]dfq cfj Zostf kb5 . o; sf cll/Qmdnsf]pkof]df ; dt !)) s}h}x}sdLcfp} . olb o; klj lwaf6 pTkfbg ul/Psf agf] @-# kft]cj:yf d}P; -cf0{cf/= lj lwaf/f wfg /f}g]x]eg] !)-!@ lbg k}n]g]la?jf tof/Lxg]ePsf]siffx?n]; f]cj lwdf g; {ldf vr{xg]lj leG lj iffbx?sf]; dt s6f}Lu/LpTkfbg nfut 36fpg ; Sb5g\ xfn xdf]b}sf]s}L:yfgdf P; -cf0{cf/= klj lwaf/f ; dt wfg /f}g yfnPsf]5 t/ o; klj lwsf]cjnDj g ubf{dV0 ; d:of eg}f]uOf:t/lo agf]{x}f]5 . P; -cf0{cf/= lj lwaf/f wfg /f}g lj zif u/} \*-!@ lbg}f]la?jf /f}g'kg{xG t/ tLagf] cTolws slnf xg]ePsf] / xfn lj Bfdg g; {L/Vg]k4lt cg' f/ /fvPsf agf] pv}hf h/f l5bg] kn]Aof8sf]df6]s8f xg]ePsf]agf]df6}Gf dflyaf6}l5G} / agf]f0{pv}hf rf} nfg}sf ; fy}pvn}sf agf] t?G}cfw}Ps 306f leq /f}g g; s}df agf] c}f0{Iflt xg]tyf g; {L Aof8 /fkf0{ug{vt} glhs}/Vg'kg]ePsf]plrt /ybysf] cfj xg]h:tf ; d:ofs]sf/Ofn]of]P; -cf0{cf/= klj lw gkuf]hs xbf}k}klg JoJ ; fols 2kdf cjnDj g xg ; s}f]5g . ctMo; Knfi6s 6}g; {laf/f agf]pTkfbg u/L pQmP; -cf0{cf/= klj lwsf] ; dt JoJ ; fols/Of ug{; lsg]koff} cfw/ /x}f]5 . csf]dxTj kOf} s/f s]eg]o:tf]k}f/sf]g; {ldf agf]pTkfbg ubf{df6}sf]h}j s uOfx? agf]j} tyf lj sf; sf]nflu cg}sh xG . Knfi6s 6}Ps k6s vl/b ul; s}k15 Knfi6ssf]uOf:t/ x} #-% jif} Dd kof] ug{ ; lsG . Knfi6s 6}f/agf]pTkfbg sfo{xdf]oxf]f}ePsf]xfn xdf]yfglo ahf/df pknAw g}g ; S5 t/ oL Knfi6s 6} ef/t tyf rlgdf agf]ePsf] / xdf]Jofk/Ix?sf]k}Fr tL ahf/df ; lhn}/xg]ePsf]Knfi6ssf]sf/fj/ ug]Jofk/Ix?; f ; dg o u/L ; lhn}vl/b ug{; lsG .



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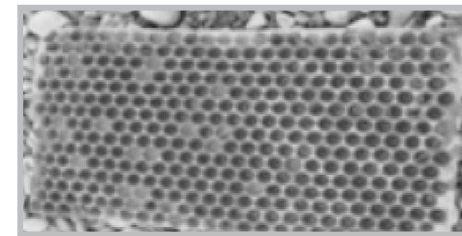
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ug{kg}xG . lj zif u/] Aof8 lNofpg kfg]sf]>ft gePsf]/ Aof8df  
ePsf]df6f]cTolws dl]nnf]kgf ePsf]:yfgdf wh]Aof8sf]kofu  
ug{kb\$ eg]kfg]sf]>ft ePsf]:yfgdf kn]Aof8 /fVg ; lsG .  
; fdfG}tofMwh]Aof8 pkoQmdf]G . Aof8 /fVg]h]u]sf]5g} ubf{  
xfj f / ; b\$]ls/Of kg] kofit dl]nnf]df6\$]f]; fy}t6:y jf xNsf  
cl]no df6\$]f]5g} ug{kb\$ . kb\$ !% ld6/ r}f0{/ cfjZostfg; f/  
nDj f0{ePsf Sof/Lagf0{b0{Sof]lsf]alrdf kfgLgsf; sf]n]lu gfnL  
agfpg'kb\$ . df6f]f ePsf ljleG sl/fx?sf nefx?, 9; Isf :kf/x?  
/ en/x? lgoGOf ug\$]n]lu df6\$]f]pkrf/ ug{kb\$ . o:tf]pkrf/  
ljleG /; folgs ljiffblaf/f ug{; lsG t/ ljiffblaf/f pkrf/ u/L  
p}kfbg nfut a9fpg' eGf Aof8x?df alp 5g{eGf & lbg klxn]  
; fh/f0h}zg u/L df6\$]f]pkrf/ u/L p}kfbg nfut sd ug{  
; lsG .

@@\_ dl]nnf]df6\$]f]tof/L

lj zif u/] wh]Aof8sf]n]lu Knfi6s 6}df df6f]eg{bf6 df6f]f0{  
kOf}kdf kfs\$]uf/ dn / sDkf6 klt ju{ld6/ @ s}h]sf b/n]

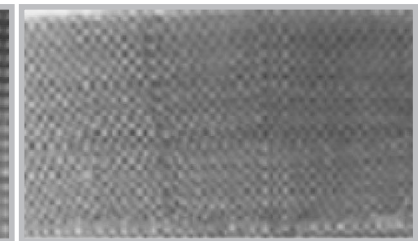
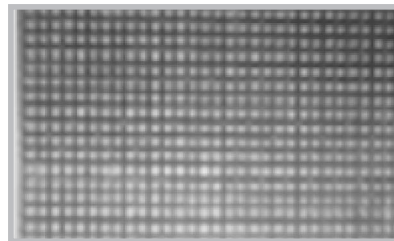
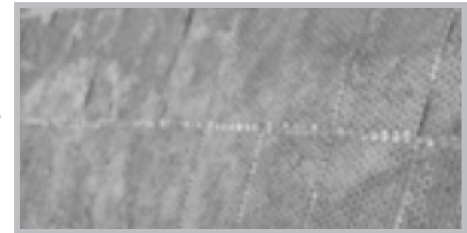
ld; fpgkb\$ . df6f]f0{; s] Dd t6:y agfpg'kb\$ . %) s}h]xNsf  
bf6 df6f] f @% s}h] sDkf6 jf eld\$Dkf6, !#) ufd lhK d  
-;/ fog]s ld>Of )=% lsnf]/f; folgs dn kofu ug{kb\$ . o:tf]  
vfnsf]df6\$]f]ld>Of tof/ ubf{lf/lo kj]tsf]/f; folgs dnsf]kofu  
ug{x}g . kn]Aof8sf]n]lu w]gsf]alp 5g{eGf \$-% lbg klxn]@%  
s}h] eld\$Dkf6=lkgf ld; f0{Aof8 /fd] f lNofpg' kb\$ / alp  
5g{eGf ! lbg klxn]tof/ u/\$]Aof8d}a] n 8f]sf]kdf !)-!@  
s}h] /f; folgs dn klt s]fsf]b/n]kofu u/L/fdf] f ; Dofpg'  
kb\$ .

@# kofit dfqdf Knfi6s 6}sf]tof/L



Ps k6s kofu ul/Psf]%^!  
j6f K]fn ePsf]Knfi6s 6}

Aof8df /flvPsf gof]Knfi6s  
6}



ljleG cfsf/ tyf uOf:t/sf Knfi6s 6}

ahf/df ljleG cfsf/sf nrsbf/ lk=le-; Knfi6s 6jpknAw xGg\ cfsf/ tyf 6df ePsf j fnsf]cfw/df klt xj Ifqkmdf wfg /fsgf]nflu sltj 6f 6sf]cfjZostf k5{eG}s'/fsf]dNofg ug{ ; lsG . o; sf clt/Qmklk xj Ifqkmdf sltj 6f 6sf]cfjZostf xG eG}s'/f 6df ePsf]j fnsf]; Vof, wfgsf]hft, l9nf]tyf l56f] kfg]wfgsf]cjlw, xfa\$, pGt tyf :yfglo hft, vtsf]dnnfkgsf] cfw/df e/ kb\$ . xfa\$ wfgsf]b/La9L/ pGt wfgsf]b/Lsd /flvg]xgfn]klt xj Ifqkmdf slt la?j fsf]cfjZostf xG ; fL cg; f/ Aof8 /Vg'kg{xG . ; fdfGtMolb nfoGsf]b/L@@@ ; jL= / afb]v affsf]b/L!% ; jL= /flv klt xj # nfv la?j f /fkg]xf] eg]klt xG/sf]nflu %^! j 6f alp /fkg]vndf j fn ePsf %## j 6f Knfi6s 6j f \$%) j 6f alp /fkg]vndf j fn ePsf ^^& j 6f Knfi6s 6j## j 6f alp /fkg]vndf j fn ePsf \*) Knfi6s 6j sf]cfjZostf xG . pGt wfg @) ; jLx ! ) ; jLx !% ; jLx !% ; jLx @) ; jLx !% ; jLx sf]b/Ldf /f]of klt xj sdzM% nfv, \$=\$ nfv / ## nfv la?j fsf]cfjZostf kb\$ eg]o; sf]nflu \$#\$ j 6f j fn ePsf]Knfi6s 6j sdzM!% @, ! ) @ / &\* j 6f cfjZostf kb\$ . xfa\$ wfg @) ; jLx @) ; jLx @% ; jLx @% ; jLx sf]b/Ldf /f]of klt xj sdzM% nfv, @ nfv / !=) nfv la?j fsf]cfjZostf kg{ePsf]pQmla?j fsf]nflu \$#\$ j 6f j fn ePsf]Knfi6s 6j sdzM %&, \$^! / #^ ( j 6f cfjZostf kb\$ . rlgf ljleG kfgx?df xfa\$ wfgsf]nflu # nfv / pGt wfgsf]nflu \$% nfv la?j klt xj /fkf0{u/L clwstd pTkfbg lng]u/\$f]kfOPsf]5 t/ la?j fsf] ; Vof vtsf]cfw/df kns kns xg ; S5 lsgls ; fdfGtofMctolws dnnf]vtdf la?j fsf]3gTj sd /Vg'kb\$ eg]thgf]ds j kn]sd dnnf]vtdf lj?j fsf]3gTj cyft agf]sf]; Vof a9L/fkg'kb\$ o; sf] dVo sf/Of egf]a9Ldnnf]vtdf /fkPsf wfgsf agf]n]uffx? a9L; Vofdf lgsf]ng] amfx?sf]; Vofdf j]4 ug]; o\$]ls/Ofsf]nflu kftx?sf]; Vof tyf Ifqkmdf j]4 ug]ePsf]pTkfbgdf j]4 xG t/ sd dnnf]vtdf klt la?j f pTkfbg sd xg]ePsf]a9LpTkfbg lng la?j fsf]; Vof a9fpg'kb\$ .

