

# jfg:klts lj?jf kzf/0f / o; sf lj lwx?

✍ clgnsd/ cfrfo{

kmlkthsf lj z4 afx? wj}lk9L; Dd pTkfbg ul/ /fVg jfg:klts  
klhgg Ps wj}dxTj k0f{tl/sf xf]. dfpj f0sf lj lzi6 u0fx? klit:yfkg  
u/ /fVg]oxl Pp6f dV0 klhggstl/sf xf]. o; tl/sfaf6 dfpj f0sf]  
sg}j fg:klts efunf0{cnllofP/ h/f jf xffif lgsfnl k/f j f0 agfpg]  
jf r:df afwL jf sndl u/l Ps p6gt hft agfpg]sfd ul/65 .  
o; sf lj lwx? M

## sl6<sup>a</sup> (Cutting)M

sl6<sup>a</sup>af6 klhgg ubf{dfpj f0sf]sg}Ps efu h:t}8fV, h/f jf  
kftnf0{sf6] h/f jf sf08 lj sf; xg]jftfj /0fdf /fvllbg'kb5 .  
sl6<sup>a</sup>sf ; j e6bf dxTj k0f{isl; d dlw]s8f / g/d u/l b0{k\$ /sf  
x65g\

## s8f sl6<sup>a</sup> (Hard wood cutting)M

s8f sl6<sup>a</sup>x?nf0{zlz/ jf lxp5sf]z?jftdf ; sng ugk5{ Itglx?  
!% blv \$% ; dl= nfdf]/ sd; \$d b0{cfrnf ePsf]xgk5{ sl6<sup>a</sup>nf0{  
h/f lgsfllg]cfjfwldf (Rootex) df 8j f0{t?6t g; {lsf]df6f0f uf9L  
lbg'k5{ cu/, clh/, Sj l6; / cgf/ h:tf wj}kmlkthx?sf]Jo; ; flos  
klhgg s8f sl6<sup>a</sup>af6 g}ug]rng 5 .

## g/d sl6<sup>a</sup> (Soft wood cutting)M

g/d sl6<sup>a</sup>x? kten8 lj?jfx?sf ev{sf slnnf xffifj f6 ; sng  
ul/65g\ Itglx? \*-!@ ; dl= nfdf]xgk5{ 6k\$ /sf]slnnf kftx? dfq}  
af6L /fv] c? tnsf Ps jf b0{k/fgf]5k\$ \_ kftx? lgsfllg'k5{.  
sl6<sup>a</sup>sf] kmlkthx?nf0{h/f lgsfllg]cfjfwldf 8j fP/ lgsf; /fdf] ePsf]

✍ n]ys jfuj fgl lj sf; clwsT, klk lj sf; s0b] ufbfj /ldf sfo{t xgk65 .

Jof8df /fkl kmxfjf kfglsf]kpfu ugk5{. cf?, gf; kftl, cf?j v8f,  
 :ofp, vkfgl, rjl, cfy/ / cu/sf sxl pgg hftx? / ltsf  
 dhaQnf0{g/d sl6<sup>a</sup>? kpfu u/l h/f lgsfln65 .



a M S8f sl6<sup>E</sup>

a M kft (Leaf) sl6<sup>a</sup>

b M CW{S8f(Semi hard wood) sl6<sup>a</sup>

b M kft]sf]knf (Leaf bud)sl6<sup>a</sup>

c M g/d sl6<sup>a</sup>

d M Herbaceous

knhsf ; Gbedf sf]g ; okql, s[Ofsnl, augel]hof, uhfkm  
 8/f66f, Solkof, kfl/hft, wkl cflb j f6x?sf]kzf/Of sl6<sup>a</sup>af6 tof/  
 ug{; ls65 .

**nbl/E j f ubl (Layering) ■**

af6sf]8f7af6 dfpj f6df 5B}h/f lgsflng]k\$6fnf0{nbl/E elg65 .  
 o; df lgDg pNnl]vt lsl; dx? ePsf]kfo65 .

**; fwf/Of nbl/E (Simple layering) ■**

a; Gtsf] z?j ft / ; ; Ktf cj :yfdf of] k\$6f ckgf065 . ! j if]  
 xf6fnf0{hldgdf nRsf0{df6f]j f c6o h/f cfp]ld>0faf6 5f]k65 .  
 t/ o; l/ 5f]6f xf6fsf]6k]efu hldg e6f dfly g}/flv65 . o; l/  
 6k]efu hldg e6f dfly /fvbf l; wf xg]u/l /flv65 . o; f]ugf6]  
 h/f lgsng ; lhnf]k5{ df6f]sl/j !% ; dl= hit 9fSg'k5{ df6f]  
 dlgsf]xf6fsf]efunf0{c8dfpg sf7, 3d\$]tf/ j f 9Ef kpfu ug{  
 ; ls65 . dflysf]6k]efunf0{l; wf jgfp] n7Xln]afw] u/fpg  
 ; ls65 . klxnf]lj?j f a9g]; dodf h/fx? lg:s65g\ csf]lj?j f

a9g]; dodf, a; 6tdf nϕ; 6f0{lgfInG5 . 7hf kft ePsf lj ?j fdf of]lj lw ckgf0G5 h:t}nfnlu/fF, Doflgf]nof .



