

MiŕšKvj xb meir Pvl

evsj v`tk cãZ eQi cãq 56 nvrvi tn±i RiqfZ 284 nvrvi Ub MiŕšKvj xb meir Drcv`b nq (iuk`, 1993) | gj-Z: kxZKvj Afcŕlv MiŕšKvj LgB Kg meir Drcv`Z nãq _v`K | MiŕšKvj i cãvb cãvb meir ntjv t te_b, ugió Kgov, wst½, Kijv, Pvj Kgov, cUj, kmv, ayjy, wPw½v, KvKtjij, WwUv, cBkvK, tXcm, eievU I wewfbæaitYi KPzBZ`w` | MiŕšKvj 1jv Gicj t`tk 30tk tmtDaf chšl we`Z | MiŕšKvj xb meir mgra Dò I Av`cwitefk RššfZ mŕlg |

cw 5.1 Kgov RivZiq meir Pvl ugió Kgov



GB cw tkfI Avcib

- ugió Kgov Pvl i , iazjeyŕv Ki fZ cvi teb |
- ugió Kgovi Drcv`b tgšmg I Rj evqy Pwn`v ej fZ cvi teb |
- ugió Kgovi Pvl ver` cŕvj x wj LfZ I ej fZ cvi teb |
- ugió Kgovi mšMŕ I dj b m`fU eYŕv Ki fZ cvi teb |



BstI Rx big : Sweet Gourd
 `eÁmbK big : Cucurbita moschata

Kgov cwievfi meir mrg fni gta` ugió Kgov mefPfq , iazcyŕ cwimsl`vb eyivi wmwve Ablyqx 1995 mtj evsj v`tk cãq 10 nvrvi tn±i RiqfZ 62,000 Ub ugió Kgov Drcv`Z nq (we.we.Gm, 1996) | ugió Kgov wFwngb G I LwbR mgx |

Rj evqyRig I gwU

ugió Kgovi Rb` i` I Dò Rj evqycŕqRb | fvtjv dj tbi Rb` Kgcŕŕ Pvi gime`vcx 15⁰ t`tk 30⁰ tm. Zvcgvŕv I cŕž m`hP Avtjv cŕqRb | eb`vi cwib DfV bv A_P w`vk tbi mŕe`v i fãq Gi fc Rigi f`v-Avka gwU A_ev GfUj f`v-Avka gwU ugió Kgov Pvl i Rb` DcŕhvMx | ugió Kgovi Rb` mteŕEg A`jyvi Zi (pH) ntjv 5.5-5.8 |

RvZ

evsj v`tk mrvavi YZ `vbxq RivZi Avev` Kiv nq | Gf`i teiki fVMB Cucurbita moschata cRwZi Ašf` |

esk we`li

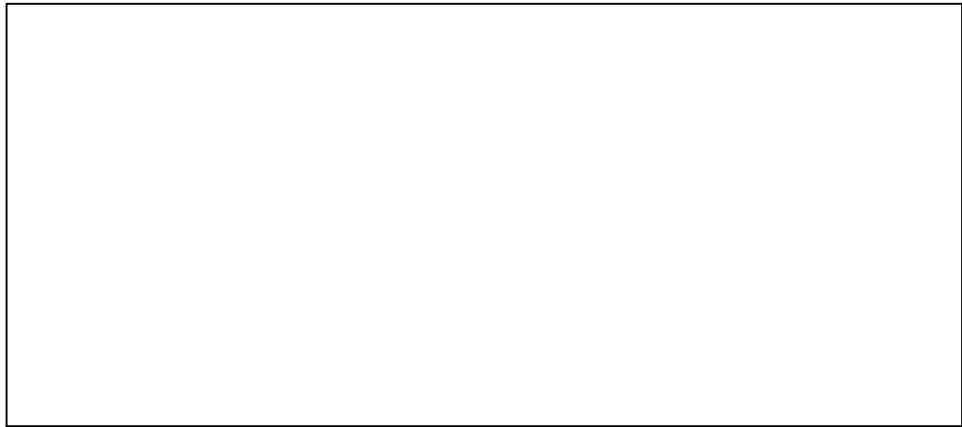
ugió Kgovi esk we`li mrvavi YZ exR ŕvi vB Kiv nq |

exR j m`bvi mgq

ugió Kgov Pvl i Rb` Gi exR `ekvL`R`o gvtm eŕfZ nq | Zte mrviv eQi B ugió Kgovi Pvl Kiv hvq | i we tgšmg Avk b-KwZŕ gvtm ugió Kgovi exR eŕfZ nq |

exRi cui gvY

uiguó Kgov Aveit` i Rb` cÜZ tn±ti 300-500 Múg exR cÜqvRb nq|



uPI 5.1 uiguó Kgov ecb c×uZ

Rug`Zui I exR ecb

emZ evotZ Aí cui gvY Pvl i Rb` Qvqvxb RvqMvq gv`v Kti exR j vMvZ nte| gvY Pvl i tejvq cÜtg Pvl I gB w`tq Rug`Zui Kti cÜZ tetW mmi±Z gv`v embtq gv`vq exR ebtZ nte| exR ectbi c×uZ uot`uPI 5.1 G t` Lvfbv nj |

mviw 5.1.1 uiguó Kgov Pvl i Rb` Rug`Zui I exR ectbi ubqg

Kvhfej x		cwi gvc/cwi gvY
tefWi AvKvi	cÜ `N ^e D`PZv	5-6 uq. Rugi `N ^e Abjviti 10-15 tm. uq.
cmb ub ^o vkb byj v	cÜ Mfxi Zv	30 tm. uq. 20 tm. uq
cÜZ tetW mmi i msL`v		2uU
cÜZ mmi ±Z gv`v `Zui i `i Z ₁		2.5-3.0 uq.
gv`vq exR ectYi Mfxi Zv		4-5 tm. uq.
cÜZ gv`vq exRi msL`v		3-5 uU
cÜZ tn±ti gv`vi msL`v		1600-1111 uU

gv`v `Zui Kivi mgq tMvei I Ab`vb` mti i teQvj tWvR cÜqvM Kti fvtjv Kti gvU i mti₂ ugvktq w`tZ nte| mvi I tMvei t`qvi 15-20 w`b ci exR gv`vq ebtZ nte| cÜZ gv`vq 3-5 uU exR ubavv Z Mfxi Zvq j vMvZ nte Ges MRvfbvi ci 2-3 uU mY I mej Pvl i ti±L evKx Pvl Ztj tdj ±Z nte|

mvi cÜqvM

tefW ev gv`vq ubtai mviw 5.1.2 tZ Dtj uLZ mvi ,tjv teW A_{ev} gv`v `Zui i mgq fvtjv Kti gvU i mti₂ ugvktq w`tZ nte| BDvqv I Gguc mvi Pvl MRvfbvi h_vvtg 20-25 I 40-45 w`b ci gv`vi Pvl w`tK uQuvtq gvU i mstM fvtjv Kti ugvktq w`tZ nte| Dcvi cÜqvM i ci nij Kv tmP t` I qv fvtjv |

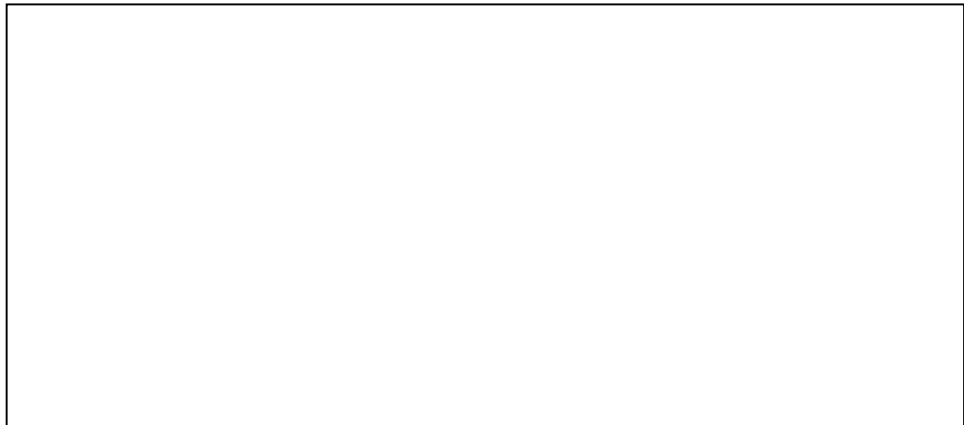
mviW 5.1.2 Kgov RivZiq dmtj mvi c0qvMi mgq I cui gwW

mfi i big	gvSwi DePv kiv ³ m ³ ubugvWU				mvi t`qvi mgq
	i we tgSmg		Lwi d tgSmg		
	tKwR/ tn±i	Mig/gv`v	tKwR/ tn±i	Mig/ gv`v	
tMei	5 Ub	-	5 Ub	-	teW`Zwi i mgq
	-	6 tKwR	-	9 tKwR	gv`v`Zwi i mgq
BDwi qv	130	-	130	-	teW`Zwi i mgq
	-	53	-	76	Priv MRvfbvi 20-25 w`b ci
	-	53	-	76	Priv MRvfbvi 40-45 w`b ci
uJ.Gm.wc	50	-	50	-	teW`Zwi i mgq
	-	78	-	112	gv`v`Zwi i mgq
Ggwc	50	-	50	-	teW`Zwi i mgq
	-	45	-	62	Priv MRvfbvi 20-25 w`b ci
	-	45	-	62	Priv MRvfbvi 40-45 w`b ci