@\$\_ Knfi6s 6j/vg]lj lw / dnnf]df6f]eg{



s]f lj sf; dGfno cGtu{sf ljleG klfj lwsx?n]rIgd !-% ld6/ r]Bf lxn]Aof8df @ nfoG Knfi6s 6j/vgsf ; fy)pQmKnfi6s 6j?df lxn] n]f] df6f] hu÷dun]p7fpb} Knfi6s 6sf j fnx? ebJ wh]Aof8sf]nflu tof/ u/\$f]Aof8df Knfi6s 6j/vg'eGf klxf Aof8nf0{/fd] f ; Dofpg'kb\$ / !-% ld6/sf]r]Bf0{ePsf]Sof/Idf b0{j 6fsf]b/n]Knfi6s 6j? /fd] f Ps cfk; df hf\$] ; dfgGt/ ksf/n]/Vg'kb\$ . Knfi6s 6j f0{la:tf/}To; sf]tNnf]efu df6f]df kg]lsl; dn]bafpg'kb\$ . To; kl5 Knfi6s 6sf j fnx?df dfly tof/ ul/Psf]dnnf]df6f]f0{Knfi6s 6sf j fnx?df #- \$ efu df6f] kg]u/Legkb\$ . o; /Ltof/ u/\$f]Knfi6s 6j?df t?G}alp 5g{ ; lsG . lxn]Aof8sf]nflu ; jkyd lxn]agf0{tof/ ul/Psf]Aof8df ePsf]; DkOf{kfgL lgsfnL lxn]dfq /Vg'kb\$ . !-% ld6/sf]r]Bf0{ ePsf]Sof/Idf b0{j 6fsf]b/n]Knfi6s 6j? /fd] f Ps cfk; df hf\$] ; dfgGt/ ksf/n]/Vg'kb\$ . Knfi6s 6j f0{df6f]df xNsf hf\$; f bafpg'kg{xG h; sf]sf/Ofn]Knfi6s 6sf]tNnf]efu df6f]df /fd] f a; f] V Knfi6s 6sf]dflys]efunf0{ ; /Ift /Vb}Ps cfk; df Knfi6s 6sf]alrdf sg}ksf/sf]vfnL7fpEg/xg]u/Lhf\$] /Vg'kb\$ . dfly tof/ u/\$f]k]fstTj oQmdf6f]f0{lxn]df6f]df ld; f0{afSnf]n]f]agfpg'kb\$ / of]n]f]df6f]f0{Knfi6s 6sf j fnx?df #- \$ kg] u/L s'g} hu ÷du n] eg{ kb\$ .

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\_\_\_\_\_Kñfi6s 6}g; {L/ wfgdf kof/f; l6Ë /fkf0lj lw

@%\_ Kñfi6s 6}g; {ldf alp 5g}



s}lf klj lwsx?n}Kñfi6s 6}f 6'; fPsf]alp 5b}; fydf lrlgofklz}lfs



Kñfi6s 6}f 5/}sf wfgsf alpx?

Kñfi6s 6}f alp 5l/; s}k15 Kñfi6s 6}f k}fnsf]vfnL:yfg s}r}f}f; xfotfn}n}f] -lxfn] df6fh]eb}klz}lff}k?

Aof8df alp Psgf; n} l7s ; dosf]; fy}plrt kl/df0df 5g{clt cfjZos xG . h; sf]nflu ; fdf0tof p}gt wfgsf]nflu !-!@% s}hE / xf0a\$ wfgsf]nflu %) )-^)) ufd kl} sf hldgsf]nflu alpsf]cfjZostf kb\$ . xf0a\$sf]@# j 6f / p}Gtsf]S-%j 6f alp kl} Kñfi6s 6}f}k}fndf kg}lsl; dn}alp 5g}kb\$ . klxfn}k6s alp 5b}k}to\$ k}fndf xf0a\$sf]@# j 6f / p}Gtsf]S-%j 6f alp k/}f} ; lglZrt xg' kb\$ / alr alrdf sg}sg}Kñfi6s 6}vfnLePsf] cfj:yf cfPdf kg}Mbf] f}k6s alp 5/LpQmvfnL7fpF? kl}ug{k}g} xG . alpx? 5l/; s}k15 Kñfi6s 6}f}dfly s}Lalp? /x\$}f xg ; S5g\; f}alpsf]nflu s}r}f}l}dnfpg' kg{xG / ; f}Ls}r}f}af}n}f] n}f]df6f}f r}f}L; f}Kñfi6s 6}dfly n}f]df6f}f}3fh 5sg' kg{xG h; n}ubf{alp df6f]leq kb\$ / h/}sf]lj sf; /fd}f} f} xG . wh} Aof8sf]nflu eg}pQmt}f}Psf]alp b/nf0{!-!% s}hE tof/ u/}f} dl}nnf]df6f}f}ld; f0{Kñfi6s 6}f}5g}kb\$ / alp 5l/; s}k15 o; nf0{ ldnfpg' kb\$ . To; kZRoft Kñfi6s 6}f}k}fnsf]af}EL!÷\$ efu

\_\_\_\_\_Kñfi6s 6}g; {L/ wfgdf kof/f; l6Ë /fkf0lj lw

dl}nnf]df6f}f}kl/lbg' kb\$ . xfn Kñfi6s 6}f alp /f}gsf]nflu dl}; gsf]; dt lj sf; e0; }f}cj:yfdf pQmd}zgsf]kx}F ePsf s}f}sx?n}dl}; gáf/f ; dt alp /f}g}sf0{; l}kG ug}; Sb5g\ o; k\$}/sf]dl}zgn}Kñfi6s 6}f k}to\$ k}fndf lglZrt lglw{0f ul/Psf] ; Vofdf bfgf /f}g}sf0{ub\$ .

@^\_ Kñfi6s 6}g; {ldf alp 5g}; do

l}xp}f]-af}f] wfgsf]nflu sf}Qs dl}xgdf, r}t}wfgsf]nflu df3÷k}n}ug dl}xgdf, jif}wfgsf]nflu p}Rr kx}8 tyf l}xdfnL}f}df r}f}sf]bf] f} x}k}df, d}w kx}8df a}zfv}sf]bf] f}b}vt} f}x}k}f; Dd / t/f0}f} h}7 sf]bf] f}v t} f}x}k}f; Dd -Aof8 /f}v}g}lj leG ef}f}ns :yfg / vt} vfnL xg} cfj:yfg; f/ s}L kms xg ; S5\_ /f}v}g' kb\$ .

@& a}g}f}sf]Jo}j:yfkg



Kñfi6s 6}f /f}v}Psf]g; {L xls}Psf]@! l}bgsf]j:y}o la?j ; j:y}o tyf ; l}f} h/f}?

wh}Aof8df alp 5l/; s}k15 Psgf; n}a}g}f}sf]lj sf; sf]nflu k}gl :k}ug{k}b\$ t/ :d/0f/x}f} \}o; df k}gl}n}8af}P/ ulx/f}l; Ff0 eg} ug{x}b}g . To; h/Lxn}Aof8sf]nflu ; do ; dodf x}Nsf l; Ff0sf] cfjZostf kb\$ . o; k\$}/sf]klj lwdf Ps}k6s w}dfqdf l; Ff0 ug{e}bf k6s-k6s x}Nsf l; Ff0 ug{k}g}xG . olb l}xp}f]-af}f] wfgsf]nflu Aof8 /f}v}Psf]xf}eg}Kñfi6s u}Dj h agf0{r}f}t/af6 Kñfi6sn}9f}Sg' kb\$ . l}xp}f]-af}f] wfgsf]nflu alp df6f}af6 6'; fP/ af}x/ gl}l:sbf; Dd l; Ff0 ug{x}b}g alp pld} s}k15 cbt}f}nf0{ Jo}j:yfkg ug{b0{Aof8sf] alrdf ePsf] g}nldf k}gl nufpg' kb\$ . k}glAof8sf]dfly cfpg}lsl; dn}k}ofu ug{x}b}g olb o:tf}



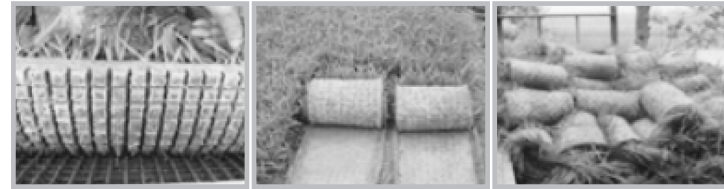
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kb5 . la?jf @ kft]e0{; s]k15 kxnfl]bg Knfi6s b0{5 paf6 lgsf]g'  
kb5 / @# lbgk15 cfw Knfi6s lgsf]gkb5 . olb lr; f]a9LePdf  
Knfi6sn]9fsg]/ 3fd nfu\$fl lgsf]g]ug{kb5 . r} wfgsf]Aof8  
/Vbf cTolws lr; f]; do ePdf af]f]wfgsf]nflu ckgf]Psf dflysf  
lj lw ckgf]Psf /fd]xG eg]j if]wfgsf]nflu Aof8 /Vg]; dodf  
cTolws ud]xg]ePsf] Knfi6s uDj hsf] cfj Zostf xbg .

agf? cTolws chf]ePsf]cj:yfdf lt]gx?sf]prf0{f0{lgoGqOf  
ug{kg]xG h; sf]nflu #% ufd !% kl'tzt lk-la-h\$= &% ln6/  
kfgldf ld; f0{kl't s]f]b/n)!-@!-\* kft]la?jf ePsf]cj:yfdf  
5gkb5 . ; do-; dodf agf?sf]j]4 e0{x\$fl]cj:yf]dNof]g u/L  
6k 8} ug{kg]xG . b0{kl'tzt ol/ofs]3fh @@-@\* / \$ kft]  
la?jf ePsf]cj:yfdf kof]h ug{kb5 . slnnf]agf]df sL]f tyf  
/f]x?sf]k\$fl xg ; S5 ; f]s/f]s]lj zif lgu/fgL /fvL cfj Zos  
Joj:yfkg ug{kb5 .

#= kf/f; l6E lj lwaf/f wfgsf]/kf0{  
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/fv\$fl]agf; dt gi6 e0{vt] af]xg]; d:of 5 To; Ifqdf s]fsx?sf]  
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p]kfbgdf j]4 ePsf]tYof]n]by]Psf]5 . :d/Of/x] Knfi6s 6jg  
p]kfbg ul/Psf agf?af6 dfq o; lj lwaf6 wfg /f]g ; lsG .