; fwf/0f nϕl/É



sDkfpG8 nϕl/É

**sDkfpG8 nϕl/É (Compound or French or Serpentine layering) ■**  
of]; fwf/0f nϕl/<sup>a</sup> h:t}xf]t/ o; df nfd]xfEfx?sf]Ps efu hldg leq /fVg]/ csf]efu hldg aflx/ /fVg]sfo{ndaf0{cg' f/ ub}u0{w}lj ?j fx? tof/ ug{; lsg5 . leq /fVg]xfEfsf]efunf0{clnsIt rfϕ k'-ofP/ ; fwf/0f nϕl/Édf h:t}u/L df6f]h]9flsg5 . hldg aflx/ /flvPsf]x/§ xfEfx?sf]efudf Ps sf]knf xg' kb5 . x/§ ufl8Psf] efudf h/f lg:sG5 . o; lj wLaf6 w}lj ?j fx? Pp6}xfEfaf6 lgsfNg ; lsg5 . of]lj wl nfd] nlrnf] xfEfx' h:t}d; s]Bg cu'%, Jnl18<sup>a</sup> x6{/ c6o cgf0G6n nx/fx?df kof]u ug{; lsg5 .



oc/ nϕl/É



dfpG8 nϕl/É

**oc/ nϕl/<sup>a</sup> (Air layering) ■**  
; f6nf]alnof] Psgf; ]! j if]kmn gnfu\$]xfEfnf0{dfpaf6sf]?kdf ln0G5 . tnsf]l6:ohf0{c; / gkg]u/L @-% ; }dl= km/flsnf]ur]hf]

-/Ē\_ af0nf k/} lgsfln65 . To; l/Ēnf0{sf7sf] e; / em0fpn] 5fllk65 . To; kl5 kfllhlyg lknld jf knfli6sn] aly/65 . \$)-\$% lbgkl5 h/fx? kf/bz\$ knfli6s lknldaf6 bl/v65 . ^) lbgkl5 w7} h/.x? a65 . To; sf]!) -!% lbgkl5 h/f tof/ x65 . kfllhlyg lknld x6f0{em0fp / h/fsf]8Nnf0{glj uf/L ox/ n0; {lgsfln65 . To; kl5 ltglx?nf0{5f5fdf xf8llg<sup>a</sup> ug{/flv65 / nuftf/ kfgl xflngk5{ oc/ n0; f0{d0 lknldf /flg xg !@-!\* dlxgf nfu5 . of]lj wl chl/, cgf/, hunl :ofp, cf?j v8f, rfs; L, sfutl, lj ld/f] efu6] cflbdf k0f0 ul/65 .

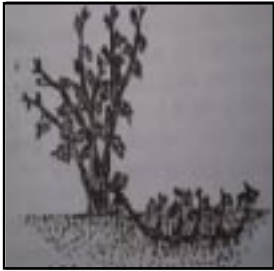
**dfp68 n0l/a jf :6ln<sup>a</sup> ( Mound layering or Stolling) ■**

lpx0df dfpj f0nf0{sl/j hldgsf]; tx; Dd g}sfll65 . j ; Gtdf gofF knj] fx? lg:s65g\ ol gofFs08x?sf]kn0df df6f]j f df6f]/ sf7sf] whf\$]ld>0fn]@)-@% ; 3dl=-; Dd 9fls65 . l9:sf]h0{h/f lg:sg kll; flxt ug{lehfo{/fv'k5{. lu|dsf]c0tolt/ h/f lg:sl ; s\$] xgk5{. lpx0df lj?jfnf0{cnllofP/ dhj 0sf] ?kdf k0f0 ug{ ; ls65 . of]lj wl :ofp, Sj l6; , cf?j v8f / cu/sf]j fg:klt s klhgg ug{k0f0 ul/65 .

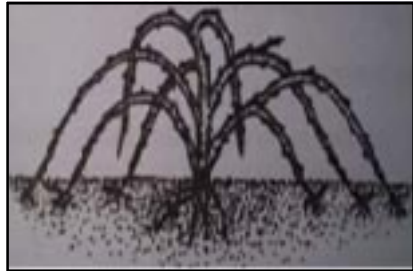
**6lr n0l/a (Trench layering) ■**

! j if]j f0x?nf0{g; {ldf #)-\$% l8ull sf0f agf0{nufpg]. It lj?jfx?nf0{Psgfz]nDaf0(df \$%-^); 3dl=df sf6l Ps l; hg a90 lbg]. a; Gtdf lj?j f a90' e6bf klxn] af0nf0{nRsf0{vfl8f\$] ; txd f-% ; 3dl=ulx/f0df\_ t}f]u/L /fv]. sdhf] ; xfos xfEfx?nf0{ ! ; 3dl=hit sfll6bg]/ alnof xfEfx?nf0{cln cln 6llk]sfll6bg]. vfl8f\$] ; txd f km/flsnf] kf/L xfEfx?nf0{ldnfP/ /fv]. sf7sf] ; xfotfn]dh 8f7nf0{hldgsf]; txd f c80fpg]. xfEfsf]c0tlt/ u cfsf/sf]tf/n]c80fpg]. sfllknf ; Gglg'e6bf klxn, @-% ; 3dl=hit df6f]j f ld>0fn]k/}9flslbg]. To; kl5 xfEfx? klxn]df6f\$] ; txd f

klg]ajhf xg nfulk15 c? @ ; ðdl=ld>of ykg]. dlw]u[d ; Dddf !%-  
 @) ; ðdl= df6f]k/)xfEfx?nf0{9fSg'k5{. a9g]; dosf]cGt; Dddf,  
 ; ; Ktf cj :yfdf, df6f]x?nf0{x6f0{h/f lg:sðf nð; f0{sf6l lgsfng'  
 k5{. h/f gcfPsf xfEfnf0{csf]j ifðf]nflu km]L /fvG ; ls65 . c?  
 jg:klts klhgg tl/sfaf6 ug{g; lsg]lj z]f u/L kmkkmhsf j fðnf0{  
 of]lj wl ckgf065 . h:t}cf]y/ .