Ab`wb` cui PhP

tmP I ub`wb`: i` tgSmg igwó Kgori t`qiz tmPi c0qvRb nq| wefkl Kti dj tdlvU Ges dtj i eix Ae`iq tmP GKvš/ c0qvRb| teWi 2 crtki bji v w`iq RivZ tmP t`l qv mveavRbK| elKvuj cwb ub`wb`bi e`v Kiv LyB c0qvRb|

evDbx t`qv ev gwltZ Lo weQtbv: RivZ ev emZ evotZ Kgov P/i mivavi YZ evDbx e`envi Kiv nq| evDbx Dci Kiv Ztj w`tj dj b teik nq I dtj i , Yv, Y fvtj v nq| wKš` evDbx`Zwi Kitz LiP teik cti weavq gvV dmj mrite j Zvfbv RivZi meiR (igwó Kgov) P/i Kivi t`qiz evDbx cwi etZ`RivZ avfbv Lo weQtq t`qv nq| dj aivi mgq dtj i ub`P wKyl o Kzlv weQtq t`qv nq hvZ dj gvU ms`utk`Gtm tivmuvš` bv nq|



uP 5.2 Kwi g cui Mvqb

Kwi g cui Mvqb: Kwi g cui Mvqb igwó Kgori Awak dj avi tY LyB mrvqK| Kwi g cui Mvqtbv Rb` fvi tejv (6-7 Uvi gta`) GKwU m` tdlvU cyal dtj i cui Mvqbx rivZ ubtq`x dtj i

Mf^gU Avj tZv fite 2-3 evi NtI w tZ nte (wP 5.2) | GKwU cjad dz w tq mvari YZ 10 wU x dz ciMvqb mae | ciMvqb Aek B mKvj 10 Uri gta tkl Ki tZ nte |
tcvKv gvKo`gb

tcvKvi bvg	Avμgb j 1Y I 1wZ	`gb c×wZ
K) dtj i gwQ tcvKv	tcvKv KwP dtj i Dcti i tLvmvi wfZi wWg cvto Ges wWg t tK Kxov tei ntq dj tLta b6 Kti Ges A t bK mgq dj ctP hvq	<p>1. w b w j w L Z KxU bvkK 600 wj Uvi cwb t Z w j t q 15 w b AŠi d m t j t u 0 Ki t Z n t e m w g w q b - 1125 w g . w j . / t n . A _ e v w W c t U 85 w p 560 w g . w j . / t n . A _ e v w W c t U s p 2250 w g . w j . / t n .</p> <p>2. Jla w t q G t c v K v i ` g b K i t Z b v c v i t j d z t d v U v i c e t t i K d j A t b K U v e o b v n l q v c h Š K v i c o A _ e v c w j w t b i t c w j v w t q t x t K w t Z n t e G t 1 1 K w l g c i M v q t b i c 0 q v R b n t e </p> <p>3. tcvKv aivi dU w t q t tcvKv aivi dU w t q t "Zwi Kivi Rb" cU t g c v K v K g o v K w P K w P K t i t K t U w b t Z n t e (w P 5.3) G i c i w W c t U 80 w p K x U b v k K J l a 5 M g c ų Z 100 M g w c l v t b v K g o v i m t 1 / 2 f i t j v K t i w g w k t q w e l t U v c Z w i K i t Z n t e D 3 w e l t U v c g w U i c v t t e v t k i L w d i m v n i t h 90-120 t m . w g . D P t Z R w g i w e f b e R v q M v q t e t a i v L t Z n t e t c v K v w e l t U v t c A v K o . n t e G e s c i e Z x t Z g v i v h v t e w e l t U v c c ų Z 3-4 w b A Š i e j w t Z n t e </p>
L) RvctcvKv	MrtQi cvZvi meR Ask Ges K w P K v t U i i m P t l t L t q b 6 K t i t q	g v j w w q b 57 E C (1125 w g . w j . / t n .) e v W w B t K w i v f m 100 E C (560 w g . w j . / t n .) 600 w j U v i c w b t Z w j t q t u K i t Z n t e
M) jvj Kgov w e l j	cY e q t c v K v c v Z v I d j t L t q t d t j t c v K v t j v K v U e v c v Z v i w b t P v t K	` g t b i m e t P t q m n R D c v q n t 0 c ų Z w b m K v t j t c v K v a t i t g t i t d j t Z n t e
N) Bw c j i v K b v w e l j	c b e q t c v K v I K x o v c v Z v i m e R A s k t L t q i a y c v Z v i w k i v e v t i t L t q A v μ v Š c v Z v i i w K t q g t i h v q	<p>1. W r q w R b b 60 E C 2 w g . w j . / w j U v i c w b t Z w j t q t u K i t Z n t e A _ e v</p> <p>2. g v j w w q b 50 E C 1125 w g . w j . / t n . 600 w j U v i c w b t Z w j t q t u K i t Z n t e </p> <p>3. n v Z w t q K x o v I w W g m s M h K t i ` g b K i v h v t e </p>

tiM evj wB

cvDWix wj wD: cvZvi Dcti mrv mrv cvDWi t Lv hvq hv cvZv b6 Kti t q | 2 Mg w E w f U A _ e v 0.5 w g . w j . w e 250 E C c ų Z 1 w j U v i c w b t Z w g w k t q t u K i t Z n t e |



ცუთვეი გჯიყბ 5.1

1. მზი ნტი ომღეს იგვი ნტი ოგოვი ლი

- K. იგვი კგოვი ზი ფილიპი ოგო ანაკ ცი გიყ _ვიკ |
- L. იგვი კგოვი პრილი რბი დხჟ ზი ცვიტი ნტი 20°-25° ტმ.
- M. ლი დ დტი რბი პი-ეკი ლ გიყმ ეკი ებ კი ზი ნტი |

2. კ ბი ბ ც იყ კი ბ

- K. ჯი ზი ბი რი ზი იგვი კგოვი პრილი რბი გკ გივი ტი კ აბი გივი ი ზი
..... ი ლი ზი ნტი |
- L. იგვი კგოვი პრილი რბი ტი ი ცი ზი ეკი რი ზი |
- M. კგოვი ეკი რი კი კი ი ფილი ავილი _ვიკ |

3. მიკ დეი ი ციკი უკი იყი (✓) ი ბ

- K. იგვი კგოვი პრილი რბი დი ზი მიკ გილი ტი ბი ბი ?
 - 1. ტი-ავი-გილი ტი-ავი
 - 2. ტი ტი-ავი
 - 3. გილი ტი-ავი
 - 4. ცი ტი-ავი-ევი გილი
- L. ი ი იგვი კგოვი ეკი რი ტი ბი გიყმ ებ კი ი ნი ?
 - 1. ფი-ავი
 - 2. ავი-კი-ზი
 - 3. ავი-ბი-ცი
 - 4. ავი-ბი-კი
- M. მივი იყ იგვი კგოვი დი ბ კი ?
 - 1. 10-15 ბი/ტი.
 - 2. 15-20 ბი/ტი.
 - 3. 20-25 ბი/ტი.
 - 4. 25-30 ბი/ტი.

4. გკ კი ევი ეკი დეი ი ბ

- K. იგვი კგოვი პრილი ვი ტი მივი მივი კი რი ცი გილი კი ზი ნტი ?
- L. გილი ტი კი კგოვი მიტი იკი ი ზი კი ?
- M. იგვი კგოვი დი ბ ევი ზი კი მი მივი ი ბი ზი ნი ?

cW 5.2 Kgov RvZiq meiR Pvl



GB cW tkI Avcib

- ⇒ Kukti vtj i , i azj eYb Ki tZ cvi teb |
- ⇒ Kukti vtj i Drcv b tgsmg I cwi tekMZ Pvn`v ej tZ cvi teb |
- ⇒ Kukti vtj i Pvl ver` cYj x ij LtZ I ej tZ cvi teb |
- ⇒ Kukti vtj i dmj msMh I dj b m`tU eYb Ki tZ cvi teb |



Kukti vj

Bsti iR big: Teasle gourd

eAmbK big: Momordica cochinchinensis

Kukti vj GKilU `vgx Kgov RvZiq dmj | Kukti vj AtbK i b chSf `rfweK Ae`vq msi qY Kiv hvq | cOZ eQi evsj vt`k t`tk D tj Lt h i M` cwi gvY Kukti vj ga`cOP` I hY i vtR` i Bmb nq | miv`uZK eQi , tj vtZ Kukti vj i Pvl ver` evsj vt`tki weifbaRvqMvq we`iz j vf Ki tQ | Zte eipbevoxv tRj vi m` i I AvLvdov `vbrq e`vcKfite Kukti vj i Pvl n`Q |

Rj evqyRig I gub

Kukti vj i Rb` Dò I Av`Rj evqycOqvRb | AvsukK QvqtZ Gi Pvl Kiv hvte, Zte cY` Avtj mKZ `vtb dj b teik nte | evsj vt`tk tKej Lm d tgsmgB Kukti vj RŠtbn m`e | eb`vgY Ges cmb i b`vk tbi mY`e`v AvtQ Ggb gvSmi DEzt`tk DEzRig Kukti vj Pvl i Rb` Dc`thiMx | t`v-Auk t`tk Gtj t`v-Auk gmltZ Kukti vj i Pvl fvtj v nq | Kukti vj i Rb` iKwAr Aazj gmlU (acid soil) fvtj v |



iPI 5.4 Kukti vtj i RvZ

RvZ

`vbxq Dbz RvtZi gta` Avmvgx, gubciy, gkz`ciy I gasiy D tj Lt h i M` | Avmvgx RvtZi dj , tj v mY` y tMvj vKvi I tetU nte vtK (iPI 5.4) | gubciy i dj j`tU I Atc`vKZ. iPKb Zte dj b teik i t`q vtK |

dmj i RxbKj

KvKti vtj i dj b tctZ c0q 200-270 w b j vtM|

esk we li

KvKti vtj i esk we li meifbac wZtZ Kiv hvq, thgb - K`gj, cKZ.exR Ges KvUo KivUs
0viv| mvari YZ K`g tj i mnvth`B esk we li Kiv ntq vtK| K`gj- 0viv esk we li LpB
mnR Ges GtZ gvZ, bv, bl eRvq vtK|

mvari YZ K`g tj i
mnvth`B esk we li Kiv
ntq vtK| K`gj- 0viv
esk we li LpB mnR Ges
GtZ gvZ, bv, bl eRvq
vtK|

cKZ.exR t_tKl Pvl cvl qv hvq Zte Gi AtbK Ampeav AvtQ| thgb- exR kZKiv 50
fvMl teik MRvq bv Ges MRvtbv exR t_tKl kZKiv 50% cjal MvQ nI qvi mpebr vtK|
KvUo kvLv tKtU I bZly MvQ Kiv hvq| Gt`T AMq Kiv Ges `GKiv cvZmn KivUs vbtq
Av`eI Qvqvq vt b evj yev nIj Kv gmvZtZ cZtZ ivLtj 15-20 w tbi gta` KivUs Gi tMvovq
bZly vkKo MRvte|