Knfi6s 6jg; {L/ wfgdf kf/f; l6E /kf0lj lw



Knfi6s 6jg /fv\$fl]g; {L/f]gsf]nflu vt]df nhfg uf]h]agf0{}



Knfi6s 6jg agf]pv]h]L]Ps}k6s !)-!% lj?jf kf/f; 6 cyft vt]  
dfl y la?j fx? kn]b]r]l]goff]s]fsx?

#= vt]sf]tof/L  
vt] vghf]n]la?j fsf]h/f lj sf; sf]nflu df6\$fl]cj:yfdf ; wf/  
Nofp5 . /fd]f] vghf] u/\$]df6]df la?j fsf]h/f l56f]tyf ; lhn}  
kn]ng]sf]; fy}pQmh/fn]df6]df ePsf]v]Bt]j / kfgL; lhn} f]  
zif]of ug{; Sb5 . o; /L vghf] ugf]h]la?j fsf]lj]4 lj sf; sf]nflu  
; sf/f]ds kefj kb5 / sf08 ; dt :j:Yb xgn]la?j fmf0{dh]t; f]  
v8f /xg ; xotf ub5 . k]o\$ jif]sd ; ]sd @) ; }d] ulx/f]h/L  
6af6/af/f hft]f0{ug}kb5 . lj zif u/] df6\$fl]dfl]Nf]t]lg ; }d]  
; Dd dl]nnf]tyf c6 kf]fs t]j sf]e08f/ xg]ePsf]h]k]o\$  
l; hgdfGf jif]df Ps k6s dfq Ps dlxgf cl3 hft]f0{ubf]pkoQm  
xG . olx hft]f0{ f] ^ 6g ufa/ dn kl't x} sf b/n]kof]h  
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t]j lng ; Sb5 . olb k]o\$ jif]ulx/f]hft]f0{ul/Pg eg]s]X]jif]k15  
df6\$fl]/f; folgs, h]j s tyf e]ts cj:yf laug]sf ; fy}/f]h, sL]  
/ en]f]sf]kefj ; dt a9g ; S5 . lj ut jif]df lh] t]j sf]sldn]  
v}f /f]s]k\$fl b]v]Psf]cj:yfdf !%-@) s]h] kl't x}sf b/n]  
lh] ; Nn] kof]h ug}kb5 . hg :yfgdf kof]t dfqdf kf]f]l/s dn



\_\_\_\_\_Kñfi6s 6}g; {L/ wfgdf kof/f; l6Ë /fkf0lj lw  
-ufa/ dn÷sDkfj6 dn\_ sf]sld 5 To:tf]:yfgdf o; }; dodf xl/of]  
dnsf]?kdf 9Ff tyf c6 sf] ]afnL; dt 5g{; lsG . ; fy}df6sf]  
lk=Pr=k/If0f u/LcTolws cldno df6f]ePdf s]if rgsf]/ If/lo  
eP lhK dsf]koffu u/Lcfj Zos ; wf/ ugkb5 . lsgls wfg sXL  
xNsf cldno k\$[tsf]df6f] /fd]ePklg cTolws cldno df6f]ePsf]  
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gsf/flds c; / kb5 .

#@ /fkf0{ug}pkoQm; do  
plrt ; dodf wfg /fkf0{ug}pkoQm; do  
uOf:t/df ; wf/ cfpg]/fkf0{ug}pkoQm; do  
/fkf0{ug}pkoQm; do lgwf{Of ug}{kb5 . hg  
Ifqdf Psn jf b0{afnLdfq nufpg]kfrng xG To:tf]:yfgdf vt  
r}g}vfnLxg]ePsf]plrt ; dodf l56f]g}wfg /fkf0{ug}pkoQm; do . wfgsf]  
agf]pd] @! lbg leq g}/fkf0{ug}pkoQm; do . ; fw/Otof jifl; hgsf]  
wfg pRr kxf8df azfv÷h]7df, dW kxf8df h]7sf]klxnf]xkfb]v  
bf] ]xkcf; Dd / t/f0df ciff9 dlxgdf /fkf0{ug}pkoQm; do eg]r}wfgsf]nflu  
kñfi6g÷r} / lxp]af]f] wfgsf]nflu df3df /fkf0{ug}{kb5 .

## dnvfb Joj:yfkg  
l; krt Ifqsf]wfgsf]nflu ufa/dn ^ d}6g, gf06hng !)) s}hl,  
kñfi6; #) s}hl / kf; #) s}hl klt x\$6/ l; kñfi6; ul/Psf]  
5 . h; cg; f/ ufa/dn @ s}hl, ol/of ^-s s}hl, l8-P-kL @!^  
s}hl / D/\$ ckmk}fz !=^ s}hl klt sf koffu ug}{kb5 . h; df  
ufa/dn vt]sf]klxnf]hftf0{ }/ ol/ofsf]cfwf dfqf Pj +8-P-kL/  
D/\$ ckmk}f; sf]k'f dfqf vt]sf]tof/L; }/fkf0{ug}pkoQm; do; dodf / ol/ofsf]  
cfwf efunf0{kgMb0{efudf ljefhg u/LPs efu -!^ s}hl klt  
sfsf]b/n] /fkf0{ug}pkoQm; do #) lbgkl5 vt]df emf lgoGOf ul/; skl5 dfq  
/ afSLPs efu -!^ s}hl klt s]fsf]b/n] /fkf0{ug}pkoQm; do -% lbgdf  
koffu ug}{kb5 . kñfi6/s dn tyf /f; folgs dnsf]l; kñfi6; dfqf  
ljleG :yfgdf df6f]tyf dnsf]k/If0f u/] cfheGf #& j if{cuf8

Kñfi6s 6}g; {L/ wfgdf kof/f; l6Ë /fkf0lj lw\_\_\_\_\_

l; kñfi6; ul/Psf]of]dfq cenklg kg/fj nffsg xg ; s}sf]b]vbg  
t/ xfn s]fsx?n]sDkfj6 tyf ufa/ dnsf]koffu cTolws sd ug]  
ePsf]df6f]k]s]ts pj {fzlQmf]:t/ cTolws gh's aG}uPsf]  
cj:yf 5 . To; df klg cTolws p}kfbg lbg]lfdtf ePsf pGt tyf  
xfoLa\$ wfgsf]nflu To; }klg a9Lkñfi6s t]j sf]cfj Zostf kg{ePsf]  
; fdf0tof a9Lp}kfbg lng l; kñfi6; dfqf eGf s}La9Ldn koffu  
ug}{kg}b]vG .

#\$ /fkf0{ug}t/Isf  
■ /fkf0{ug}dVo vt]sf]tof/Ltyf cj:yf  
kof/f; 6af/f /fkf0{ug}vt]sf]tof/L/fdf] } ug}{kg}xG . wfg /fkf0{ug}  
k} {vt]nf0{/fd] } lxnbf/ ; Dofpgsf]; fy}vt]df sg}klg ksf/sf  
emf/x? xg'xG . sDkfj6 dn df6f] /fd] } ldl; Psf] / df6f]nbf]  
e0{xNsf hd\$]xgkb5 . vt]df ePsf]; DkOf{kfgLvt]af6 lgsfnL  
lxf]dfq /Vg' kb5 . df6f]o:tf]cj:yfn]la?j fsf]h/f df6f]f  
r}k}ngsf]; fy}la?j df6f]f r} ; b5 . sdhf] la?j fmf0:yfkt  
ug}{h/sf]r}j l4 lj sf; tyf kj4g ug{/ agf{r}uHff]gsf]  
nflu df6f]f]!-%@ ; #d= ulx/f] Dd agf?sf]h/fx? kG' cTolws  
cfj Zos xg]ePsf]; f}Lcgshsf]vt]sf]tof/Lug}{kg}xG . a9L  
ulx/f0df la?j f /fkf0{ug}pkoQm; do la?j fsf]klxnf]kft lxf]dfly g}xg'  
kb5 . /fkf0{ug}pkoQm; do lxf]df]ulx/f0{Ps k6s hff ug}{kb5 .

■ Kof/f; 6

Kñfi6s 6}df p}kfbg ul/Psf agf?



& j 6f agf{Ps}k6s vt]sf]cflndf  
pleP/ Kof/; 6



g; {laf6 /fkf0{ ug{  
vtdf nhfb} s{fs  
vtdf Kof/f; 6 ul/b}  
lj lwaf/f /fkf0{u/\$f}  
vt  
vt.sj/cfnldf pleP/ Kof/f; 6 lj lw



klxnf|k6s & kltzt Kof/f; 6 ul/; skl5 afLvfInL:yfgdf bf| af/f  
/fkf0{ub{slif klj lwsx?  
k6s Kof/f; 6 ub{slif klj lws / lrlgotfSf|s

Knfi6s 6df pTkfbg ul/Psf agff? g; {laf6 /fkf0{ug{vtdf nhfg'  
kb5 . g; {Laf8af6 Knfi6s 6x? agf{ePsf}; f08df /fnE cyft  
ufhf|kf/| ; lhn} E vtdf nhfg ; lsG . o; /Lvtdf nlu; skl5  
wfg /f|g|dfg; x? vt.sj/cfnldf pleg'kb5 . Knfi6s 6af6 agff?  
pvhL vt dfly xj fdf knfb' kb5, o; /LknfnPsf agff? df6f| E}  
xg|ePsfh|tof/Lu/\$f|vtdf :j tGj kdf Psgf; n|lxnf|df6f|f  
/fkkg kU5g\ o; /L dfly xj fdf agff? knfbf tn knf|agfPsf|  
vtdf ; dt agff? Ps gf; n|fkPsf|s/fdf cktir; lgZrt xg'kb5  
. hldg dfly xj fdf hlt dfly agff? knfbf|Tolt g}vtdf agff?  
Psgf; n]; dfg b/ldf /fkkg kU5g\

vtdf la?jf knfb|jf -Parachute\_ ug{k4ltdf dVo u/| tlgk6s ug|  
ul/G . ; fdfCotof &) kltzt la?jfx? klxnf|k6s Kof/f; 6 ul/G,  
) kltzt la?jfx? bf| k6s vfnL7fpFegsf|nflu Kof/f; l6E ul/G

eg|!) kltzt la?jfx? vt.sj|sgf sgf tyf 5p 5pddf kofh  
ug{k5 . o; kl5 vt.sf uxfx?nf0{#-S ld6/sf|rf8f0{/ nDaf0{  
uxfx?sf|nDj f0{cg; f/ lj efhg ug{k5 . b0j6f kn6x?sf|alrdf  
#) ; dE b/Lx8gsf|nflu tyf kfglsf|lgsf; sf|nflu gfnlsf|; kdf  
kl/oft ug{k5xG .