6lr nðl/È



6lk nðl/È

**l6k nðl/a (Tip layering) ■**

o; nf0{k]s[ts klhgg tl/sf klg elg65 . u[dsf]cGtlt/ z?  
 ugk5{. nx/f cfPsf]6kknf0{df6f]dlg uf8g]. ufl8Psf]efudf  
 h/f / sf08 lg:s65 / gofFafð tof/ x65 . h; nf0{a; Gtdf c6oq  
 ; fg{; ls65 . of]lj wl em8lg]nx/fx?df h:t}Nofs j ]L / /f:kj ]ldf  
 ul/65 .

**j l8È -r:df afng]■**

j l8È egðf]o:tf]lj wl xf]h; df rflxPsf]hftaf6 cfVnf lgsfnl  
 dhj Qdf hf]l865 / Ps gofFafðdf kl/oft ul/65 . j l8Èsf]nflu  
 rflxg]; fdfgdf nflg]j l8È rSs', xfEjf 6 :j:y cfVnfxf?, dhj Q /  
 j l8È 6k j f knfli6s xg\

**cfVnfsf]5gfð ■**

jfg:klts cfVnfxf? 5flgPsf]hftsf]; ae6bf t]hnf xfEjf 6 5f6g'  
 kb5 . lzlz/ j f cfiff9df ug]j l8Èsf]nflu j l8È ug]; dodf xfn}  
 pdðf xfEjf 6 kft]cfVnfxf? 5gfð ugkb5 . a; Gtdf ug]j l8Èsf]

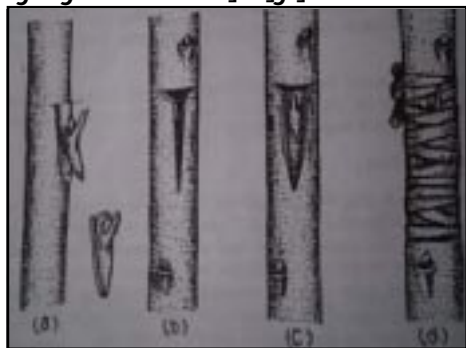
nflu ; ; kt j fofaf6 cVnf 5fG'kb5 / j l8E gul/P; Dd lr; f]7fpf e08f/0f u/L /fvG' k5{. ; s] Dd j 8x? ef0/; dQm afofaf6 ; sng ugk5{.

### j l8E ug]tl/sf M

gkfnf kten8 kmknth j fofaf6 j l8E ubf{tlg lj lw? h:t}æ6LÆ, ækofrÆ / ælrkÆ j l8E ckfg0G5 . tlG lj wl dW]6L j l8E cfy/, rRr] cfy/ / cu'df j fx\$ c? kmknthsf]nflu ; j e6bf nf\$lkp 5g\

### 6L j f lZn8 (T or shield) j l8E M

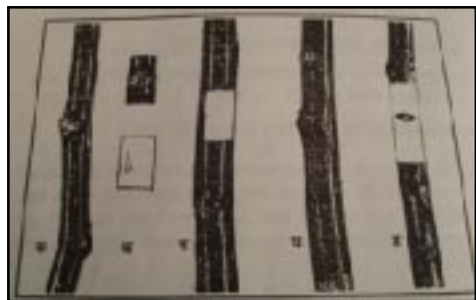
cVnf ePsf]xfEj f6 sxl j fofaf6 / kftnf]sf7sf] tx ; lxt Pp6f cVnf j l8E rSs'kpfu u/] lgsflnG5 . dhj Qdf æ6LÆ cfsf/sf]3fp agf0G5 . b0{kW dlGaf6 lj :tf/}afqmfnf0{pkSf0{cVnfsf]6qmfnf0{ kvdlG lj :tf/}3' fl/G5 . cVnfsf]6qmfnf0{cVnf g5flkg]u/L j l8E /j/ jf knfli6s 6kn]j l/G5 .



a : cVnf lgsflnPsf]  
 b : :6ssf]xfEj f6 6L cfsf/sf] 3fp agf0Psf]  
 c : b0{kW dlGaf6 lj :tf/} cVnfsf]6qmf 3' fl/Psf].  
 d : cVnfsf]6qmf /fv\$]efudf cVnf byf0{afWPsf].

### Kofr (Patch) j l8E M

cfy/ / rRr]cfy/ h:t afSnf]afqmf ePsf kmknth j fofaf6? kofr j l8E lj wlaf/f khgg ul/G5 . dhj Qaf6 j uf\$ / jf r tEhfsf/ 6qmf sf]6G5 . 7ls o:t}k\$ /n]rflxPsf]hftsf]xfEj f6 cVnf ; lxtsf] 6qmf lgsfln tnsf]lrqdf byfP h:t} dhj Qsf] vfnl 7fpf /fvG5 . clg cVnfsf]6qmfnf0{cVnf g5flkg]u/L j l8E 6kn] afWG5 .



s\_ kofr sfl6Psf]t/ glgslfnPsf]  
 cfVnfsf]6qmf  
 v\_ cfVnfsf]6qmfaf6 lgsfn]kl5sf]  
 cfVnf ; lxtsf kofrx?  
 u\_ j l8Esf]nflu kofr lgsflnPsf]  
 dhaQ  
 3\_ 7ls 7fpElf cfVnf 3'; fl/Psf]  
 a\_ afWl ; lsPsf] t/ cfVnfnf0{  
 g5fl]kPsf].

### lrk (Chip) j l8E M

lrk j l8E ; fwf/oftof cuw/, nk; L, uhfkm dGtnf kfhggsf] nful  
 kofl ul/G5 . u[dsf]cGtolt/ jf lzlz/sf]z?j ftdf gofFsf]knfx?  
 l5lkgf; fy of]sfd ul/G5 . tnsf]lrqdf byfP h:t}cfVnfsf]6qmfaf6  
 cfWf lgsflnG5 / df6f\$] ; txblv %-@) ; }dl= dfly dhj Qdf  
 3'; fl/G5 . clg o; nf0{j l8E /j / jf knfli6s 6lk]afWlG5 .



s\_ cfVnfsf] 6qmfaf6 cfVnf  
 lgsflnPsf]  
 v\_ cfVnf /Vgsf]nflu dhj Qdf  
 3fp kfl/Psf].  
 u\_ cfVnf 7fpElf 3'; fl/Psf]  
 3\_ cfVnfnf0{ 7fpElf /fvL  
 afWlPsf].