MvQ j vMvtbvi mgq

mvari YZ `P`- %ekvL gym t_tK fv`a Avkpb gym chSf KvKti vtj i Pvl Kiv ntq vtK| Zte
dvely t_tK `ekvL gym nt`Q MvQ j vMvtbvi DEg mgq| K`gj- t_tK Pvl j vMvtbvi Rb` D0
I Av`eI tek`i Kvi |

dvely t_tK `ekvL gym
nt`Q MvQ j vMvtbvi DEg
mgq|

extRi cui gvY

KvKti vtj Pvl i Rb` vba j vLZ QK Ablyvqx extRi K`g tj i c0qvRb|

K`gj	150 tKivR/tn. A_ev 1600-2500w K`gj/tn. `i Kvi nte c0Z`Kiv K`g j 15-20 tm.ig. j p`nI qv`i Kvi
K`g tj i msL`v	χ: 1440-2250w/tn. cial: 160-250w/tn.
K`g tj i I Rb	χ: 142.5 tKivR/tn. cial: 7.5 tKivR/tn.

Rvq `Zvi I K`gj- tvcY

vbtai QK Ablyvqx KvKti vtj i Rb` teW I gv`v `Zvi Ki tZ nte|

tefWi AvKvi	c0 %N ^e	45 tm.ig. Rvqi ``N ^e Dci vbfP Kti
bij vi AvKvi	c0 Mfxi Zv	30 tm.ig. 20 tm.ig.
gv`vi AvKvi		45 x 45 x 45 tm.ig.
c0Z tefW mvi i msL`v		2
`i Z _i	mvi t_tK mvi MvQ t_tK MvQ	200-250 tm.ig. 200 - 250 tm.ig.
c0Z tn±ti gv`vi msL`v	1600-2500 wU	
MvtQi msL`v	χ cjal	1440-2250 wU 160-250wU (tgvU MvtQi msL`vi kZKiv 5-10 fvM)

cjal MvQ χ MvQ j vMvtbvi
15-20 w b cte`g vMvtZ
nte, Kvi Y cjal MvtQi dZ
χ MvtQi dZ i 15-20
w b ci Avtm|

Dcti t`qv gic Ablyvxi MZ`Kti gv`v `Zvi Ki tZ nte (wP` 5.5)| gv`v `Zvi Kivi mgq
c0qvRbxq mvi, tMei, KxUvkk c0vZ gv`vq w tq fvj v Kti gmvI m½ vgvk t q w tZ nte|
gv`vq gvtS gvtS Af cwi gvY cvmb w tZ nte Ges gmvU brovPvov Kti Dveta q w tZ nte|

K`gj- j vMrbri 2-1 w`b AvtM tkl evti i gZ Avevi GKevi gwU tbtotPto w`tq nvj Kv tmP w`tj fitjv nte| gv`vq tMvei mvi w`tq Rwg `Zwi Kivi 10-15 w`b ci K`gj- j vMrbri mgq nq| K`gj- 4-6 tm.wg. Mfxti j vMtq SzSzv gwU w`tq tXtK w`tq Ges gwUj Dci avtbi Lo w`tq tXtK w`tZ nte| cjad MvQ Rngi avi w`tq j vMrbv fitjv| cjad MvQ `x MvQ j vMrbri 15-20 w`b cte`j vMtZ nte, KviY cjad MrtQi dz `x MrtQi dz i 15-20 w`b ci Avtm| cjad MvQ 15-20 w`b Ašli 2-3 w`Kw`tZ j vMtZ nte| KviY GKevti i j vMrbv cjad dz w`tq `x MrtQi me,tjv dz i ci vMqb m`e nq br|



WPI 5.5 Kukti vj j vMrbri cxwZ

mti i cui gvY I c`qM cxwZ (m`R Rvgb, 1992)

wbtai OtK Kvktitvj i Rb` c`qvRbxq mti i cui gvY I c`qM cxwZ Dtaj Kiv ntjv|

mti i bvg	ga`g DePvkw ³ m`ubwRwg		mvi t`qvi mgq
	tKwR/tn.	Mtg/gv`v	
BDwi qv tgvU: 300-400 tKwR/tn. 1g Dcwi c`qM cieZP c`ZwU Dcwi c`qvM i gv`v (mtev`P 6wU w`Kw`.)	-	20 25	Pri v MRvrbri 1 gym ci cieZP 25 w`b cici
wJGmic tgvU: 150-200 tKwR/tn. 1g avc 2g avc	100 -	- 50	tkl P`li AvtM gv`v `Zwi i mgq
Ggwc tgvU: 300-400 tKwR/tn. 1g avc 1g Dcwi c`qM cieZP c`ZwU Dcwi c`qM (mtev`P 6wU w`Kw`.)	- - -	50 15 14	gv`v `Zwi i mgq Pri v MRvrbri 30 w`b ci 25 w`b cici
mvi lvi `Lj tgvU: 500 tKwR/tn. 1g avc 2g avc	250 -	- 125	tkl P`li AvtM gv`v `Zwi i mgq
tMvei tgvU: 1500 tKwR/tn. 1g avc 2g avc	7500 -	- 4000	tkl P`li AvtM gv`v `Zwi i mgq

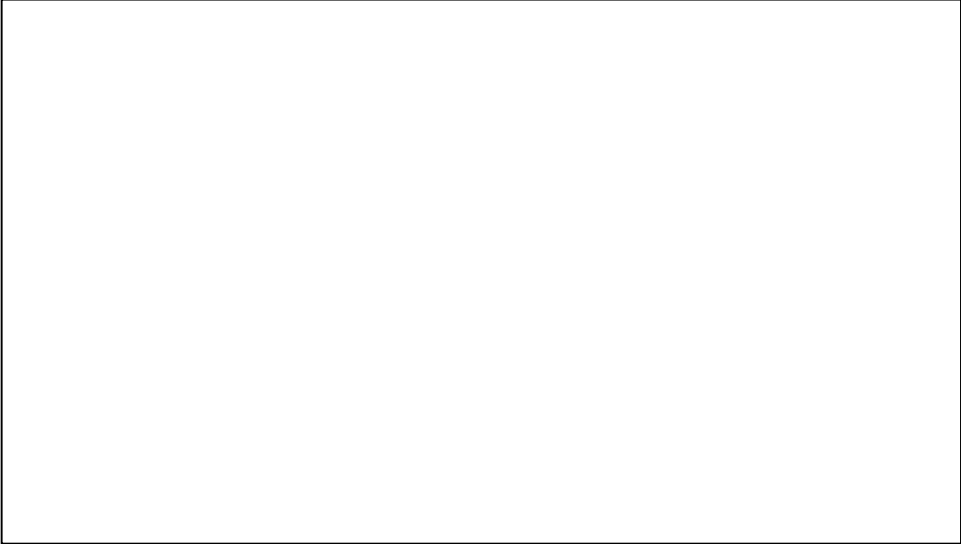
BDwi qv Ges Gguc mvi
gv`vi wKbivi q Pwi w`tk
c0qum Kti gwLi mt_
fvj vfvte ugukta w`tZ
nte|

BDwi qv Ges Gguc mvi gv`vi wKbivi Pwi w`tk c0qum Kti gwLi mt_ fvj vfvte ugukta w`tZ nte| c0g Dcwi c0qum c0Z 25 w`b cici cieZ P Dcwi c0qum Ki tZ nte| Gfvte fr`a 15 t`tk Avk`bi 15 chS| Dcwi c0qum Ki tZ nte| BDwi qv Ges Gguc mtii Dcwi c0qum gv`v Ges `0Dcwi c0qum gvSLv`bi mg`qi cv`R` (w`tbi msL`v) wbfP Ki te MtQi evo-evowZ I eqtmi Dci| wUGmuc, mwi lvi `Lj I tMwei mtii AtaR RigtZ I evKx AtaR gv`vq teQvj tWIR wntmte w`tZ nte|

th me dmj (jvj kvK,
WwlvkvK) Lg ZvovZmo eo
nq tmme dmj Kvktivj
MtQi `0mwi i gvtS j wMtq
evowZ Avq Kiv hvq|

Ab`wb` cwiPhP

th me dmj (jvj kvK, WwlvkvK) Lg ZvovZmo eo nq tmme dmj Kvktivj MtQi `0mwi i gvtS j wMtq evowZ Avq Kiv hvq| Zvovov Kvktivj MtQi gvPvi w`tP Qvqv cQ`Kvix gmjv dmj , thgb- Ar`vj vRbKfvte Pvl Kiv hvq (Rahim, 1995) (wP 5.6)|



wP 5.6 Kvktivj i gvtS Ar`vi Pvl

tmP I w`ukb e`e`v

tefwi `0v`tki biv vi miv`th` Kvktivj i RigtZ tmP t`qv mgeavRbK| Gme biv vi miv`th` mg`l RigtZ me RvqMvq mgfvte tmP Ges Rigt t`tk AwZwi³ cimb tei Kti t`qv m`e| dmtj i c`jiv RrebKv`j B cwibi Afive GovtZ nte| G Ae`vq gwLi i`mi me`0`ev`A`briq gvb 50%|

evDib t`qv

Kvktivj i MvQ 10-15 tm.wg. j`af`ntj B MtQi tMvovq GKw`tk tniw`tq etk A`ev Kiw`A` c`jZ w`tZ nte| MvQ hLb 50 tm.wg. j`af`nte ZLb 1.5 wgvUvi DEzgvPv w`tZ nte|