#% l; Ff0 Joj :yfk  
; fdfCotofMbf|tl/sfdf wfg /fkf|z?sf|# lbg; Dd df6f|f lr:ofg  
dfq /xg lbP/ kfgLhdg lbg'x5 . z?sf|b0{xktdf df6f|f /fvPsf|  
lr:ofgn|slnnf|agff; g{/ h/fsf|lj sf; df ; xofh kxofp5 .  
To; kl5sf|; dodf #-S k6s wfg /fkf|vt.nf0{lehfpE}; sfpE}  
ug{k5 . kfE|/s kbfy{sd ePsf|/ a9LlrD6f0{f|df6f|f ; sfp|g|  
sfd xNsf dfq ug{k5 . o; n|ubf{df6f|f xj fsf|; ~rf/ /fd|eP/  
wfgsf|h/fx? tn tn; Dd kU5g ; fy}kfgLhdg glnf wfgsf|uffdf  
; /f cfp|ufi a9g| qrd klg tla xG . ufi a9g|qrd cfj Zostf  
cg; f/ kulk5 vtdf xNsf kfgLhdg lbP/ cgTkbs ufi sf|j |anf0{  
/Sg ; lsG . z?sf|cj:yf hltahf wfgsf|h/f, af\$ tyf ufi j|  
xg|ahdf hldgdf lr:ofg dfq /fv| tyf slxn|slxn|kfgL; sfp/  
xfdIn|wfgsf|lj sf; df dxTj k0f; xofh kxofp; S5f; dhat h/fn|  
ulx/f| Dd ku| cfj Zos vBtTj knf kfg; S5 eg|af\$nf0{9Ngaf6  
arP/ pTkfbgdf xg|lftInf0{sd ug{k5g d2t ub5 . o:t}o; /L  
vtLul/Psf|wgn|a9Lv8/L; x| klg /fd|pTkfbg lbPsf|kf0Psf|  
5 . v8|lsf sf|Ofn|ubf|j tdfg tl/sfn|vtLul/Psf|wfg afnL  
k; fpg g; ls/xsf|cj:yfdf klg o; tl/saf6 vtLubf; fdfCoebf  
a9L pTkfbg kf0Psf|5 . wfgsf|z?sf|cj:yfdf vtdf kfgLsd  
ul/P klg wfg k; fpg|ahfb|v afndf bw k:g|ahf; Dd wfg vtdf  
@# ; k6ld6/ kfgLhdfo{lb'knfb|hgs xG . of|ahf kfglsf|/fd|  
Joj:yf u/df of|tl/saf6 vtLul/Psf|wfg afndf Ps}gf; sf 7hf  
/ w|bfgf ePsf afnf? knb5g\ To:t}wfgdf e'; sf|dfqf klg sd  
eP/ hfG . olb kfglsf|/fd|Joj:yfk ug{; lsPg eg|klg z?sf|  
cj:yfdf dfyLpNhy u/|en|kfgLJoj:yfk u/\$f|v08df wfg afnIn|

\_\_\_\_\_ knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw  
kfglsf]sdLx**fb**klg /fd]pTkbfg lbG5 .

#^ eni/ Joj :yfkG  
eni/sf]sf/Ofn]wfgsf]pTkbfg lfdtdf ; /b/ !)-!% kl|tztN]gS; fgL



xg]u/\$f]cgdfg 5 . To; sf/Of wfgdf cfpG]eni/x?sf]; dod}  
kef]sf/Ltl/sin]Joj:yfkG ug{kbs . wfgdf z?sf]cj:yfdf sd  
kfgLnuf**fb** vtdf a9Leni/ cfp**F** . To; sf/Of wfg /fkf]z?sf]  
klxnf]dlxgdf eni/kft Joj:yfkgnf0ljzif wfg k**fb**kb5 . of  
klj lw ljzif u/ ] >ldsx?sf]; d:of ePsf]:yfgdf ul/g]ePsfh]wfg  
/fkf]S lbg leqdf AobfSni/ %) 0% E-% ldlIn6/nf0{! In6/  
kfgldf ld; fp/ 5/df Ps jif6 eni/ lgoG0df kef]sf/LxG5 . o; sf  
cltl/QmS-% lbgf]nflu % ; dE- kfgLvtdf hdf0{/Vg' kb5 h; n]  
ubf{eni/x? ; xh}lgoG0f xG5 . wfg /fkf]Ps x**fb**kl5 bj]tyf  
nxl/P/ hfg]eni/x? lj :tf/}pdg ynf] xG5 o:tf eni/x?nf0{of  
cj:yfdf pvh] x6fpg' /fd]xG5 . To:t}wfg /fkf]!%-@) lbgdf  
klxnf]uf**fb**{ug{/fd]xG5 . klxnf]dlxgf lalt; Sbf /fkf]wfgsf]  
agf**fb** uf**fb**? a9] /x/nfbf]e0; s**fb**]xG5 . To; kl5 uf**fb**dh]sf]  
cfjZostf sd x**fb**hfG5 . ; fdf0tof of]tl/sfab6 vt]ubf{@ b]v  
# k6s u/\$f]uf**fb**dh]af6 lgSs}w}pTkbfg lng ; lsg]k**fb**Psf]5 .  
of]tl/sfsf]s/f ubf{eni/kft x6fpg]s'/fsf]cnj]f df6fhf0{rnfp/  
df6f]leq xf]sf]; ~rf/ a9fpg' klg w}knf0}fhgs b]vPsf]5 .  
o; sf]nflu >ldsaf/f xftn]eni/ uf**fb**dh] ug{lj lwnf0{dxTj k**fb**  
df6Psf]5 .

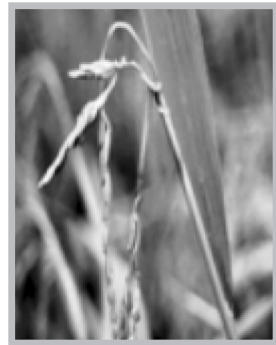
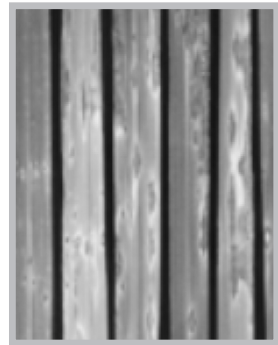
#& /fh sL/f Joj :yfkG  
:j:Yo tyf alnof]agf{k**fb** u/Lwfg /fkG]ePsfh]of]tl/sfab6



\_\_\_\_\_ knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw\_\_\_\_\_

vtdLul/Psf]wfg vtdf /fh sL/fx?sf]; d:of w}b]vPsf]5g .  
wfgsf /fhx? alpaf6 klg kz:t ; g{x**fb** To:tf /fhx?sf]/f\$ydfsf]  
nflu wfgsf]alp /Vg' cufl8 alp pkrf/ ug{knf0}fhgs xG5 . alp  
pkrf/sf]nflu Ps lsnfufd alp**fb** @-@% ufd aleli6g gds ljifbL  
/fd] ] ld; fp/ pkrf/ u/dfkl5 cfpG]/fh]sf]; d:ofaf6 aRg  
; lsG5 . o; sf]ufh tyf af**fb**sf]j ] kz:t xg]x**fb** sL/fsf]; fdf0  
lftn]wfgnf0{gS; fg k**fb**fb . kltsn df} dsf sf/Ofn]ubf{/fh  
tyf ls/fsf]k**fb** b]vPsf]v08df tkl; n cg' f/ klxrfg u/L  
Joj:yfkG ug{kbs .

#&=!\_ wfgafnldf nfbg] kdv /fhx? / ltgsf] Joj :yfkG  
!=d?jf -Jnfi6\_  
/fh]sf] lhj f0' Mkf0l/shfl/of cf]f0hL (*Pyricularia oryzae*)  
nfbf?x?  
of]/fh]hldg dflsf]; a}efux?df cfsd0f ub5 . kftsf bj}  
5pt/ ; ; fgf ; tf l6sf alrdf ePsf nfdRnf c08sf/ v}f y**fb**  
b}f kb5g\ Afnf dGTL/sf]8f7sf]j/k/ jf cfVndf v}f]/E ePsf]  
bfu klg b]vG5g\ olb k**fb** a9LePsf]v08df Ps csf{y**fb**fx?  
ldnLk'}kft 89g hfG5 . o; sf]afnfsf]3f6ldf klg of]/fh nfbg  
; S5 / afnfsf] 3f6ldf nfbg]/fh]nf0{ g**fb** Anfi6 elgG5 .



Joj :yfkG lj lw  
■ ; s] Dd /fh nfu**fb**]wfg afnInf0{alpsf] ; kdf k**fb**





Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw

gugl. olb pQmalp kofih ug{kgePd f alp 5g{eGf cufi8  
6f0{ f0\$nfhfh -lad &^ 8An= kE\_ gfdS lj iffbL !-!-% ufd

klt lsnf]alpsf]b/n]pkrf/ u/] /fkg].

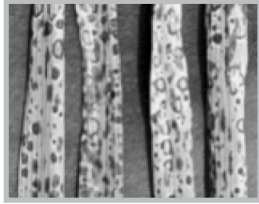
- /fih lg/fvs hftx? nufpg].
- wfg sf6] vtdf /xg uPsf /fihL76fx? hnfP/ gi6 ug].
- gf06fhgoQmdnsf]dfq a9Lkofih gu/Ll; krf/; cg'; f/ gf06fhg; kmkrf/; / kff; sf]kofih ug].
- vtdf kfgLhdfo{/fvG]
- Ol8knjkm -lxf] fg %) Of; E\_ lj iffbL !-% dEnE klt ln6/ kfgldf ld; f0{!% lbgf]kmsdf @# k6s 5sg].

@= v}f]yfh]-afpg lnkm:k6\_

/fihsf]lhj fof M*Bipolaris oryzae*

nIf0fx?

Kftdf ; lkOf(efu 9fSg]cfsf/sf nldrf c08fsf/ dl; gf uf9f v/fg]  
/usf yfhf byf k5{. kl5 uP/ oLyfhf?sf alrdf v}f]cyjf uf9f  
v/fg]/u / afix/kl\$af6 xNsf kxhf]jf xNsf v/fg]/un]3]/Psf]  
xG5 . w})k\$fk ePdf wfg 5fkg]e! / wfgsf]u\$fd klg xNsf snf]  
/usf yfhf byf kg{; S5 .