### sndl -uflkn6E\_ M

sndl eg\$]j fg:klts kfhggsf]o:tf]lj wl xf]h; df rfx\$]hftsf]  
 ; fog -sd; \$d ! j 6f cfVnf ePsf]snlsf]5f]6qmf\_ nf0{dhj Qdf  
 hf\$] Pp6f 56d}gofFaf\$] >hgf ul/G5 . sndl ug{cfj Zos  
 ; fdfg dlw]nflg]uflkn6E rSs'; dhj Q / s}L uflkn6E 6lk j f knfli6s  
 xg\

; fogsf]5gf6 / e08f/0f M

lxp5df c]Vnfx? zlfktfj :yfdf /x\$]f] ahf ef0/; /f]uj f6 dQm /  
; Ssnl hftsf dfpj f6af6 ; fogx? ; sng ul/G5 . ; fogsf 6bqmf?  
leh\$]f]em]pdf kf\$]f]kf/L sfuhn]a]l/G5 / kf]hlyg Jofudf /fvl  
sndl ug{tof/ geP; Dd ) l8ul ; N; o; df e08f/0f ul/G5 .

**sndlsf lsl; d M**

!\_ h/f\$]f]sndl Mof]sndl ^-!) ; }dl=ndf]; fogsf]6bqmf0{; f6m}  
h/f\$]f]6bqmf; u hf8l ul/G5 . of]3/ leq ul/g]xbgn]o; nf0{j }r  
uf]kn6E klg elgG5 .

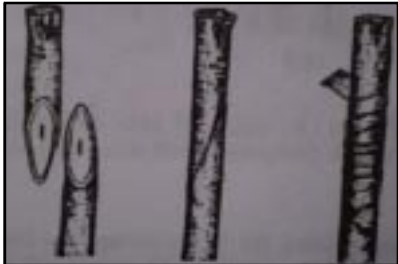
@\_ qrfpg uf]kn6E Mof]; fwf/0ftof j f6sf]qrfpg j f cln dfly ul/G5  
. qrfpg eg\$]f]df6\$]f]; tx; u\$]f]h/f / snlsf]; ud :yn xf]. qrfpg  
uf]kn6E w]h; f]cfy/ j f xn] fj bdf ug]ul/G5 .

#\_ 6k uf]kn6E j f 6k j l\$E M of]w]h; f]k/fgf]lj ?j fsf]hft knj{  
ul/g]sndl lj wl xf]. o; sf]tl/sf kl5 pNny ul/g5 .

**sndl ug]tl/sf M**

!\_ :knf0; (Splice) uf]kn6E M

of]lj wl l56f]hfl]8g]lj ?j fx?df ug]ul/G5 . lraqdf b]y]P h:t}p:t}  
lsl; dsf]58s]s6f0{; fogsf]tNnf]efu / :6ssf]dflyNnf]efudf  
lbg'kb5 . tl sfl6Psf efunf0{dnfP/ /fvl uf]kn6E knfli6sn]s; }  
af]lg' -leq xfjf l5g{gkfp]g]u/L\_ kb5 . of]lj wl ; 'ktfj :yfdf  
ug]kb5 . xf6fx? hf8l; s]kl5 af]w\$]f]knfli6s sf6] x6f0lbgkb5 . of]  
lj wl :ofp, gf; kftl, r]l cflbdf ul/G5 .



afofM :6s / ; fogsf]sfl6Psf]efu  
j lr M SoflDaod tx ldnfP/ 7ls  
7fp6f sfl6Psf]efu /flvPsf]  
bfofM uf]kn6E<sup>a</sup> knfli6sn]af]wPsf]

**@\_ x]k j f 6# (Tongue) u]k]E M**

of]; j eGb rNt]sf]sndl ug]lj wl xf]. ; fogsf]k]df #-% ; }dl= nfd] Pp6f le/.nf] s6f0{sfl6G5 . o:t} dhj Qsf] 6Kkfdf klg sfl6G5 . pN6f]lbzaf6 sl/j !-@ ; }dl=ulx/f]s6f0{k]L b#}; fog / ?6:6ssf]sfl6Psf]efusf]7ls jlrdf agf0G5 hf]6Kkfaf6 sl/j Ps ltxf0 hlt nfd]xG5 . ; fog / ?6:6ssf]sfl6Psf]; txd] lhj f] 3'; f0{ 7ls; # ldnf0{o; f]ubf]{SoflDaod (Cambium) tx rfx+hf]BPsf] xgk5{. clg o; nf0{u]k]E j f knfli6s 6]k]j ffwG5 .



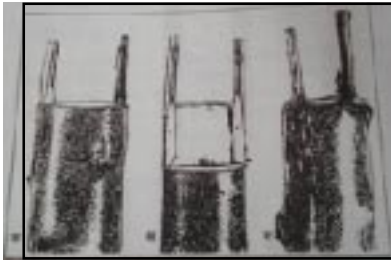
**x]k j f 6# (Tongue) u]k]E**  
 s\_ u]k]Esf]nflu ?6:6s / ; fog 7ls tl/sf ; # tof/ kf]/Psf].  
 v\_ ?6:6s / ; fognf0{ 7ls 7fp]f hf]L ldnf0{/fv}f].  
 u\_ k/f e} s}sf]sndlnf0{k]fli6sn] 6Dd kf/L afw}f].