Kvktivj i GKw wfbemx
d`j i MvQ, A`w`x I
c`j`d d`j wfbwfbwMv`Q
nq| Kv`RB Kvktivj i
fvjv dj`tbi Rb` Kwlg
civMvqb `iKvi|

Kwlg civMvqb

Kvktivj GKw wfbemx d`j i MvQ, A`w`x I c`j`d d`j wfbwfbwMv`Q nq| Kv`RB Kvktivj i fvjv dj`tbi Rb` Kwlg civMvqb `iKvi (wP 5.7)| hw`l tgsgmQ 0vri civMvqb m`e Zte el`Kv`j tgsgmQ i Awak` Kg`v`K, GQvov KvUvkvK JIa c0qum d`j tgsgmQ i AvMgb K`tg hvq| GRb` Kwlg civMvqb mKv`j Ki tZ nte|

uitj dmj

AvfMB ejv ntqtQ, kxZKvtj Kvkktivtj i K>gj- gvuU i ubtP ubw`Gj _vtK Ges G mgq gvPvq Ab` dmj Pvl Kiv hvte| tm mgq Kvkktivtj i K>gj- b6 bv Kti H teW ev tKqwi tZ Ab` ime dmtj i Pvl Kiv hvq, GtK uitj dmj ejv nq (Rahim, 1995)| imng Zvi MtelYvq Kvkktivj MvQ KvUvi 1 gvm cte` kx mxtgi exR j vMtq kxtZ fvtjv dj cib|

Kvkktivtj i RxebKvj

Kvkktivtj i K>g j j vMvfbv t_tK dj tctZ c6q 200-270 w` b mgq j vtM|

dmj msM6 I djb

Kvkktivj hLb meRvf njt` nq ZLbB KvUvi mgq nq| mvaviYZ civMvqtb i 10-15 w` b ciB Kvkktivj tZvjvi Dchv nq| Gi dj b tn6i c6Z 10-20 Ub|



mvigg®

- Kvkktivj GKvU cy6Ki I A_Rix meuR| msi`Y Y tenk uearq GuU idZvb Kiv mnR|
- D6 I Av`Rj evqGes mvb`vktZ t`v-Avks t_tK GtWj t`v-Avks gvU Kvkktivtj i Rb` Dc`hvMx|
- dv6y-%kvL gvfm 2.5 ug. `ti `ti mmi Kti 2 ug. `ti gv`v`Zix Kti Kvkktivtj i K>g j j vMtZ nte|
- Kvkktivj GKvU wfbvnx MvQ uearq KvUg civMvqb c6qvRb| G j t`T` 5-10% cy6d MvQ, `x MvQ j vMvfbv i 15-20 w` b cte`j vMtZ nte|
- Kvkktivtj i gvPri ubtP Av`v Ges Kvkktivtj i tktl uitj dmj unmvte t`kx mxtgi Pvl Kiv hvte|
- c6Z tn6i 20-25 Ub Kvkktivj cvl qv hvq|



cwVwEi gj`iqb 5.2

1. mZ` ntj OmG Ges wq_`v ntj OmG`vj Lly|

- K. Avgv` i t`tk mvari YZ exRi Øvrv Kvktivtj i eskwe`li Kiv nq|
- L. Kvktivtj i Rb` Dò I Av`Rj evqyDc`thMx|
- M. Kvktivtj Pvl i Rb` SzSzi tetj gmlU cØqvRb|

2. iY`wb ciY Kiab|

- K. Kvktivtj GKwA_Rix`vqx dmj hv nq|
- L. Kvktivtj i K`gj- gvtm tivcY Kiv nq|
- M. Kvktivtj Pvl i Rb` RigtZ kZKiv fvlM c`jad MvQ_vKv DvPr|

3. mlK DEti i cwK wK wPy (✓) w b|

- K. gr`v c`wZtZ Kvktivtj Pvlver` Kiv ntj GK MvQ ntZ Ab` MvtQi `t-Z; KZ ivLtZ nte ?

- 1. 1-1.5 wqUvi
- 2. 2-2.5 wqUvi
- 3. 3-3.5 wqUvi
- 4. 3.5-4 wqUvi

- L. Kvktivtj i Kwlg civMvq`bi DEg mgq tKvblU ?

- 1. mKvj tejv
- 2. `gy tejv
- 3. we`Kj tejv
- 4. iwil tejv

- M. Kvktivtj i tn±i cØZ dj b KZ ?

- 1. 20-30 Ub
- 2. 20-25 Ub
- 3. 15-20 Ub
- 4. 5-10 Ub

4. GK K_wq ev evK` DEi w b|

- K. Kvktivtj i dj b evx`tZ Dtj L`thM` AšbZPcwi PhPwK?
- L. Kvktivtj i RigtZ Avšbmj wntmte tKvblai`yi dmj Pvl Kiv jvFRbK?
- M. Kvktivtj i wZbuU `vbxq Dbz RvtZi bvg wj Lly|

extRi cwi gvY

Zi gR mavi YZ mwi tZ j vMtvb nq | Gi Rb cŁZ tn±ti 850-1000 MŁg extRi cŁqvRb nq |

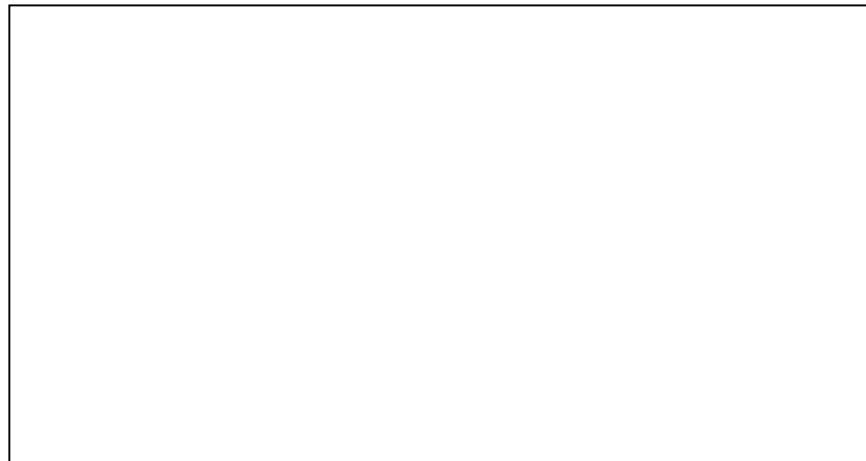
Ruġ Żwi I exR ecb

tefWi AvKvi	cŁ %N ^o	250-300 tm.ug. Ruġi ^N ^o Dci wbfP Ki te
bij vi AvKvi	cŁ Mfxi Zv	35 tm.ug. 25 tm.ug.
cŁZ tefW mwi i msL'v		2 uU
`i Z ₁	MvQ nŁZ MvQ mwi nŁZ mwi	200-250 tm.ug. 200-250 tm.ug.
gr`vi AvKvi	cŁ ^N ^o Mfxi Zv	45 tm.ug. 45 tm.ug. 45 tm.ug.
extRi msL'v	gr`vq mi vmwi ecb cij e'vM	2uU A¼wi Z exR 1uU A¼wi Z exR
cŁZ tn±i RuġtZ gr`vi msL'v		1600-2000uU
extRi cwi gvY	mwi Kti eġv cij e'vM	850 - 1000 MŁg/tn. 200 - 300 MŁg/tn.

exR ecb ev Priv j vMtvbvi
2-3 mBvn AvtM gr`v ^Zwi
Ki tZ nte | gr`vi gnuU
mvŁ teQvj mvi I tMvei
fvŁj v Kti uġukŁq wbtZ
nte |

exR ecb ev Priv j vMtvbvi 2-3 mBvn AvtM gr`v ^Zwi Ki tZ nte | gr`vi gnuU mvŁ teQvj mvi I tMvei fvŁj v Kti uġukŁq wbtZ nte | `i Kvi ntj nuġ Kvfvte cwb tmP w tZ nte | GtZ Kti mvi tġv fvŁj vfvte cŁP gnuU mvŁ uġtk hvte | gr`vi gnuU gvŁS gvŁS DweŁq w tZ nte Ges exR ev Priv j vMtvbvi 2-3 w b AvtM tkI evŁi i gZ Avevi gnuU tbtw w tZ nte | w tbi tkŁI ev weŁKtġ i w tK 2uU A¼wi Z exR wbaŁŁi Z Mfxi Zvq j vMtvq w tZ nte | exR A¼wi Z bv ntj cŁZ gr`vq 4-5uU exR j vMtvZ nte Ges MRvevi mgq gr`v cŁZ 2-3uU Priv ti ŁL evKx tġv Zġ tġj tZ nte | AvM tgŠmŁg exR eġtġ gr`vq LoKŁv w tġ tXŁK w tġ exR `Z MRvte |

`ġfvte exR MRvŁv hvq | GKuU _vj vq ev KvŁVi mgZj tUŁZ eviġ wbtq Nb Kti exR eġb eviġ cwb w tġ wfvŁRtq w tZ nte | A_ev exR tġv 24 NsUv cwbŁZ wfvŁRtq i vLġj extRi A¼Ł tewiŁq AvmŁe | exR gr`vq I cij w_b e'vM eġvi ev j vMtvbvi AvtM Gfvte exR MvŁtq tbi qv DEġ |