Loj :yfkG lj lw

- /fihLvt]sf]kfgLlg/fihLvt]df gnufpg].
- of]/fih lj z}f u/] dnhn gku\$]cj :yfdf xg]xlf plrt dfqf / pkoQm; dodf dnsf]kofih ug].
- of]/fih alpaf6 klg ; g{ePsfh]Puff] fg lh-Pgj f j }eli6g

Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw

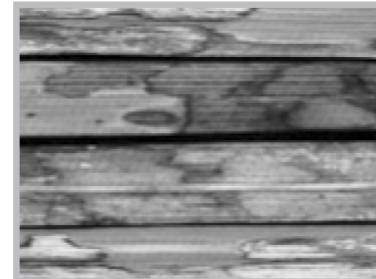
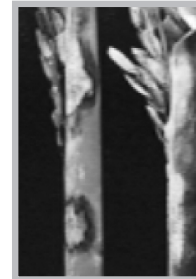
@% ufd cyjf 8f0y}g Pd \$% jf 8f0y}g h\$ &\* tlg ufd  
klt s}hLalpsf b/n]alp pkrf/ ug].

- l; Ff0 ePsf]7fpdf r} dlxgfsf]z?df g]; krf/; ul/Psf pGt hftsf wfg? /fkg].
- Anf06S; @ ufd jf d{sfh] -8f0y}g Pd \$%\_ lj iffbL# ufd klt ln6/ kfgsf]b/n]ld; f0{!% lbgf]kmsdf # k6s 5sg].

#= Kftsf]knh 89j f /fih M*Sheath blight*

/fihsf]lhj fof M/f0hf\$6fg]lof ; fhfgL (*Rhizoctonia solani*)  
nIf0fx?

Kftsf]knhdf c08fsf/ yfhf? b}vG5\hg kxnf v}f]v}f]xl/of]  
/usf xG5g\ kl5 oLyfhf?sf]cfsf/df j} e0{afsf/sf aG5g\  
hgkl5 uP/ v}f]/udf kl/Of xG5g\ 9'; Isf] snf] luvf? -  
Sclerotia\_ byf kb\$ . k\$fk a9LePdf oLyfhf? af\$sf]dflyNf]  
efudf ; b}kftdf ; dt kl5g\ k/}kft 895g\ km:j?k k/}af\$  
89\$]h:tf]b}vG5 .



Loj :yfkG lj lw

- ▶ l; krf/; cg'; f/ gf06fhg dn kofih ug].
- ▶ sfa\$fhhd -j}eli6g %) kltzt\_ jf 8f]f] fn %) kltzt 8An=kE\_ 9l; gf; s laiffL !-% ufd klt ln6/ kfgldf ld; f0{ !)-!@ lbgf]kmsdf @ k6s 5sg].
- ▶ pGt hftsf]wfg /fih af\$ b}v af\$sf]b/L a9fpg].



Knfi6s 6}g; {L/ wfgdf kf/f; l6Ë /fkf0}lj lw

\$= knh slxg]/fñ (Foot rot)



/fñsf] hj fof Mknm hñ/od dfglnknñ} (Fusarium moniliforme) nIf0x?

v}df /fñL la?jf cñh]gxp] kxñg]/ cGtdf knh slxP/ db5g\ slxn\$ ÆL /fñL af\$sf]tñf] cñh] af\$ h/fx? ; d} lg:sG5\ Joj:yfkg lj lw

- of]/fñ alpañ ; g]ePsfñ]/fñL af\$ ePsf]v}tañ alp ; sng gug}.
- sfa(8ñhd j}eli6g %) kltzt\_jf 8f]f] fn %) kltzt 8An=K= 9l; gf; s ljiffbL@ ufd klt lsn]alpsf b/n] pkrf/ u/LAof8 /fVg].
- v}df of]/fñ byf k/df dñy pññ]vt ljiffbL@ ufd klt ln6/ kfgldf ldnf0{5g}.
- /fñu}t af\$? pvn] gi6 ug}.

%= AofS6]/ofsf]kft d?jf -AofS6]/on lnkm]ñf06, Bacterial leaf Blight)

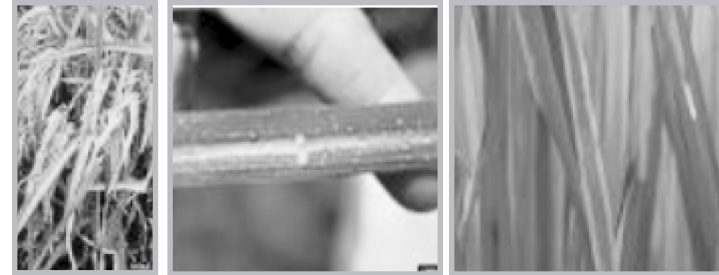
/fñsf] hj fof Mñfçfñfç; cf/f0hL cf/f0hL -Xanthomonas oryzae pv.oryzae)

nIf0x?

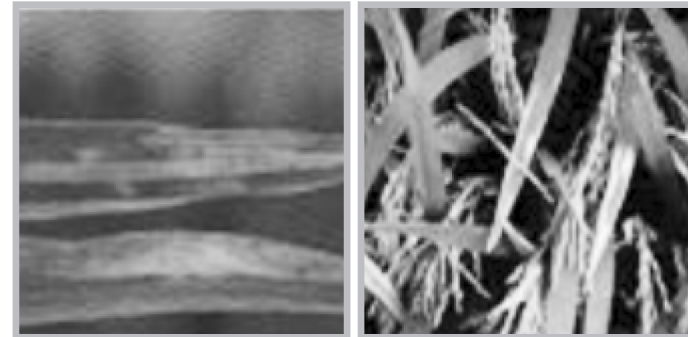
of]/fñsf]nIf0f kftdf a9Lbyf kb5 . kftsf]lsgf/f jf sg}efuañ kfgln]leh\$]h:t]ñdf cw[kf/bz\$ nfd]kxñ]f]j v}f]/Ësf w, f? b]vG5\ oLw; f? kl5 uP/ nDaf0{cyjf rf\$fo{ba}t/ a9b5g\ kl5 k'}kft a6ñ/P/ ; Sg]/ o; sf]k\$ñk uñdf klg b]vG5 . of]/fñ

Knfi6s 6}g; {L/ wfgdf kf/f; l6Ë /fkf0}lj lw

89j f g}xf]ls xñg egLhñg /fñLkftnf0{sf6} kfgLe/\$f]l; ; fsf] ðh; jf 6}6 6dadf grnf0{/fvdf sf6Psf]efuañ dl; gf w; f?sf ?kdf zfsf0x? kfgldf eng{yfn\$]ki6 b]vG5 . kftdf b]vg]nIf0f afx\$ of]/fñsf]csf]nIf0f af\$ cñfnpgh; nfo{qñ \$ cj:yf



elg5 . of]cj:yf vf; u/L/fkfo{u/\$f]b0{tIg xkf kl5 z? xG5 . of]cj:ydf zfsf0f af\$sf]k/}cftl/s kofñldf knñG5 . km:j?k k'}af\$ tyf uñ cñfñf0{dg{yñb5 . lj zifu/Lof]/fñ nfu\$]la?jf



kft 6kfañ ; s} db5 . . /fñu}t af\$sf]8fñf0{sf6L lgrñf} o; af\$ xñsf kxñ]/Ësf]b]o lg:sG5 .

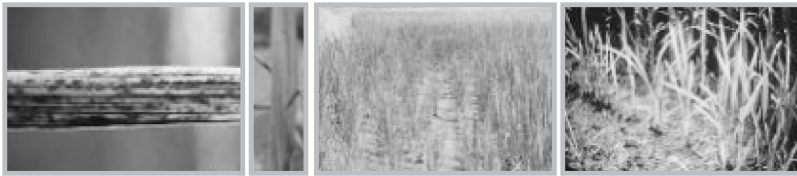
Joj:yfkg lj lw

- gf06ñhgoQmdn a9L kofñ gu/L l; knñ/; cg'; f/ /f; folgs dn xñg].
- lxn]Aof8sf]; \$f wh]Aof8 /fVg].
- la?j fnf0{; se/ 3fprf\$ nñlgaf\$ arfpg]h; n]ubf{oL

- zsf0fx? ; lhn} F affleq k:g ; Sb}gg\
- /f} nfu}sf] v}tdf s}L lbg kfgL ; 'sf0{ lbg} .
- Pludf0{ g !)) sf}) =% ufd kl}t ln6/ kfgLsf]er}h}d}f alpnf0{ #) ldg} ; Dd 8jfp/ alp pkrf/ ug} .

^= v}f /f} -Khaira Disease\_ nIf0f

of}/f} lh}sf]sdLePdf b}yf kb} . of}/f}sf]nIf0f k}pMwfg /fk}sf] !@!% lbgkl5 b}yf kb} . /f}Laf}sf]k}h}t/sf]cyff k/fg}kft



k}h}f]e0{dl; gf gzfx?sf]alr}df k}h}f}g b}lv} . o; sf ; fy}kftdf v}f y}k}fx? klg b}lv}G} \ lj :tf/}oL y}k}fx? a9} k/}kft v}f}/ /ft}x} h; sf]km:}j}k aff}df ufi y}kg}/ a9}q}rd /f}G} . Joj:yfkg lj lw

- ▶ wfg / pv'sf]3D}LafnLnufpg} .
- ▶ gf06}hg / kmk}f} ; dn l; k}f}/ ; dfqe}bf a9L k}f}h} gug} .
- ▶ nIf0f b}lv}Pdf s}L lbg; Dd v}tdf kfgL ; 'sfpg} .
- ▶ h:tf t}j}sf]sdLePsf]h}u}df !%-@) lsnf}ufd lh} ; N}k} kl}t x}6/ k}f}h} ug}t/ :d/Of/x} \ kmk}f} ; oQm /; fogLs dn / lh} ; N}k} Ps}k6s k}f}h} ug}x} . o; /L Ps jif}l}hs+; N}k} k}f}h} u/}f sD}Idf # jif} Dd k}f}h} ug} kb} .
- ▶ wfg /fk} ; s}k}5 nIf0f b}lv}Pdf % lsnf]lh} ; N}k}df @% lsnf]rgf ld; f0{!)) ln6/ kfgLdf 3f}h} agf0{kl}t x}6/sf b/n}!) lbg}sf]k}msdf @k6s 5s}g}!^^ ufd lh} ; N}k}df \*# ufd rgf ## ln6/ kfgLdf ld; f0{kl}t s}f} If}k}msf b/n}

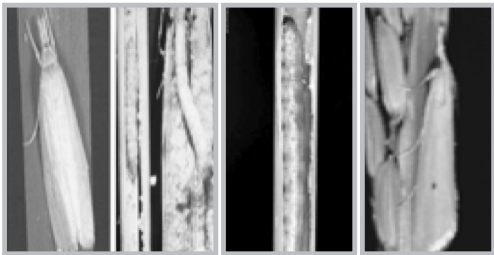
- !) lbg}sf]k}msdf @k6s 5s}g} .
- ▶ o; sf clt/Q}m}x}h}f]cfh ahf/df kf0}g}lh} lD:s:r/ @ ufd kl}tln6/ kfgLsf b/n} ldnf0{ 5g} ; ls}G} .