**#\_ Sn]k] u]k]E M**

ktenB k]k]k] j f}df 6k j]sE ug]lj wl? d]Vb]Sn]k] u]k]E ; j eGb rN}f]lj wl xf]. of]; ; kt df} ddf ul/G5 . u]k]E ul/g] xffix? ; Dd kf/Lsg ; f]m]s/f]Ln]sfl6G5 . clg tn lrqdf b]fP em] sl/j #-% ; }dl=hlt ulx/f]lr/f kftnf]I5gf]k]f] ul/sg kf]/G5 .



**Sn]k] u]k]Edf k]f] ul/Psf]I5gf]**  
 s\_ ?6:6sdf lr/f kfg{k]f] ul/Psf] u]k]E cf]f/  
 v\_ ?6:6sdf agf0Psf]v]lnf lr/f h; df ; fogx? 3'; fl/G5 .



s\_ ; fogx? 7ls 7fpEf 3; fl/Psf].  
 v\_ :6s / ; fogsf SoflDj od txx?  
 s; /L hf]8Psf 5g\egL b]y/Psf]/  
 Ps 7fpEf ePklg SoflDaod hf]8of]  
 egl ; fognf0{cInslt aflx/ k66L  
 69f]kf/L /fv\$}f].  
 u\_ k/f ePsf]sndlnf0{dgn]9fs\$}f]



Sn]k]k ufk]k6Esf]nflu tof/ kf]/Psf]; fog  
 s\_ ; fogsf] tlnnf]6k]kdf k]k8lsf]cfsf/  
 sfl6Psf]; ; j eGbf tlnnf]c]v]nf ; fogsf]  
 aflx/ k66L 5 .  
 v\_ :6ssf]sf7df c8] nufP/ a:g]; fogsf]  
 5p . @ j f # c]v]nf eGbf a9L gePsf]  
 \*-!) ; }dl= nfd]f]; fogsf sf7x?nf0{  
 7ls k]k8L cfsf/df sfl665 . t]fsl  
 aflx/L efu leql eGbf s]xl km]flsnf]  
 xf] \

**\$\_ jfs{(Bark) ufk]k6E M**

j fs{u]k]k6Esf]nflu ?6:6snf0{s/f]ln]sf6} af]n]df r]Ssh]l]rqdf  
 b]y]P h:t}cInslt sf7df klg kg]ul/ lrl/65 .



s\_ tof/ kf]/Psf]; fogsf]  
 5p]sf]b[o  
 v\_ :6ssf]sf7df c8]  
 nufPsf]; fogsf]5p  
 u\_ v df b]y]f0Psf]7ls p]l6f]  
 ; fogsf]5p



s\_ af]n]f / sf7 5g]u/L agf0Psf]Ps  
 l; wf s6f0{  
 v\_ s6f0sf]7ls d]fly /flvPsf ; fogsf]  
 6q]fx? h; df l]Snk 7f]sPsf 5g\  
 u\_ k/f u/]\$}f]sndlnf0{dgn]9fs\$}f]

**%\_ ; f08 (Side) uḥkṁḂĒ M**

lṛqdf bḥfPem] :6:6sdf Pp6f 58s] s6f0{ l5gfsf] d2tāf/f  
 agf0G5 . ; fogsf]kṁḁdf Ps kṁf8l cfsf/sf]s6f0{agf0G5 . ; fog /  
 :6ssf SoflDj odtxx? /fd/L hf]ḡg] u/L 58s] s6f0df ; fognf0{  
 3' fl/G5 . lṛqdf bḥfP em]hfḡḂḂf dflfysf]:6ssf]efu sfl6G5 .  
 sfl6Psf ; j} ; txnf0{sndl ul/ ; sḁk15 k'}5flḡ' kb5 . @ ; ḁdl-eḂḂf  
 dfḡf xfḂfx?df ; f08 uḥkṁḂĒ ul/G5 .



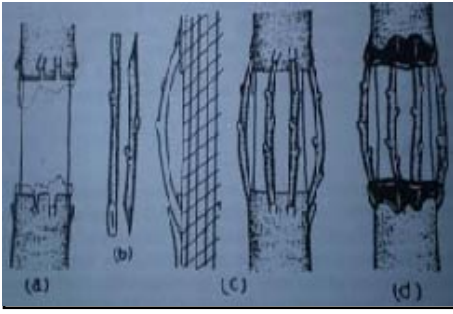
S\_ :6sdf l5gfsf]d2tāf/f Ps t}ḁf  
 s6f0 agfPsf]  
 v\_ tof/ kfl/Psf]; fogsf]@ b[0  
 u\_ 7ls 7fpḂf 3' fl/Psf] ; fogsf]  
 5ḁsf]b[0 . uḥkṁḂ dflfysf]xfḂf  
 sf6ḡ 6lḡPsf /ḥfn] ; s] u/ḥ:t}  
 ; fog 3' fl/Psf]7fpḂf]sḁl dflf  
 sfl6G5 .  
 3\_ 3' fl/Psf] ; fogsf]cuf8lsf]b[0  
 . ; fognf0{7ls 7fpḂf /flv ; sḁk15  
 sfl6Psf ; j} ; txdf dḡn]9fSḡ  
 k5{

**^\_ laḥ (Bridge) uḥkṁḂĒ M**

df6fḁf]txb]v 7ls dflf kṁkṁḁ afḡnf0{d' fn]8fḂdf rf/ḁt/af6  
 afḡnf sfl6 lbof] eg]jḁḥ uḥkṁḂĒ kḁḁḁḁf/f afḡnf0{ arfpg  
 ; lsG5 . kh aflḡ]b/L eḂḂf ; fogsf]nDaf0{cln a9l xḡk5{ . ; fog  
 / :6s jḡfpg]tl/sf 7ls j fs{uḥkṁḂĒ h:t}xf]. vfnl ; fogsf]b] }  
 5ḁ / :6ssf]6ḁkf / kṁḁ rflx+ṛq df bḥfP h:t}agfpg' k5{.



jḁḥ uḥkṁḂĒ lj wḁf/f 7ls 7fpḂf /flvPsf  
 ; fogx? jfs{uḥkṁḂĒdf aofḡ ul/P h:t}  
 rfḡ nfuḁf]7fpḂf tn / dflf hfḡḁ? tof/  
 kfl/G5 . ; fog 3' fl/Psf afḡnfdf /fd/L dḡ  
 nufpg'k5{ . ; fogx? ; w}cḁḁnf dflf kṁSḡ]  
 u/L 7ls tl/sf ; ḁ hfḡḡ' kb5 .