ZiġR Pvl mŁii gvŁv I cŁqM (Ruġub, 1992)

wPI 5.8 ZiġR ecb cŁwŁZ

c0qM c×iZ	mvi t`qvi mgq	mvti i gvIv (M0g/gv`v)			
		ga`g DePv kir ³ m=ubagwU			
		BDwi qv	uUGmic	Ggmic	tMvei
teQvj tWvR	gv`v `Zwi i mgq	-	60	25	10tKir/gv`v
1g Dcwi c0qM	Pviv MRv#bvi 10-14 w`b ci	15	-	10	-
2q Dcwi c0qM	MvQ hLb 50-60 tm.wg. j =f nte	18	-	15	-
3q Dcwi c0qM	dZ Avmvi mgq	18	-	15	-
4_ Dcwi c0qM	dj hLb gvteP AvKvti i nq (dtji e`m nte 1.2-1.5 tm.wg.)	18	-	15	-
5g Dcwi c0qM	dj hLb tMjvKvi etji gZ nte (e`m nte 15-20 tm.wg.)	18	-	15	-
60 Dcwi c0qM	c0g dj Kivri ciciB	18	-	15	-
7g Dcwi c0qM	c0g dj Kivri 15 w`b ci	20	-	15	-
tgvU (M0g/gv`v)		125	60	125	10 tKir
tgvU (tKir/tn.)		250	120	250	20 Ub

c0Z`K Dcwi c0qvtMi
ciciB RigfZ nvj Kv tmP
w`fZ nte|

mg`l teQvj mvi l tMvei gv`vq t`qvi ci fvtjv Kti gwU m¹/₂ uguktq w`fZ nte| mg`l Dcwi c0qM gv`vi Pwi avti i wKbviq c0qM Kti fvtjv Kti gwU m¹/₂ uguktq w`fZ nte| 2q Dcwi c0qM MtQi j Zv 50-60 tm.wg. j =f ntj B w`fZ nte| MtQi evx hir` Ly fvtjv Ges cvZv meR` vtK Zvntj tkl Dcwi c0qM bv Kij l Pj te| c0Z`K Dcwi c0qvtMi ciciB RigfZ nvj Kv tmP w`fZ nte| Dcwi c0qM, AvMvQv`gb Ges gvj wPs GKB mgq Kiv thfZ cifi |

Ab`vb` cwiPhP
tmP e`e`v

ZigfRi RigfZ tKvfbv
Ae`vtZB cwb RgtZ t`qv
hvte bv| KvRB w`vktbi
me`e`v Aek`B`vKfZ nte|

tefWi` gvtki bvjv w`tq ZigR t`fZ cwb t`qv mnR| dz` tdlv Ges dtji evx Ae`vq Aek`B cwi Afive GofZ nte Ges H mgq gwU i tmi me`evAvbq gvb 50%| tKvfbv tKvfbv t`fT tmP QvovB ZigfRi Pvl nq, Avevi Ab`vb` t`fT LoKlv w`tq gwU tXtK ti tL gwU i m msi`Y Kiv nq| MtQi dj cvKiv mgq ntj tmP t`lqv DvPZ nte bv| ZigfRi RigfZ tKvfbv Ae`vtZB cwb RgtZ t`qv hvte bv| KvRB w`vktbi me`e`v Aek`B`vKfZ nte|

c0ZwU`x dzj i Mf`Kkii
gtU H cwtKki Ly Av`
Av`12-3 evi Ota w`fZ
nte| Gi dtj Mf`Kkii
gtU gta` cjal dzj i tiY
AvUtK hvte Ges ci vMqb
nte|

Kul`g ci vMqb

mKvtj i w`tK (mKvj 6Uv t`tK 8Uv chS) GKwU m` tdlv cjal dz` Zvj w`tq Ges cwtKki wK ti tL dzj i cvcwo`tjv w`to tdjZ nte| Zvici c0ZwU`x dzj i Mf`Kkii gtU H cwtKki Ly Av`1 Av`1 2-3 evi Ota w`fZ nte| Gi dtj Mf`Kkii gtU gta` cjal dzj i tiY AvUtK hvte Ges ci vMqb nte| GKwU cjal dz` w`tq mavi YZ 5-6 wU`x dzj i ci vMqb Kiv m`e| Gfite ci vMqb Kij MtQi dtj i mS`v evote| ci vMqbtbi w`P` ugwo` Kzovi Abj/c (w`P` 5.3)|

ZigR MtQi Qub KiY

ZigRi fivjv dj tbi Rb" ZigR MtQ gvI 4uU kvLv ivLtb Pj te| Gi teik kvLv
K... tju cUg w tKB tft½ w tZ nte hvZ H vb t tK tKvbr kvLv tei br nq| cUz kvLvq
tKvbr ckvLv nZ t qv hvte br| ckvLv K... tju Aw tZB bO KitZ nte| cUz kvLvq
GKuU ZigR ivLtb nte hvZ cUzU dj myi I mgfite eo nZ cvti | G PviU kvLv
Ggbfite RigtZ mnrTq w tZ nte hvZ GKuU kvLv Ab"U Di w tq thtZ ev Rnoq thtZ
br cvti | ZvQov tcvKvq Kvgovbr Ges Amg AvKuZi me dj eo nlqvi cteB mwi tq
tdjtZ nte| ZigR MtQ t i vMejvB I tcvKvqKtoi nvZ t tK i Qv Kivi Rb" RigtZ
Lo weiq w tZ nte| ZvQov ZigR hLb GKuU tctc dtj i gZ eo nte ZLb ZigRi mbtP
arbi Lo Aek" B w tZ nte hvZ ZigRi mt½ gwi ms`ukbv vtK| dmj tZvj vi 10 w b
AvM ZigRi th Ask Ltoi mt½ tj tM vtK tm Ask mveavb Dwe tq ti t i w tK w tZ
nte| Gi dtj ZigRi is mew tK GKB iKg nte| Zv br ntj dtj i th Ask gwi mt½
tj tM vtK tm Ask v fmeK eY Drcbav ntq mv v ntq hvq hv evRvi gj` Kug tq t` q|

ZigR hLb GKuU tctc
dtj i gZ eo nte ZLb
ZigRi mbtP arbi Lo
Aek" B w tZ nte hvZ
ZigRi mt½ gwi
ms`ukbv vtK|

tcvKvKo`gb

cvZvi weUj tcvKv weUj tcvKv` gaitbi nq| GKuU Kvj tP Ab"U jvj | Gme tcvKvi cY©
eq` i/c Ges weQv DftqB cvZv tL tq MtQi mgr QwZ Kti | cUg w tK tcvKv tju msL`v
hLb Kg vtK ZLb Gme tcvKv, wWg I ev" Pv BZ" w` ati bO Kti dtjtZ nte| cieZtZ
tcvKvi msL`v teik ntj g`vj w qb 57 Bim 1.12 wj Uri /tn. gvI vq t` uKi tZ nte|

Rie tcvKv G tcvKv MtQi KuP KuU, Wmvr Ges cvZvi im i tL tq dmj mgr QwZ Kti |
tcvKv` g tbi Rtb" g`vj w qb 1.12 wj . /tn. gvI vq t` uKi tZ nte|

ZigRi gvRiv tcvKv t tcvKv dtj i tLmvi mbtP wWg cvto | wWg dZU Kxov tju tei ntq
dj tL tq bO Kti dtjt Ges dj tju mvari YZ ctP hvq | weUj tcvKvi gZ g`vj w qb cUqvm
Kti` gb Kiv hvte|

tiW` ubWvi gvBut tQvU tQvU gvKo tju cvZvi mbtPi w tK evm Kti Ges cvZvi im tL tq
tdjt | cvZv Kkto hvq, MtQi ewx Ktg wWg dj b Ktg hvq | mbDti vb 500 Bim 1.12
wj Uri /tn. t` uKi tZ nte| w tbi tk tL cvZvi mbtPi w tK t` uKiv` i Kvi |

ti vMejvB

KvEcPv ti vMt G tivtMi Avmgtb ZigR MtQi tMvov ctP MvQ gti hvq | cUzKv ti i Rb"
2.5 Mtg WvBt_b Gg-45 cUz 1 wj Uvi cmbtZ mbtq 10-15 w b ci ci MtQ t` uKi tZ` gb
KitZ nte|

G`vb` Ktbrt cvZv, cvZvi tevUv, KuU Ges dtj ev` vgx t tK Kvj tP` vM t` Lv hvq | G tivtM
ZvovZmo we` li jvf Kti Ges MvQ I dtj i gviv` K QwZ Kti | Dcti i mbqg Abyv ti
WvBt_b Gg-45 MtQ t` uKi tZ nte|

wDdtRwi qg DBe ti vMt G tivtMi Avmgtb MvQ Xtj cto gviv hvq | G tivtMi cUzKv ti i
Rb" t K) tivtM cUz tivaK RivZi Pvl Kiv fivjv L) Avmvt MvQ Ztj cUz tq dtjtZ nte
M) 2.5 Mtg wUvtf. -200 JIa Qvivi cUz tKwR exR tkvab KitZ nte N) 1 Mtg tebtj U cUz
wj Uri cmbi mvt` wgnktq 10 w b cici t` uKi tZ nte O) mb` vktbi mg` e` v Ki tZ nte|

mvavi YZ dj cvKtZ exR
tevbri ci t_#K 80-110
ir`b Ges dzj i civMvq#bi
ci t_#K 30-45 ir`b
jv#M|

dmj msMh I dj b

RvZ I Avenl qvi Dci wbfP Kti ZigR cvtK| mvavi YZ dj cvKtZ exR tevbri ci t_#K 80-110 ir`b Ges dzj i civMvq#bi ci t_#K 30-45 ir`b jv#M| Rvqvb (1992) w`b`ij wLZ frte ZigR cvKvi eY#v ir`tq#Obt
 1g dj wU cvtK civMvq#bi 35 - 40 ir`b ci,
 2q dj wU cvtK civMvq#bi 30 - 35 ir`b ci,
 3q dj wU cvtK civMvq#bi 25 - 30 ir`b ci,
 4_`dj wU cvtK civMvq#bi 20 - 25 ir`b ci |