#=&@\_ wfgdf n}f}g} k}d}v sL/fx? / ltg}sf] Joj:yfkg != wfg}sf]uef/f}x?

S= k}h}f]uef/f}-Yello rice Borer\_ k}x}rfg}sf lr}G}x} o; sL/sf]j}o:s ktn}l}sf]nD}f0 !@ b}lv} ! ( ld=ld=; Dd / kv}f}sf] k}h}f}6 @} b}lv} #^ ld=ld=; Dd x}G} . o; sf]z/L/ k/fn}/u}sf]/ cl3N}f kv}f}x? k}h}f}/u}sf x}G}g\ k}f}Lktn}l}sf]oLb}j}k}v}f}x?df Pp6f-Pp6f ; fg}l}snf]y}k}f} x}G} . kl5N}f kv}f} ; }f x}G}g\ nfe}f} /u} l}k}sf k}h}f}x}G} . z/L/ lr}N}f}/ 6f}psf]x}N}sf k}h}f}x}G} . k}f} lj sl; t x}f} o; sf] z/L/sf] nDaf0{ !& ld=ld= ; Dd x}G} .

v= uhfaLuef/f}( Pink stem borer )

k}x}rfg}sf lr}G}x} o; sL/sf]j}o:s ktn}l}sf cl3N}f kv}f} v}f}/u}sf x}G}g\ kv}f}sf]nDaf0 kl} uf9f v}f}/u} k}h}Psf] x}G} . kl5N}f kv}f} ; }f /u}sf x}G}g\ . kv}f}sf] k}h}f}6 efn}ktn}ldf !^



Pink stem borer in the heart of paddy Yellow stem borer: causes dead heart

b}lv} @) ld=ld= k}f}Lktn}ldf @) b}lv} #! ld=ld=x}G} . nfe}f} /u} x}N}sf k}h}f}ah}g}Lcyj}f uhfaL/u} ldl; Ph:tf}x}G} . o; sf]6f}psf] v}f} x}G} / z/L/sf] nDaf0{ @) b}lv} @^ ld=ld= x}G} . If}tsf]k}f} / d}f}y} p}N}j}vt b}j} } lsl; dsf uef/f}x?n} Ps} k}f}/af6 If}t k}y}f}p}5g\ wfg}sf]uf}j}df }j}fn k}/} leq a; Lg/d efu vf}G}g\ la?j}sf]a9}g}efu t}N}f}txaf6}sf}l6lb}G}g\h; n}ubf}wfg}sf]la?j}f j}f uf}j} db} . olb wfg k}h}f}ah}f}df uef/f}n}fu}f}5 eg}; s}f}f}; }f}

-----Kñfi6s 6}g; {L/ wfgdf kf/f; l6Ë /fkf0}lj lw

afnf lg:sG . la?j fsf]slnnf]cj :yfdf cfsdOf ePdf dt ufj f -  
Dead heart\_ b}vGg\ olb la?j fsf]kin knG]cj :yfdf cfsdOf ePdf  
e! dfq ePsf]; }f]afnf -White head\_ b}vGg\

JoJ :yfkG lj lw

- k\$z kf; }f]dfWdaf6 jo:s ktnInf0{cfsif0f u/LdfgI
- uef/}f]lft sd ug{x/\$ jif{wfg sfl6; skl5 /x\$}; k0f{  
77f lgsfnLhnf0{lbG}j f 76f 8Ag]u/LkfgLk6f0{lbG}cyj f  
wfg sfl6; skl5 v}tnf0{hft}lbG].
- Ds/f, nfd f l; u}kñ0f<sup>a</sup>uf h:tf ldqh}j sf]; Af0f ugI.
- 6f0f}f]uf k/h}j LsL/f !),.)) klt x\$6/sf b/n]/fkf0{  
u/\$f]#-\$ xkf kl5 5f8g]. t/ oLk/h}j Isf]nflu kofit  
dfqdf uef/f]xg' kb5 .
- la=6 # ufd klt ln6/sf b/n]5sg].
- uef/}f]w}k\$fk ePsf]v}df sfafkn/fg -kn/f8fg #  
lh\_ bfgf lj iffbL! s}hE klt s}fsf b/n]v}df l5kl5k}kfgL  
hdfo{5gI. lj iffbL5/\$f]S lbG; Dd v}taf6 kfgLa}g lbG'  
xbg .

@= kñs }sL/fx? -Hopper burn in Paddy Crop)

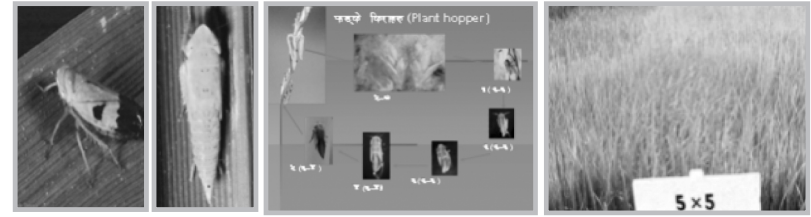
klxrfgsf lrGxx?

o; sL/fsf]jo:s xl/of]/u}sf]xG . efn\$}k}b\$ cl3Nf]kv\$fsf]  
alrdf Ps snf]waf xG / kl5Nf]efu 6kf]; Dd snf]xG .  
kfyIsf]/u klg xl/of]g}xG t/ o; sf]cl3Nf]kv\$fd sfnf waf  
xbg\ kv\$fsf]kl5Nf]efu uf9f v}f]xG . efn0f kfyLsL/f  
clns 7hf] xG . logsf] nDaf0{ \$ b}v % ld=ld=xG .

Iftsf]k\$f/

kñs }sL/fx?n}wfgsf]kft / kftsf cfwf/af6 /; r':b5g\ logsf]  
cfsdOfdf wfgsf la?j f/d/Luffg ; Sbgg\prf0{sd xG / wfgsf]  
p}kfbg klg 36g hfG . logsf]cfsdOf a9LePdf wfgsf la?j fdf  
afnf gnfuLk/fn h:tf]e0{af\$ ; s} db5g\

Kñfi6s 6}g; {L/ wfgdf kf/f; l6Ë /fkf0}lj lw-----



JoJ :yfkG lj lwM

- k\$z kf; }f]dfWdaf6 jo:s ktnInf0{cfsif0f u/LdfgI
- v}leq / j/k/sf]3ffx? x6fpg].
- #-\$ lbgsf]kmsdf v}df kfgIsf]; tx a9fpg]36fpg]/  
; }fpg]ug{k}b5 .
- dfs/f, df0/8 ju h:tf ldqh}j sf]; Af0f ugI.
- olb sL/fsf]cfsdOf a9LePdf ; leg %) kltzt # ufd  
jf /fu/ ! ld=dn= klt ln6/ kfgldf ld; f0{ 5gI.

#= wfgsf]kt}f](Gandhi bug) *Leptocorisa oratoria*

klxrfgsf lrGxx? M

jo:s kt}f]nfd]; hSs k/\$f/ v}f]f xl/of]/u ldl; Psf]xG .  
o; sf]nDaf0{!\$ b}v !& ld=ld= / r}f}f0{# b}v \$-\$ ld=ld= ; Dd



xG . aRrf kv\$}f]j lkg / xl/of]/u}sf]xG . jo:s / aRrf b}j  
sL/fx?sf]/u efn8}wfgsf]af\$; f ldNg]xgfn]oLsL/fx? efn} x}f}  
b}g ; lsG t/ ltlgx?sf]g/fdf]uGwaf6 yxf kfgp ; lsG . wfgsf  
af\$? xNhf}f oLsL/fx? p8g yfN5g\

Iftsf]k\$f/

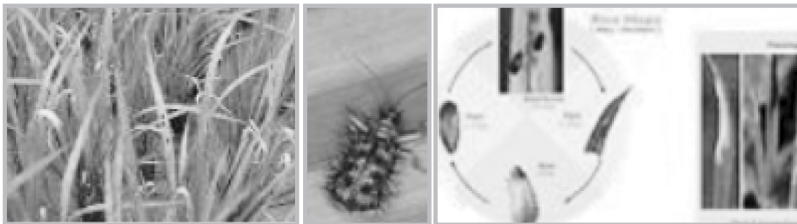
o; sL/fsf]dfp / aRrf b}j}wfgsf]kftaf6 /; r':b5g\h; n}ubf}  
af\$ kx}nG . wfgdf kin nfu}l5 oLsL/fx? afnftkñc}slift xg



\_\_\_\_\_Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw  
 yfN5g\ bfgfdf bW k; kl5 cfkngjltvf]; Sn]bfgmf0{5\$} leqsf]  
 bW r':g nfb5g\h; n]ubf{wgsf bfgf?df v}f]bfu b]vgj} bfgf?  
 knf] f xg]cyjf cfw knf] Psf bfgf xg]ub\$ / afnf glxg ; Sb\$g\  
 ; fy}o:tf]wgsf]af\$ uf0j :th]klg dg k/fp\$gg\ kt/fh]bW r'; L  
 cfw el/Psf bfgf?af\$ ag\$]rfdn ksfPk15 klg To; af\$ g/fdf]  
 uGw cfp\$ . kt/fh]r'; \$f]bfgfdf snf]bfu kj6 b]vG\$ . dfpeGf  
 aRrf kt/fx? a9Lxflgsf/s xG\$g\  
 Joj:yfkg lj lw

- ▶ k\$z kf; \$f]dfWdaf\$ jo:s ktnInf0{cfsif0f u/Ldfg]  
 ▶ v}leq / j/k/sf]3fFx? x6fpg].
- ▶ Ps}; dodf kf\$g]wgsf hftx? 5gf\$ u/L nufpg].
- ▶ of]sL/fsf]w}k\$fk ePdf sI6gfzs lj iffbLh:tM; leg  
 %) kltzt # ufd cyjf ; f0k/dlyg -cN6klyg @ ld=ln=klt  
 ln6/ kfglsf b/n]sg}Ps lj iffbLa?j /fd/LleHg]u/L5g{  
 kb\$ .
- ▶ af3]vk6]sL/f -Tiger beetle\_ sf]/Iff ugff]kt/f\$]  
 dfp / aRrf?sf]lzs/ ub\$ .