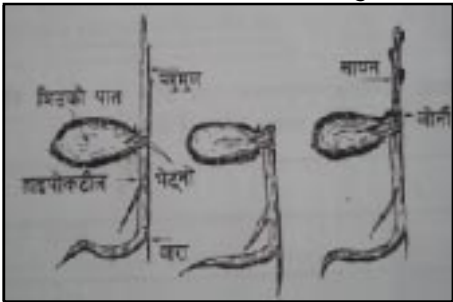


a Mlj u\$]xfE -sf65f6 klxn]/ kl5\_  
 b M; fogs] tof/L  
 c M; fognf0{hf\$}f]  
 d M; fog hf\$; skl5 dg nufPsf]

**& g; { 8 (Nurse seed) ufkM6E M**

of]kl5 dfq}j sl; t ePsf]lj wl xf]. of]tl/sfnf0{j }r (Bench), kfh]l j } (Poly beg), :6f} (Stone) / Olksf}fon (Epicotyl) ufkM6E klg elG5 .

jlp 7hf ePsf af{x?df h:t}s6', Per\$8f]/ cKdf g; { 8 ufkM6E lj waf/f khgg ul/G5 . jlp c\$ /f0; skl5 jlp sf] kft (Cotyledon) sf]e}df] (Petiole) nf0{jlp; u}sf]6G5 tfs] kft jlp leq}xf] \ . ut df}ddf pd\$]xfEj f6 ; fog tof/ kf/L knf8lsf] cfsf/df kn] It/ sf]6G5 / jlp sf] kft jlrdf 3' fl/G5 tfs] ; fogs] Sofldj od kftsf] Sofldj od; u /fd/L hf}Bof] \ ; l8 ufkM6x?nf0{ hf}G\$ ; }dl= hit df6]dgl kg]u/L g; {L Jof8df ; f}em/f]kG5 . o; lsl; dsf]sndl a; Gtsf]z?j ftdf ul/G5 .

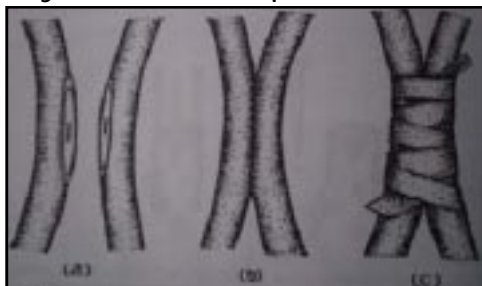


j fofFM ufkM6Esf] nflu tof/ kf/Psf]j lh'.  
 jlr Mxf0kf\$6lnnf0{ fogdf 3' f6 eGbf klxn]/ yfzlo 9un] sf]6Psf].  
 bfofFM ; fog 3' fl/Psf] To; kl5 af]wlbG].

**\*\_ Ogcfir{ jf Pk}r (Inarching or Approach) ufkM6E M cKdf M**

cKsf]kz}f/of k]oM Ogcfir{ lj wl ckgfP/ u/\$]kf0G5 . o; lj waf6 khgg ug\$] nflu sg}udnf jf knfli6ssf]y}hdf ?6:6ssf nflu

cfKsf sf0f /f]g' kb5 . lj ?j fsf]pd] Ps j if{kukl5 To; lj ?j fnf0{  
 p6gt hftsf]dfpj f0sf]sndl ul/g]xfEif ghhs}nu] bj }xfEif /  
 ?6:6s tyf lj h' lj ?j fdf a/fj / lsl; dn] tf5] sndl ul/65 .  
 sf0fx?sf]pd0]zl0m&) lbgdf nueu k0f{of gi6 xg]x0f kmaf6  
 sf0f lgsfn\$]Ps dlxgf leq sf0f /f]k; s\$]fxgk5{ Ps j if{k/fgf  
 sl/j \$)-^} ; 3dl= nfdflj h' lj ?j fsf]k0df hldgaf6 sl/j !@  
 b]v @@ ; 3dl=dfly wfl/nf] r\$sh]%-& ; 3dl= nfdfl] af0mf kftnf]  
 sf7sf]rk0f] ; lxt lgsfn65 . lz; f sndsf]df0f0{ePsf]xfEif  
 dfpj f0af6 5fgl lj h' lj ?j fdf h:t}u/] af0mf / sf7sf]rk0f]  
 lgsfn65 . ol bj \$f sfl6Psf efunf0{Ps cfk; df xfj f gk:g]u/L  
 /fd] 4 ldNg]u/L ?6:6s / ; fogsf]SoflDj od Ps cfk; df 6d\$S; 4  
 ldn\$]fxgk5{. o; /L j fWPsf ; fog / ?6:6s @-\$ dlxgdf Ps  
 cfk; df hf]865g\ sndl /fd] 4 hf]8Pk15 hf]8\$]tnaf6 ; fog /  
 dflyaf6 ?6:6snf0{qmls ?kdf sf6] x6f065 .



a M:6s / ; fogsf]hf\$g  
 sfl6Psf]efu  
 b M; fog / :6ssf]efu  
 hf\$]f]  
 c Mhf\$]f]efu afW\$]f]

0gcflr{ ug]p2]on]nufpg]dfpj f0nf0{g; {ldf z?b]v g}58\$]  
 kf/L ; fl/65 . h; n]ubf{sndlsf nflu ; fogx? hldgsf]; tx d]/xg]  
 xgfn]sndl ug{; lhnf]tyf sd vlr0f]x65 . o; lj wldf ztkl|tzt  
 ; kmntf ldNg]x0f of] lj wl Hofbf k'ngdf cfPsf]kf065 . af0  
 lj ?j fx?nf0{sndl ubf{tlj |?kdf a[4 ePsf]cj :yfdf ug]kb5 .