ZigtRi dj cvKvi mivK mgq wby# Kiv GKuzKw|b| KviY Awakvsk dj cvKvi tKv#v emn`K j`#Y t`Lv hvq bv| MvQ t_#K dj Avjv`v Kivi m#% m#% dj cvKvi c#qv eU ntq hvq (iuk`, 1993)| GRb` m`uY`cvKvi c#e`dmj msMh Kijt dtji gvb Livc nq I

c#v# #i tenk cvKtj dtji msi`#Y I cwi enY`Y b# ntq hvq| eZ#v# thme ZigtRi RvZ Gt`tk Pvl Kiv nq Zvi me`tjvB nq L# meR A`er nvj Kv meR (wP 5.10)| mvavi YZ cvKvi ci G i#%i tZgb tKv#v Zvi Zg` nq bv| dtj ZigR cvKv wKbv Zv mn#RB tevsv hvq bv| Zte w`b`ij wLZ j`#Y`_tjvi #vivi cvKv ZigR tetQ tbqv hvq (Rvqvb, 1992)t

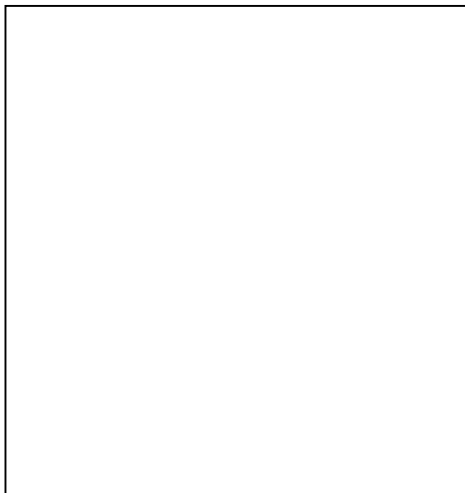
K. dtji tevbri m#% th AvKuk` AvtQ Zv i`wKtq ev`vqx is nq|

L. tLvmvi Dcti m`#% t`jvg`_tjv gti cto wltq ZigtRi tLvmv PKP#K nq|

M. ZigtRi th AskwU gwLi Dci t`j#M`_v#K Zv meR t_#K D#%ij nj`y istqi nq|

N. ZigtRi kvw`jvj UKU#K nq|

iuk` (1993) D`jL Kti#Ob, Av#%y ir`tq tUvKv ir`tj Ac` dtji k# nte avZe e`i kt#i b`vq wK#` cvKv dtji k# nte W`vetW`te| Zte G wltq Awf#Zvi c#qvRb|



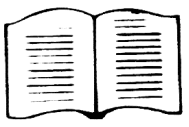
wPI 5.9 ZigtRi RvZ

dj b

mh#ZaPvl Kijt frtjv RvtZi ZigR t_#K c#Z tn#%i 40-70 Ub dj b cvl qv hvq|

mvigg`

- ZigR GKwU mvg# A`Rix dmj |
- c#Li m hv#j vK I 30-40 tm. Zvcgv#v ZigR P#tI i Dc#hvMx|
- mvg`_wKZ tetj t`v-Avka t_#K t`v-Avka gwU D#Eg|
- exR ectbi Dch# mgq tde#vwi gvm|
- wgvUvi ` #i mwi Kti 2.2-5 wg. ` #i gv`vq 4-5wU ZigR exR ecb Kt#Z nte|
- cvj e`v#M Priv`Zwi Kti j`vM#tj AvMvg dmj cvl qv hvq|
- frtjv dj #bi Rb` cwb w`#vkb, dj cvZjvKiY Ges c#qvRbgZ tcvKvgKo I tivMejvB`gb Kiv c#qvRb|
- exR ectbi 80-110 ir`#bi g#`a` ZigR msMh Kivi Dc#hvMx nq|



- cıZ tn±ti 40-70 Ub dj b cvI qv hıqI



cuVvEi gj`iqb 5.3

1. mZ` ntj OmO Ges iq_`v ntj OmOij Lly|

- K. ZigR wFUmgb OmO tewk cwi gvtY_vtK|
- L. DbZ gvtbi ZigR dj vtbvi Rb` nij Kv mhtj vK `i Kvi |
- M. ZigRi exR ectbi DEg mgq ntj v tdeymi gvm|

2. ib`vb ciY Kiab|

- K. ZigR Pvl i Rb` aiYi Rj evqycQvRb|
- L. ZigR gwtZ frtj v RtS\$|
- M. ZigRi Kwlg ci vMiqb Kiv nq|

3. mWK DEi utZ wK wPy(\) w b|

- K. ZigRi Rb` DcthuMx Zvcgvtv tKvbuU ?
 - 1. 15-20 tm. 2. 20-30 tm.
 - 3. 30-40 tm. 3. 40-50 tm.
- L. ZigR Pvl i Rb` cOZ gr`vq KquU Pvi v i vLtz nq ?
 - 1. 1 wU 2. 2-3 wU
 - 3. 3-4 wU 4. 4-5 wU
- M. ep`vKvi dj aviv Rvtzi tejvq cOZ MtQ KquU dj i vLtz nte ?
 - 1. 2 wU 2. 3 wU
 - 3. 3-4 wU 4. 4-5 wU

4. GK K_vq ev eK` DEi w b|

- K. ZigRi tn±i cOZ dj b KZ ?
- L. Avztj i mnvth` ZigR cwi c° Zv esvi Dcvq wK ?
- M. eisj vt`tk KwL.MtelYv BvbwUUDU KZR.D`weZ ZigRi Rvtzi bvg wK?

mej vix GKiu D"P dj bkij
I DrKó.RvZ | cĀZ tn±ti
25 Uḫbi AwaK gĀxKP
dj b t`q|

Rj eqyRig I gūU

gĀxKPzDò I Av`Rj eqycQ>` Kti | 25⁰-40⁰ tm. Zvcgvĭv gĀxKPz Rb` fĭtj v| hw` I gĀxKPzAvsĭkK Qvqg Rb`fĭv hĭq Zte cY`Avtj vtZ meḫPtq tevk dj b t`q| eb`vgŷ teḫ t`v-Auk t`tK t`v-Auk gūU gĀxKPz Rb` DcḫvMx|

RvZ

eisj vt`tk gĀxKPz AmsL` RvZi Pvl nq| `vbxqfĭte wKQyRvZ thgb- j vj gvB, vmtj u, e, oiv, j ḡĭxKĀzhḫkvi x KPzDḫj LḫvM`| mej vix GKiu D"P dj bkij I DrKó.RvZ | Gi MvQ Lvov, meR Ges cPz msL`vq , voviv Drcv` b Kti | cĀZ tn±ti 25 Uḫbi AwaK gĀxKPz dj b t`q| GQvov cĀgĀx KPz Mḫiv KPz_vgv KPz Mḫiv _vgv KPz R½j x KPzBZ`w` I GB Mḫc cto (wPĪ 5.10)|

esk me`ti

gĀxKPz esk mešĭi mivari YZ fĭb`ē' i fcv`ĭi Z KvŪ hv Kg[®](corm) ev gĀx bvtg cvĭwPZ tm, tĭv ōviv Kiv nq| tQvU I gvSvix AvKvĭi exR (20-25 Mĭg) A_ḡovZK w`tq AwaK j vFRbK|

gĀxKPzj vMḫbvi mgq

gĀxKPzLvi d tgšmḡgi dmj | kvḫZi tkl fĭvM Rvbgvvi t`tK tg gvm chŠĭ dmj j vMḫbv thḫZ cvḫi | Zte gvP`gvmB j vMḫbvB mteḫĒg| gvḫPḡ AvḫM j vMḫj Pviv t`wi tZ MRvq Ges dj b Kg nq| cḡvšĭi gvḫPḡ cĭi j vMḫj I dj b Kḫg hĭq| exR ti vctYi ci gūU AveRḫv (mulching) w`tq tXḫK ivLḫj Pviv `ḡ MRvte|

exRi (gĀxi) cvĭgvY

gĀxKPzPvĭi i Rb` cĀZ tn±ti 800-1000 tKwRi gZ gĀx exR j vḫM|

Rvġ `Zvi

gĀxKPz Rb` gūU Mfxi fĭte KIḡ I SzSḫi Kti cĀZ Kiv Avek`K| exR GKvwaK c×wZ tZ ecb Kiv thḫZ cvḫi | AwaKvsk tḡtĪ mgZj RvġtZ Rvġ (Furrow) Kti wv`ḫ `ḫZj exR ecb Kti gūU w`tq tXḫK t`qv nq Ges MRvivi ci μgvšḫq mivi eivei AvBj Zḫj t`qv nq| Aci c×wZ nḫj v mgZj RvġtZ exR AvsĭkK ecb Kti mḫ_ mḫ_ AvBj Zḫj t`qv nq| 60-75 tm.ḡg. `ḫZj mivi tZ 40-50 tm.ḡg. `ḫi `ḫi gĀx KPz exR j vMḫZ nq|

wbḫ`ac×wZ `ḡ Avtj vPbv Kiv nḫj v-

mivari Y c×wZ: j v½j ev KvMVi mivniḫ` wv`ḫ `ḫZj 4-5 tm.ḡg. Mfxi Lv` `Zvi Kti wv`ḫ `ḫZj gĀx exR, tĭv j vMḫq SzSzv gūU w`tq tXḫK Rvġ mgvb Kti w`tZ nte (wPĪ 5.11 K)

fɪtʃv dj b cvl qvi Rʃb
uɔɔvɔx ev tQvU tKv`vtʃ i
mɪvɪtʃ` MɪtʃQ i tMvov i gɪu
Kɪcʃq SʒSʒi Kʃi tMvov i
gɪu DɛzKiʃZ nʃe|