\$= wgsf]sf\$bf/ vk6]-lx:kf  
 klxrfgsf lrGx?  
 jo:s vk6]sL/f s/la %-% ld=d= nfd] glnf] snf]/usf]sf\$bf/  
 kv\$ ePsf]xG\$ .

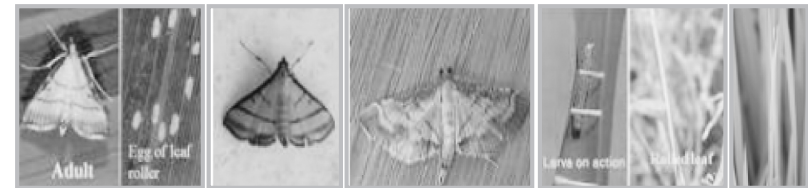


Iftsf]k\$f/  
 jo:s vk6h]wgsf]kft vfG\$ . kftsf]dVo gzfsf]; dfgfG/ ; f]  
 w; f\$? b]vG\$g\ clt cfsd0f ePsf kftx? ; f] b]vG\$g\ kl5  
 db\$g\ sL/f cTolws nfu\$]v}df ; Dk0{wfg ; s\$]b]vG\$ .

\_\_\_\_\_Knfi6s 6}g; {L/ wfgdf kf/f; l6E /fkf0lj lw\_\_\_\_\_  
 nfe\$?n]kftsf]leq-leq}xl/of]efu vfb}hfG\$g\ kftsf]6kft/  
 o; /Lnfeh]vPsf]7fpdf ; f] waf b]vG\$g\  
 Joj:yfkg lj lw

- Af8df 6Dd kfgLhdfP/ kfgldf pq\$ f sL/fx?nf0{hDdf  
 u/] gi6 ug{cyjf xft]hfnln]sL/f ; dft] gi6 ug{.
- dnflyofg %) kltzt @ ld=ln= sf b/n]kltln6/ kfgldf  
 ld; f0{k]ug{.

%= kft a?j f  
 klxrfgsf lrGx?  
 jo:s ktnIsf]z/L ; fgj]; hSs k/\$f]xG\$ . cl3Nnf]kv\$ f xNsf  
 v}f]/usf xG\$g\h; sf]5pk\$ u9f /u xG\$ / b0j 6f aEfl6E f w; f\$?  
 xG\$g\ kl5Nnf kv\$fsf]/u ; f]xG\$ . nfe\$]f]/u xNsf xl/of]xG\$  
 / z/L/sf]nDaf0{s/la !! ld=d= xG\$ .



Iftsf]k\$f/  
 nfeh]wgsf]kftsf]bj}5p dl; gf]; f]/7dLwufh]a\$ . o; /L  
 ag]sd kftsf]6kfa\$ z? xG\$ / of]a]\$f]kft leq nfeh]xl/of]  
 kbfy{sf] vfG\$ . o; /LvPsf]kftdf ; f] w; f\$? b]vG\$g\ kft  
 ; Sb5 .

Joj:yfkg lj lw  
 ■ ; leg %) kltzt # ufd cyjf l8df\$g !)) kltzt )-%  
 ld=ln=klt ln6/ kfgldf ld; f0{k]ug{.

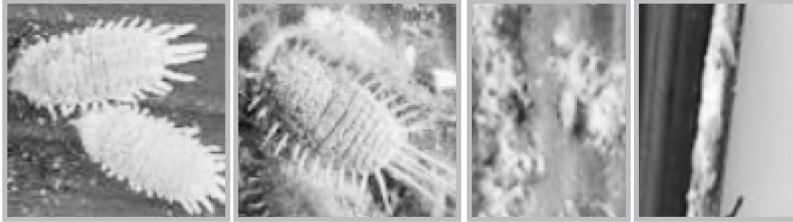
^= ldlnj u  
 klxrfgsf lrGx?  
 jo:s kfyLkv]j xg ; fg]uhf]L/usf]g/d, z/L ePsf]; f]d\$  
 h:tf]kbfyh]9f]sPsf]xG\$ / efn\$]eg]Ps hf\$ kv\$ f xG\$g\  
 \_\_\_\_\_#(\_\_\_\_\_



Knfi6s 6]g; {L/ wfgdf kf/f; l6E /fkf0lj lw

Ifltsf]k\$f/

kftsf]cfw/leq a; Lla?jfsf]/; r':b5, la?jf /fufp5g\ a9g  
; Sb5g\ lh^alu k/] kx]n5g\ la?j fdf afnf klg nfb5g / cGdf  
la?jf klg /fuf/ db5 .



Jo] :yfk] lj lw M

- ▶ v]af/L/fd/L; knfu//xg' kb5 .
- ▶ sfafkn/f]g ! b]v @ s]h]k]t x\$6/sf b/n]5g].

&=l/6x]sL/f

klxrfgsf lrGx?

j o:s vk6]rdlsnf]snf]/usf]xG . o; sf]z/L/sf]nDj f0{!%  
ld=ld= / rf]f0(& ld=ld=xG . o; sf]kv\$fn]k\$sf]clGd efunt0{  
9fs\$]x5g . o; sf v\$fsf lk8fhx? vf; u/] kl5Nnf hf\$] lgs}  
nfd] xGg\ dl; gf s8fx? xGg\ nfe\$]f]6f]psf]xNsf v]f]/ z/L/  
; ]f] xG . o; sf] 5fltdf tl]g hf\$] 5f\$] v\$fx? xGg\.



Knfi6s 6]g; {L/ wfgdf kf/f; l6E /fkf0lj lw

Ifltsf]k\$f/

j o:s / nfe]b]h]wfgsf]Aof8df / /fkf0{ul/; s\$]wfgdf cfsd0f  
ub5g\ oL b]d]f6]leq /xGg\ wfgsf]h/f / df6f]dlgsf]efu  
vfGg\h; n]ubf]la?j fx? db5g\ wfgsf]shnf]cj:yfdf of]sL/fx?  
nfb5g\

Jo] :yfk] lj lw

- wfg v]df kfgL; 'sfpg' kb5 .
- Snf]kf0/km @) O\$ E! Pd=Pn kl]t ln6/ kfgldf ld; f0{  
:k]ug{k]b5 .

\*=6]f6LsL/f

klxrfgsf lrGx?

of]Ps lsl; dsf]slyf]xf]o; sf]5fl]t 7hf]xG , h; sf]cfsf/ n]drf]  
gf; kftLh:tf]b]vG . o; sf]cuf]8sf]v\$]f d]f]xG / h; sf]cuf]8  
kl\$ g^auf xG, o; n]hldgdf vg] bhf]agf]p5 .



Ifltsf]k\$f/

j o:s sL/fn]wfgsf]la?j fsf]shnf h/fx? / hldgdlgsf]efu vfG  
/ la?j fnf0{hldgdl]g af6]sf6LlbG . o; sf]Hbfbf k\$]k ; Vvf Aof8  
/ kfgLhd]g g; s\$]v]df xG . kfgLhd\$]v]df eg]o; n]cfn  
5]psf]s]Lla?j fx? dfq gi6 ug}; Sb5 . la?j f uef/f]d/\$]h:tf]  
b]vG . v]tsf cflndf ]j fn kf/L kfgL c8g lbbg .

Jo] :yfk] lj lw

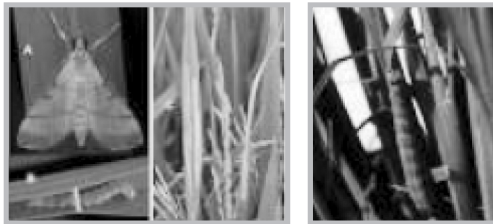
- v]df kfgL6Dd k6fpg].
- Snf]kf0/km @) O\$ E]j f kn]nyfog %) kl]tzt ! ld=ln=  
kl]t ln6/ kfgldf ld; f0{:k]ug].

(= wgsf en8 nfg}kfhLsL/f  
klxrfgsf lrGx?

jo:s ktnIsf]z/L/sf]nDj f0{!@ b}v !( ld=ld= xG / kv\$fsf]  
knfj 6 c6fhL #! ld=ld= sf]xG . o; sf]/u WfF]xG . cl3Nnf  
kv\$fsf]aIrdf Pp6f sfnf]ki6 wAaf xG / 5plT/ Pp6f afËf6Ëf]  
xNs/ /usf]wsf{xG . kl5Nnf kv\$fx? v}f /usf xGg\ k0f{kn]  
a9L; s\$]nfe\$]nDaf0{sl/a ## ld=ld=xG . o; sf]/u uf9f xl/ofdf  
cln kxhf]/u ldl; P h:tf]xG / lk7ddf klg c:ki6 w; f{x?  
xGg\ t/ logsf]/u ; do ; dodf abln/xG .

Iftsf]k\$f/

nfe{x?n]wgsf]kft vfGg\Hfb}sL/f nfu}f la?j fsf]xl/of]efu  
afEL /xbg . Aof8sf]agf{/ /fkf0{u/\$f] wfgdf logn] cfsdOf  
ub5g\ . ; fgf] la?j fmf0{ hldgsf] ; txb}v g} vf0}bGg\.

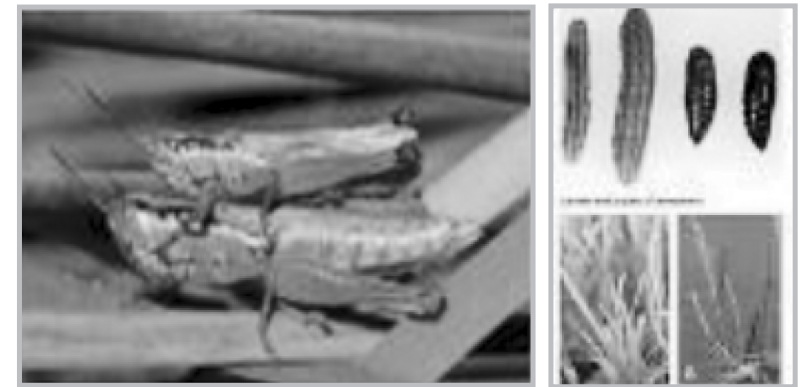
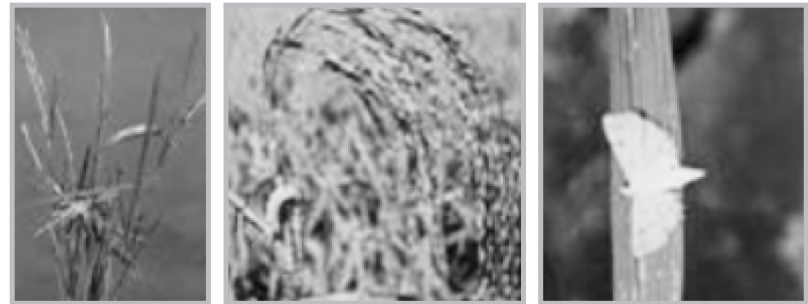


JoJ :yfkG lj lw

- ▶ v}df kfgLk6f0}bg'k5{.
- ▶ sL/fx? a9b}cufl8 uPlt/ ! b}v !=% ld6/ ulx/f]gfnf  
vG' kb5 / gfnfd kfgLnuf0}bg]jf lj if /flvbg' kb5 .
- ▶ oLsL/fx? nfu\$]v}df kfgLk6fP/ xf; 5f8Llbgfn]kgL  
s}L/f\$yfd xG .
- ▶ ; leg %) kl}tzt # ufd kl}t ln6/ kfgldf /fv] :k]ug}.