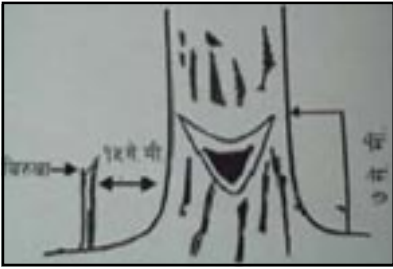
**; Gtnfj u0f M**

of]u]k06E lj wl ; Gtnf j u0f lj ulPsf j f dg{nfu\$] j f0x?nf0{  
 -h; sf]h/f lj le6g sf/0fn]sfd gnflg]ePsf] dd{ ug]sfo]jf  
 :j:y agfpgdf k0f] ul/65 . o; lj wldf /f]l lj ?j fdf klxn]ePsf

h/fx?nf0{ :j :y h/fn]lj :yfk g ul/G5 . o ; sfodf ; Gtnf ju df  
 tlgkft\$]h/f ?6:6ssf] ?kdf kof] ul/G5 . o ; nf0{g] sl kl g  
 elg5 .

**g] sl ug[tl/sf M**

; Gtnf / hgf/sf] j f g] g] h s } g] ul ug{ e6bf !-@ dlxgf c3L g }  
 tlgkft] ; Gtnfsf] lj ?j f / f] g' k5{.



**dfp] fdf ; xfos h/f lbg sf6L  
 t0f/ u/\$f]**  
 ; Gtnfsf] km] af6 u] km] E rSsh] |  
 df; ; Dd e0g] u/L # ; dl= hlt pN6f] |  
 lrqdf b] yfP cg' f/ -tnb] v dfyl\_ |  
 sf6g] -lj ?j f b] yfPsf] tlgkft] xf]

**; xfos h/f lbg sf6] t0f/  
 u/\$f] tlgkft\$] lj ?j f**  
 |tlgkft\$] h/faf6 !)-@) ; dl= dfyl  
 sf6] ?6:6ssf] knf] f gc] pg] u/L  
 sf] knfx?nf0{ rSsh] x6] pg] /  
 6kknf0{58\$] kf/L sf6L pN6f] k6&L  
 af] qnf leqsf] df; 'b] v] g] u/L @-# ; dl=  
 lrqdf b] yfP cg' f/ nfd] Dd t] f5g]



**; xfos h/f lb0Psf]**  
 pN6f] lj ?j fsf] km] sf] leql s8f efu b] v] g] u/L @-#  
 ; dl= nfd] sf6\$] tlgkft] lj ?j fnf0{ se/ b0] 5p; Dd  
 dl] g] u/L lrqdf b] yfP cg' f/ sf6\$] lj ?j df hf] g] /  
 ; 'tnlsf] 8] /ln] ?6:6s xnrn gxf] e6g] sf] nflu  
 af] g] / knfi6s 6kn] xfj fkg] l g] 5g] u/L 6Dd; u af] g]

**g] sl ; km e0{ gofF  
 h/fn] sfo{ug{ yfn\$] f]**

**lelgP/ (Veneer) uflkn6<sup>a</sup> / ; f08 uflkn6<sup>a</sup>sf]kn/s M**

; fognf0{?6:6ssf] Ps ; f08df NofP/ hf]8g] xBf of] tl/sfnf0{  
; f08 uflkn6<sup>E</sup> elgPsf]xf]. ?6:6ssf]; f08df "v" cfsf/n]sf6df  
To; nf0{lelgP/ uflkn6<sup>E</sup> elg65 eg]"L" cfsf/sf]sf6 lb0Pdf To; nf0{  
; f08 uflkn6<sup>E</sup> dfq elg65 . ; f08 uflkn6<sup>E</sup>sf]thgdf lelgP/ uflkn6<sup>E</sup>df  
a9L ; km tf kfpq ; lsg5 lsgls v cfsf/df ldNg]u/fpg ; fogdf  
klg bj lt/j f6 sf6 lbg'kb5 . o; f]ubf{; Dksdf cfpq]; tx a9L xg  
u0{cfk; df hf]8g]; Defj gf j 9b}hfg5 . st}st}uflkn6<sup>E</sup> ug]tl/  
sfx?df lelgP/ uflkn6<sup>E</sup>enf0{; j fQd egl pln]y u/}sf]kf065 .

**6k jlsE (Top working) M**

6k jlsEsf]nflu kmfugblv r0sf] t}f]xktf; Ddsf]; do pkoQm  
df]lg65 . gk]ndf 6k jlsE sfo{knk} hftsf]gf; kftldf clws  
ePsf]df6g ; lsg5 . 6k jlsE ug6f nflu klg<sup>a</sup>sf]; dodf 5flgPsf  
kl/kSj / lg/f]ul xEfnf0{hft cg' f/ 5bdf0{ g; Sg]u/L knfli6s  
cflbn]/fd]; t a]] /k]h/6/ j f lr; f]7fpBf ; 'lft /Vg' k5{.  
/k]h/6/ 5g eg]k/fn cflbn]a]] 3fdn]ge6g]7fpBf vf8n vg]  
; 'lft ; fy /Vg klg ; lsg5 . uflkn6<sup>E</sup>sf]k0f]usf nflu Ps ; fogdf  
rf/ cVnf kg]u/L k0l<sup>a</sup> s]l0f/f sf6b}hfg'k5{ of]; fognf0{d0df  
rf]kn] ; Vvf xgaf6 arfpq'k5{.