L. MʃtʃQ i tMvov gɪu cʊv Ges RɪgʃZ Lo uʃQʃb: AvBj Lvov Kʃi t`qv gɪxKPz cʊvb
 cɪv Phʃ AvBj GʃKevʃi bɪ Zʃ 2-3 evʃi tZvjv DĖg| MʃtʃQ i tMvov fɪtʃv Kʃi tXʃK wʃ tʃ
 „uɔɔvɔx ev tQvU tKv`vtʃ i mɪvɪtʃ` MʃtʃQ i tMvov i gɪu Kɪcʃq SʒSʒi Kʃi tMvov i gɪu DɛzKiʃZ nʃe|
 gɪv ɪPs gɪx KPz Rʃb` DcKvix| RɪgʃZ Lo ev cvZv uʃQʃq wʃ tʃ RɪgʃZ AvMvov Kg nʃe, gɪu i imavɪ Y ʃgZv
 evʃe Ges Gme cvZv ev Lo cieZʃZ cʃP ev gɪu i mʃt` ɪgʃk Rɪgʃ Deʃv kɪv³ evʃʃZ
 mɪvɪtʃ` Kʃe|

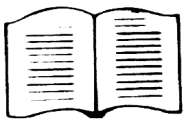
M. tɔvKv-gɪkʊ I tɪuM-evj uB: cvZv Sj mʃtʃbɪ tɪuM GKɪu gɪv³K tɪuM hv Kcɪv RvZɪq
 QʃvK bɪkK wʃ tʃ `gb Kiv hvʃe|

dmʃj i RɛbKɪj : gɪxKPz mɪvov YZ 150-210 wʃ tʃi dmj |

gɪxKPz MʃtʃQ i gɪu i Dcʃi i
Ask ev cvZv jvj I nj`y
nʃq i uʃkʃq gʃi hvq| G
Ae`vq gɪx KPz Zvj vi
mgq nq|

dmj msl̩ I dj b : elʃtgʃmʃgi tktl gɪxKPy MʃtʃQ i gɪu i Dcʃi i Ask ev cvZv jvj I
 nj`y nʃq i uʃkʃq gʃi hvq| G Ae`vq gɪx KPz Zvj vi mgq nq| mɪvov YZ KɪwZʃR-AMʃhvqY
 gɪtʃm G dmj tZijv tʃtZ cvʃi| tKv`vj wʃ tʃ Avʃ`l Avʃ`l gɪxKPz ZʃtZ nʃe| gɪxKPz exR
 uʃtʃmʃe e`envi Kʃtʃ mɔuYʃMʃQ gʃi hvʃe ci dmj ZʃtZ nʃe| tZijv ci cɪv`vi Kʃi
 `vʃRvZ ev evRvi RvZ Kiv hvʃe|

dj b (cʃZ tɪ±i): dj b uɔʃʃ Kʃi Avɛnɪl qv, RvZ I cɪv Phʃ Dcɪ | 20 Uʃbi Dcɪ nʃj
 dj b mʃ`il RbK gʃb KʃtZ nʃe| RvZ Abɪvɔx gɪxi dj b Kʃ`i tɪuM dj tʃi $\frac{1}{3}$ t`tK $\frac{1}{2}$
 fɪvM| Mo dj b 20-25 Ub|



mvi gg©

- gɪxKPz GKɪu cʃʃKi I A_ʃix dmj |
- gɪxKPj cvZvq Ab`vɔ` eʊ memRi Zʃbɪvq Aɪk Lɪ`cʃY I LɪbR c`v`_vʃK|
- gɪxKPz Dʊ I Av`ʃRj evqycʊ` Kʃi | gɪxKPz Rb` tʃtʃ t`v-Aɪk t`tK t`v-Aɪk gɪu
 DcʃhvMx|
- gɪxw`tqB gɪxKPz esk uʃ`vi Kiv nq|
- uʃj vɪx GKɪu gɪxKPz Dbz RvZ|
- gɪvʃgɪm gɪxKPz Rb` j vMʃtʃbɪ DĖg mgq|
- 60-70 tɪ.u.g. `ʃi j vBb Kʃi 45-50 tɪ.u.g. `ʃi gɪx j vMʃtʃZ nʃe|
- gɪxKPz gɪu DVʃtʃbɪ GKvʃl cʃʃqvRb|
- cvZv Sj mʃtʃbɪ tɪuM Wʃt`_b Gg-45 wʃ tʃ `gb Kiv tʃtZ cvʃi |
- KɪwZʃR-AMʃhvqY gɪtʃm cʊvb dmj tZijv nq; Zʃe AvMvov dmj AʃbK mgq fɪv`gɪm nʃZ
 DVʃtʃbɪ nq| gɪxi dj b cʃZ tɪ±ʃi 20-25 Uʃbi gZ|



cuVvEi gj`iqb 5.4

1. mZ` nti Om0Ges ug_`v nti Om0uj Lly|

K. KPZPtl i Rb` D0 I Av`Rj evqj c0qvRb|

L. vej vmx RltZi KPzn+i c0Z 25 Uthi Dcti dj b t`q|

M. vej vmx GKul D`P dj bkij I DrK0.RvZ|

2. ib``vb ciY Ki0|

K. KPzvZvq Ab`vb` dmtji Zxbvq cu0 Dcv`vb tenk itq0|

L. KPz Rb` DcthvMx ZvcgvIv |

M. KPZPtl i Rb` aitYi guU DEg|

3. mWK DEti i cutk wK wPy (v) w b|

K. gLxKPj vMtbvi `tZ;KZ ?

1. 60-70 tm.uq×40-50 tm.uq

2. 60-70 tm.uq×40-50 tm.uq

3. 50-60 tm.uq×30-40 tm.uq

4. 60-75 tm.uq×50-60 tm.uq

L. A_0wZK w`K w`tq extRi I Rb KZ nI qv DvPr

1. 10-15 M0g

2. 20-25 M0g

3. 15-20 M0g

4. 25-30 M0g

M. gLxKPz tn+i c0Z Mo dj b KZ ?

1. 15-20 Ub

2. 20-25 Ub

3. 25-30 Ub

4. 30-35 Ub

4. GK K_vq evvK` DEi w b|

K. gLxKPj vMtbvi Dch0 mgq KLb ?

L. gLxKPz gviv`K titMi biv Kx ?

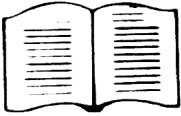
M. gLxKPzR wntmte e`eni Kitj KLb dmj ZxtZ nq ?



cw 5.5 kvKRvZiq meiR Pvl

GB cw tkI Avcib

- cw kvK i az eYv Ki tZ cvi teb |
- cw kvK Drcv b tg smg I cwi tekMZ Pmn v ej tZ cvi teb |
- cw kvK Pvl ver` c vj x vj LtZ I ej tZ cvi teb |



c kvK

Bst i mR big: Indian Spinach

e AmbK big: Basella alba

c kvK evsj v` tk i c Teuj mei Ri w fZi Ab`Zg, c kv Lwi d tg smg gi me e amb kvK, Gi `r Drkó. I c v gvb tewk | c kv Gi Wm v t` LtZ LvB AvKI P v q | Gi cvZ v q c P z t c ub, w fUmgb - G. we. um., K` v j umq v q, t j Sn I j eY Av t Q |

Rj evqyRig I gml

c kvK Dò I Av` Rj evq tZ f v t j v R t š s | Gm AZ` š Kó m n ò z D w m c, Avs i k Q v q t Z I R b v t b v h v q | t e j t v e Av k g m U c kv kv K i R b` D c t h v M x | t g v U g m U D P y R i g t h L v t b e l P c m b D t V b v e v c m b R t g _ v t K b v G g b R i g t Z I c kv kv K i P v l K i v t h t Z c v t i |

RvZi big

` v b x q m e R I j v j G ` U R v Z (w P 5.12) t` L v h v q | m e R R v Z ` z e a b k x j G e s d j b t e w k | j v j R v Z a x i e a b k x j G e s K g d j b t` q, Z t e ` r t e w k G e s e v R v i g j` t e w k |

eskue`li

e x R A _ e v K v t U i K m U s O v i v c kv G i e s k u e ` l i K i v h v q | K m U s m v a v i Y Z e l P R b` D c t h v M x | K I K i v m v a v i Y Z e x t R i g v a` t g B A v e v` K t i _ v t K |

e x R j m t b v i m g q

c kvK m v a v i Y Z L w i d t g s m t g P v l K i v n q, Z t e c m b t m t P i e` e` v _ v K t j i w e t g s m t g l K i v h v q | D E g m g q n t j v d r e t y t` t K ` R` o g v m |



e x R i c v i g v

w Q u t q e y t j c i Z t n z t i 3-4 t K w R e x R ` i K v i G e s m w i t Z e y t j c i Z t n z t i 1.5-2.5 t K w R e x R ` i K v i |

w P I 5.12 c kv kv K i R v Z



c0gevi dmj KvUvi ci BDwi qv I cUvk mvi MvQi tMvovi Pvi w fK 15-16 tm.ig. ` ti uQuUtq gnuUi mt½ frtjv Kti ugnktq w tZ nte | c0qvRbtevt nvj Kv tmP t` qv thtZ cvti | u0Zxq evi dmj KvUvi ci BDwi qv H GKB frte RigtZ w tZ nte | 0Dcwi c0qvtMi grtSi mgq I BDwi qv mvti i cwi gV MvQi evo-evouZi Dci wbfP Kti Kgvtrv ev evovtrv thtZ cvti | teQvj mvi I tMveimvi tkl Prtli AvtM RigtZ uQuUtq Prl I gB w tq frtjv Kti gnuUi mt½ ugnktq w tZ nte |