!)= wgsf]afnf sf6g}kfhLsL/f  
klxrfgsf lrGx?

ktnIsf]/u v}f]xG / cl3Nnf]kv\$fsf]aIrdf efudf Pp6f ki6 ; tf]  
yfkf xG . kl5Nnf]kv\$ v}f]/usf]xG . zL//sf]nDaf0{@} b}v  
#) ld=ld= / kv\$fsf]knfj 6 \$% b}v %) ld=ld= xG . nfe\$]f]/u  
xl/of]cyjf uhf]LxG cyjf f oLbj }/usf]ld; fj 6 h:tf]xG .  
z/L/sf]nDaf0{efudf dftvNnf]kl\$ rf/j 6f sfnf w; f{x? xGg\ aIrdf  
efudf Pp6f ; tf]w; f{xG . 6fpsf]v}f]/usf]xG . z/L/sf]nDaf0{  
#% b}v \$) ld=ld=xG .



Iftsf]k\$f/

nfe{x?n]wgsf]kft vfGg\ logsf]; Vof w})ePdf la?j fsf]8fF  
/ kftsf]dh g; f afx\$ ; Ik0f{efu vf0}bGg\ k0f}lj sl; t nfe{x?n]  
wgsf]afnf sf6b5g\ o; /Lafnf sf6kl5 v}df en8 x}f{uf0} :t'  
r/\$f]/ d; fn]vPh:tf]b}vG . wgsf]ufnf]tNnf]efudf nfe{x?  
ns/ a; \$f]b}vGg\

JoJ :yfkG lj lw

- wfg sf6kl5 vt hftlbg' kb5 .
- kfgLk6fpg' kb5 .
- ; leg %) kl}tzt # ufdsf b/n}kl}t ln6/ kfgldf ld; f0{ :k}ug{kb5 .

!= wfgsf]9<sup>a</sup>u]sL/f

klxrfgsf lrGxx?

jo:s sL/f nfdv\$]cfsf/sf]xG5 . kfyLsL/sf]k6 ki6 rldsnf]/ /ftf]/usf]xG5 t/ efn\$]eg]v}f]/usf]xG5 . logsf cf} f ; fg xG5g\ cuf8 kl\$ Itvfl/Psf xG5g\

Iftsf]k\$}

o; sL/sf]cf} fn]wfgsf]ufj fleq k; } la?j fsf]slnnf]a9g]efu vfg5g\h; n]ubf{ufj fsf]; a}0f dlyNnf]kftsf]cfw/ Pp6f glnsf] ?kdf kl/oft xG5 . of] sL/f nfu\$] ufj fdf afnf nfbg .



JoJ :yfkG lj lw

- wfg l56f]nufpgfn]o; sL/sf]cfsd0f sd xg ; Sb5 .
- vt}df 3fF em/kftx? a9g lbg' xbg .
- wfg sf6L; skl5 vt hftLlbgkb5 .
- dfinlyofg @ ld=ln= sf b/n}kl}t ln6/ kfgldf ld; fp/ :k} ugkb5 .

!@= wfgsf]vfh agfpg]sL/f

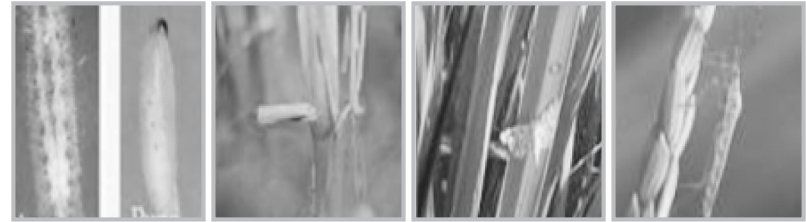
klxrfgsf lrGxx?

jo:s ktnL; fg]xG5 . o; sf]kv6fdf xNnf v}f]/usf afEfl6E

w; fx? xG5g\ nfe\$]nDaf0{sl/j !% ld=ld=xG5 . z/L xl/of]/usf] / 6fpsf]; Gtnf /usf]xG5 .

Iftsf]k\$}

jo:s ktnsf]nfeh]wfgsf kftsf 6sfx? sf6] vfh agf0{To; leq a:b5g\ kftsf]xl/of]efu sf] vfg5g\ sL/f w}nfu\$]la?j f sdhf] xG5g\ la?j f db5g\



JoJ :yfkG lj lw

- ▶ sL/f nfu\$]vt}df kfgL; 'sf0{lbg}.
- ▶ sL/f w}nfu\$]v08df ; leg %) kl}tzt # ufd kl}t ln6/ kfgldf ld; f0{ :k}ug}.

!#= wfgsf]k6}uf

klxrfgsf lrGxx?

jo:s k6}ufsf]/u xl/of]xG5 . efn]@% ld=ld= hlt / kfyL%) ld=ld= hlt nfd]xG5 . o; sf]5ftL/ lk7dE\$ @# j 6f snf w; fx? xG5g\ o; sf]k5f8sf]v\$fsf]tNnf]efu lgnf]xG5 . aRrfx? kv6}lj lbg xl/of]/usf xG5g\

Iftsf]k\$}

o; sL/sf]dfp aRrf bj h]wfgsf]kft vfg5g\ slxn\$fl logn] wfgsf]afnf; d} sf6b5g\

JoJ :yfkG lj lw

- r} azfvlt/ klxnf]em kfgLkg6Gf klxn]vt}af/Inf0{ hft]/cfnL leQf]vs}gn]k6}ufsf]k6}ufsf] k6}ufsf] k6}ufsf] gi6 xG5g\ .
- yf]I}kmdf eP xft]hfnIn]k6}ufsf]dfp / aRrf hDdf u/L gi6 ug}.



- dñfñyofg ! ld=ln= klt ln6/ kfgldf ld; f0{ :k}ug{.

!\$= wfgsf]lyk

klxrfgsf lrGx?

lyk x? Psbd}dl; gf sL/fx? xg\ logsf]z/L sl/a ! bly !%  
ld=ld= nfdl/ g/d xG . z/L/sf]/u uf9f v}f]xG . logsf]kvGf  
wfuf\$}erfn/ h:tf xGg\

Iftsf]k\$}

o; sL/sf]dfp arf bj h]wfgsf]la?j fñf0{sf] /; r:b5g\ o; n]  
ubf]a?j fdf ; f w; f}f wafx? blyGg\ cfqndOf clt ePsf kft  
bj}5pa6 dh gzft/ a6fl/G / 6kfa6 cf0nfp}hfc . wfgsf  
bfgx? ki6 xbgg\

Loj :yfk g lj lw

- ; leg %) kltzt # ufd klt ln6/ kfgldf ld; fP/ :k}ug{

; Gbe{; fdfuL M

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Trade and Export Promotion centre, Nepal 2069,

sñif j:tx?sf]cfoft lgoft ljj/Of @)^\*÷)^ (, sñif j:t' lgoft kj4g sfo\$  
sñif 4ñf; s klqsf, jif{MS! sñQs-dk /, c\$ S, cG/ñ60 wfg jif{laz]ff, @)^!  
sñif klj lw lgb]zsf, kñvjf; sñif sñb, wgs6f  
sñif klj lw k'tsM sñif ; rgf tyf ; f/ sñb, xl/x/ejg  
sñif 8fo/L@ &), sñif ; rgf tyf ; f/ sñb, xl/x/ejg

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Mbgf aG'k8h

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M@) # ( ; fn kñNug # ut]

hG :yfg

Mñftj fE-(, c3f/frL

:yfoL7ufgf

Mñftk/-^, slknj:t'

; Iks{7ufgf

MhNf sñif ljsf; sfoño, s-rngk/

; Iks{gDj/

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Miinabandu\_paudel@yahoo.com, dinspaudel@gmail.com

lziff

Ma-P:; EPhE; g^@)^ ^

tñnd

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- cf0qk=Pd=tñnd, @)^), s]Gp cf0qk=Pd= ; G/, ef/t
- eld{ sDkf]6,@)^), lhNf lj 1fg Snj, bj l/of, ef/t
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- Iftf clej] tñnd,@)^ Iñqo tñnd sñb; G/k/, sGrgk/
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sfofgej

- sfo\$ d ; Nñxf/ Mckh @)^ bly ; \$6Dj/ @)^ ^ ; Dd sñif axp2Zolo ; xs/L ; yfñ, dñtk/-\$, slknj:t'
- sfo\$ d ; ñhsMcs6f/ @)^ ^ bly lb; D/ @)^ & ; Dd sñif axp2Zolo ; xs/L ; yfñ, dñtk/-\$, slknj:t'
- sñif clwst Mhgj/L@)^ \* bly cS6f/ @)^ \* ; Dd ny/g ljZj kñf/] g-gkñ -lk-Pkñ8-cl= kñ\$6-sñfnL

klj lws

lb; D/ @)^ \* @)^% dk /\_ bly @)^ ( dk / ; Dd lhNf sñif ljsf; sfoño, a88L

klj lws

kñf @)^ ( bly xñ ; Dd lhNf sñif ljsf; sfoño, s-rngk/

k\$fg M

- fjufgldf xdf]gsf] kofñ, sñif 4ñf; s klqsf, @)^# kñNug-rñ, sñif ; rgf tyf ; f/ sñb, xl/x/ejg, nñtk/
- lrg eGf w} ugf ulnof] la?jf l:6lj of, sñif 4ñf; s klqsf, @)^ & sñQs-dk /, sñif ; rgf tyf ; f/ sñb,
- lrg eGf w} ugf ulnof] la?jf l:6lj of, efu- ! / efu- @, nDjgL /ñi6 bgs, lb; D/ % / ^, @)^ &
- uGf t/lo alp pñkg klj lw, @)^ MñdOf sñif tyf kz'ljsf ; yf gkñ, slknj:t'
- yfgo añsf]kññ, sñif hjs ljj wtf @)^ \* MhNf sñif ljsf; sfoño, a88L
- lrgsf]lj sñk l:6lj of Mñ]vñkq, zlgj / @)^ \*