6k jlsEsf] ; dodf cfj Zos kg]Hofj nx? s]l, s/f]l, l5gf]  
vs/L, dg kufNg]efBf] 6fo/6b}], k6j f 8f]L, legln 6k -!) 0~r  
rf8f\_ cflbsf ; fy}loglx?sf] k0f]udf cfpq] a] , pbdfpg] 9Ef,  
l:kl/6 Nofdk, l:kl/6 jf cNsf]n cflb klg ; fydf xgk5{.

**tl/sf M**

6k jlsEsf]cy{?vsf]clnf]efu uflkn6<sup>E</sup> ug]geP/ hldgaf6 sl/a  
&) ; dl= dfly cyf]Ps jo:s k?ifsf]sdD/; Ddsf]prf0df ?v  
sf6g'xf]. dhaQaf6 xEef sfk]l/ x6bL/fv}sf]5 eg]Open center  
shape lbg ; lhnf]u/L xEfnf0{sf6} s]l j fB] /Vg' k5{. sf6}sf]

7fpƏf # b]v \$ j 6f ; fogx? hf\$g]. ufF, g]?:6:6ssf]?vdf hf\$g]  
 efunf0{%; ; dl= hitsf]nDaf0; Dd xg]u/L sf6g'k5{ ?6:6sdf eg]  
 sf6\$]dVdf ufkm6E rSsaf/f 7f8f]b0{r/f kfgI/ wfuf]/fv]h:tf]  
 u/L rSssf]Ps 5]pn]lr/f vf]g]. olt ubf{?vsf]afqmf ; lhn]; t  
 plksP/ cfp5 / oxl 7fpƏf g]tof/ kf/L /fv\$]f]; fog leq; Dd l5g]  
 u/L 3; fpg]/ To; kl5 6fo/6d] / To; dflyaf6 lelgn 6]kn]j lnof] u  
 a]lbg]. ; Vvf xgaf6 arfpgsf]nflu sf6\$]f]7fpƏf dğ bnlbg'  
 k5{. o:tf]ajhdf ; fog / ?6:6s hf]8Psf]7fpƏf dğ au] hfgfn]  
 callus sf]j gfj 6 aGg g; s] ; s] dg]; Defj gf xgfn]o; s/fdf  
 xf] k-ofpg' k5{. ?6:6saf6 5l6Psf xfƏfx? ufFg]7fpF?vsf]  
 sğdf kf/L /Vof]eg]elj iodf xfƏf tfG]sfd ; lhnf]xG5 .

### 6kj IsĚ kZrftsf]Joa:yfkg M

6kj IsĚ kl5 callus ?6:6ssf]sf6Psf]7fpƏf kOf{kdf gj ; Gh]h; Dd  
 leg]h 6k / 6fo/6d] Tolts}/xg lbg'k5{. slxn\$flx+rF8}g}ems\$]f]  
 klg b]vG5 . o; f]ubf{kofkt ?kdf ghf]8Psf]xg ; Sg]xgfn]ufF, Psf]  
 efu sdhf] xG5 .

kf/IDes j if\$]f]Joj :yfkg gofFknfP/ cfPsf]xfƏfsf] tfG]sfd /  
 /f]uls/fsf]/f\$yfddf s]b]t xg]xgfn]v]l Joa:yfkg klxnf]j ifhf0{  
 lng' /fd]xG5 . ; fy}sf]knf ePsf]; fog ufF, gfn]kf/IDes j if\$]v  
 kmn nllg]xgfn]o; nf0{/fd]cj ; /sf]?kdf xG]; IsG5 .



6k j IsĚ kZrftsf]b[o

## ; Gbe{uqyl M

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/Ht, dSGb/ kg, nldOf, klzifs Dofbn, lztfjOf kmknth, @) \$\* .

ufjd, bufdOf / 9sfn, bufdQ, kmknth tyf cBflus jfnL, @)%! .

kmf8/, ; Gtnfhft kmknthsf] knp slxg]/f]usf]kl/ro / lgoGqOf

ljwl, ; Gtnfhft afnl lj sf; zfvf, sltk' .

lu/L, lj iOf, l; dv8f, P=k=, ; ft]L ofdfgfsf / oOrl tf]dof; ;

; dlztfjOf kmknth v]L, @)%^

# j fg:klts lj ?jf kzf/0f / o; sf lj wlx?



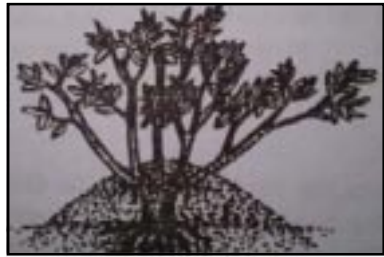
; fwf/0f nϕl/Ě



sDkfp68 nϕl/Ě



oc/ nϕl/Ě



dfp68 nϕl/Ě



6k jlsĚ kZrftsf]b[o



lrk (Chip) j|8Ě

s[if ; r'gf tyf ; -rf/ s[b|

**k\$fsz M**

g|fn ; /sf/

s[if tyf ; xsf/l dGqfno

s[if ; r'gf tyf ; -rf/ s|b|

**k\$fszg qnd M !-@)^\$-)^%**

kl:tsf qndM !

k[7 ; Vof M @)

k\$fszg k|t M^)))

**db\$M**

s[if ; r'gf tyf ; -rf/ s|b|

xl/x/ ejg, kNrf\$.

knrfg g=M%--%@%^!&, %-%@@@%\$\*

knrfS; g=(&&-!-%@@@%\*

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