Ab`wb` cwiPhP

c0kvtki m0zevo-evouZi
Rb` cti v RiebKvtj i
KLbB cwbi Afie ntqv
DwPZ bq |

K. tmP e`e`vt teW I bijv cxiZtZ c0kvtki RigtZ tmP t` qv m0zevRbK | wP1 5.16 Abtqvq bijv `Zwi KtZ nte | RigtZ me RvqMvq mgvbfrte tmP t` qvi Rb` Gme bijv L0B ` i Kvix | AvZwi³ ep0i ev tmPtPi cwbi mntRB G bijvi gv Ltj tei Kti t` qv m0e | teW br Kiv RigtZ I G bijvi gva`tg L0 mntRB tmP t` qv thtZ cvti | c0kvtki m0zevo-evouZi Rb` cti v RiebKvtj i KLbB cwbi Afie nI qv DwPZ bq Ges G Ae`vq gnuUi i tmi me0e evAbxq gvT v 65% |

L. AvMvQv `gb, MvQi tMvovq gnuU t` qv I Wlv KvUv: c0qvRb I mgqgZ AvMvQv Ztj tdj tZ nte Ges MvQi tMvovq nv0vfrte gnuU w tZ nte | mvti i Dcwi c0qvM, AvMvQv `gb, Ges MvQi tMvovq gnuU t` qvi KivR GKB mgtq Kiv thtZ cvti | MvQ hLb 20-30 tm.ig. j 0f nq ZLb MvQi Wlv tKtU w tj MvQi kvLv-c0kvLv teuk nte | c0kvtki gvPtZ I Ztj t` qv thtZ cvti | gvPr 1.5 uQuUi D0zntj B Pj te | teuk dj b cvl qvi Rtb` dmj KvUvi ci Abtqv Z gvT vq BDwi qv Ges Ggwc mvi Dcwi c0qvM Kti GKUv nvj Kv tmP w tZ nte |

M. tcvKvKo I tiMvej vB: c0kvtki gvi v³K tKvtrv tcvKvKo ev ti Mvej vB Gi Avmgy nq br | cvZv cPr (leaf rot) ntj Q1vK bvkK Wbt_b Gg 45 c0qvM Kiv thtZ cvti |

RiebKvj

c0kvtki RiebKvj mvari YZ 60-150 w` b ntq _vtK |

dmj mSM0 I dj b

hLb Wlv 25-30 tm.ig. j 0f nte ZLb 10-12 uU cvZvnn c0kvtki kvLv-c0kvLv tKtU w tZ nte | dj aivi AvM ch0f Gfrte dmj KvUv thtZ cvti | mvari YZ tmPtPt i tkl fVM ch0f dmj mSM0 Kiv Ptj | gvPrq A_er RigtZ Aver`, Dfq t1t1B Gfrte dmj KvUz nte | c0Z tn0ti 50-75 Ub dj b cvl qv hite |



civVĒi gj`iqb 5.5

1. mZ` ntj ōmŌGes iq_`v ntj ōngŌij Lly|

- K. cBkvK i we tgšmgi Ab`Zg kvK|
- L. cBkvK cPz cwi gvtY wFUmgb I LibR c`v_©_vK|
- M. cBkvKi gviv³K tKvfv tcvKvKo ev ti vM evj vB-Gi Avµgb nq br|

2. ib``b ciY Kiab|

- K. cBkvKi esk we`li ōviv Kiv nq|
- L. mmi c×wZtZ MvtQi `tZj..... nI qv DvPr|
- M. tn±i cŌZ cBkvKi dj b|

3. mWk DĒiūi civk wK wPy (√) w b|

- K. exR ectYi mgq KLb ?
 - 1. gvN-dvĕy
 - 2. dvĕy-%R`ō
 - 3. `R`ō-Avl vp
 - 4. AMhvqY-ţcŌ
- L. wQwUtg ebyj tn±ti KZUKzæR j vMte ?
 - 1. 4-5 tKwR
 - 2. 3-4 tKwR
 - 3. 5-6 tKwR
 - 4. 1-2 tKwR
- M. MQ ectbi cte©xR KZŋY wFvRtg i vLtZ nte ?
 - 1. 10-20 NbUv
 - 2. 12-24 NbUv
 - 3. 15-20 NbUv
 - 4. 24-36 NbUv

4. GK K_wq ev evK` DĒi w b|

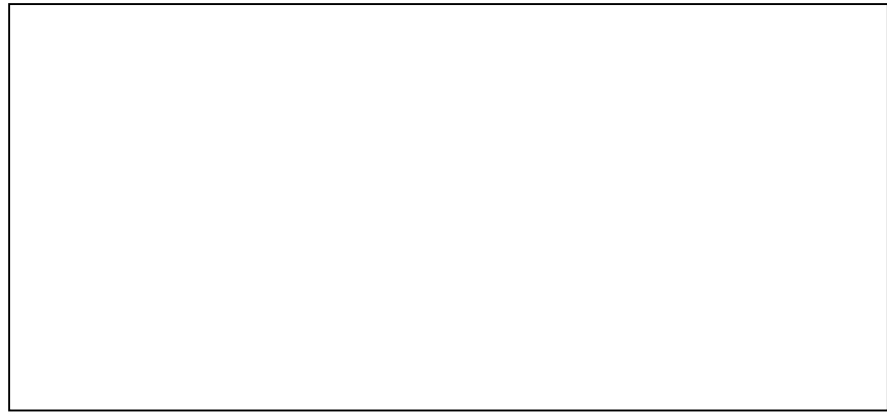
- K. cBkvKi Rb` tKvbi Kg Rj evqDĒg ?
- L. cBkvKi Rb` Kx i Kg gwU DĒg ?
- M. tewk kvLv-ckvLv nI qvi Rb` MvtQi D`PZv KZ ntj Zvi gv_v tKtU w`tZ nte|

tXam P#li Rb" c#Z tn#ti 4-5 tKuR ex#Ri c#qVRb nq|

RiG `Zii I exR ecb (iPI 5.14)

fvtjvfvte RiG KI# Kti ubt#e OK AblyvqR RiG `Zii Kti ZvtZ exR ebtZ nte|

te#Wi AvKvi	c#	M#Kvj xb	100 tm.ug.
		kxZKvj xb	110 tm.ug.
	%N#		Rigi `#N# Dci ubf# Ki#e
byjvi AvKvi	c#		35 tm.ug.
	Mfxi Zv		25 tm.ug.
`iZi	M#Kvj xb		60x40 tm.ug.
	kxZKvj xb		45x30 tm.ug.
exR ebyi Mfxi Zv			2-3 tm.ug.
c#Z M#Z#ex#Ri mSL'v			2-3 uU
c#Z M#Z#vivi mSL'v			1uU (ciZjv Kivi ci)



iPI 5.14 tXam ecb c#iZ

10-12 w`b ci hLb M#Qi
D'PZv 12-15 tm. ug. nte
ZLb c#ZiU M#Z#GKiU
mej I m#Pviv ti#L
evKx,tjv Z#j td#j w`tZ
nte|

10-12 w`b ci hLb M#Qi D'PZv 12-15 tm. ug. nte ZLb c#ZiU M#Z#GKiU mej I m#Pviv ti#L evKx,tjv Z#j td#j w`tZ nte|

tXotmi Rb" m#i i cuiGv I c#qVM c#iZ (tKuR/tn.)

M#Qi ep# I dj aviY h_vh_ ivLvi Rb" c#Z tn#ti 10 Ub tMvei mvi, 150 tKuR BDwi qv, 150 tKuR Gguc Ges 100 tKuR uU Gm uc c#qVM Ki#Z nte| uU Gm uc I tMvei mvi t#l P#li Av#M RiG#Z fvtjvfvte uQuU#q g#U i m#% Pvl I gB w`tq uq#k#q w`tZ nte| Pviv MRv#bvi 15 w`b ci (hLb Pviv c#q 12-15 tm. ug. j #f nte) BDwi qv I Gguc mvi Pvivi tMvov n#Z 5-6 tm. ug. `#i uQuU#q g#U i m#% fvtjvfvte uq#k#q w`tZ nte|

Ab`vb" cuiPh#

K. tmP e`e`v (iPI 5.15): tKj x A_ev te#Wi `#c#tki byjvi minv#h" tXotmi RiG#Z tmP t`qv m#eavRbK| dmt#j i c#jv R#ebKv#j i tKu#bv mgtqB hv#Z c#vbi Afive bv nq #m# #K j #l" ivL#Z nte Ges G mgq g#U i #mi me#b#agv#v 65% nI qv DiPZ|

L. AvMv `gb: c0qvRb I mgqgZ AvMv Ztj tdjtZ nte| gvuJi im wVK ivLvi Rb`
LoKlv w`tq Rigi gvuJ tXtK t`qv thtZ cvti | Dcui mvi c0qvMti ci ciB Gme KitZ
nte|

M. tcvKvKo `gb:

cvZv tgvvob tcvKv: G tcvKvi Kxov cvZv gjo Zvi wfZti evm Kti Ges cvZvi meR Ask
tLtq b0 Kti | c0Z tn±ti 1 wj Uvi dvi w_qb 50 Bim 1000 wj Uvi cwbZt wgvktq t`u0Kti
G tcvKv `gb Kiv thtZ cvti |

Wlv, KvU I dj w`Kvix tcvKv: G tcvKvi Kxov MvtQi Kiv KvU w`Kti XzK cto Ges H
me Ask tLtq MvtQi mgr- qvZ Kti | c0Z tn±i RigtZ 1 wj Uvi mgn_qb 50 Bim A_ev
dvi w_qb 50 Bim 1000 wj Uvi cwbZt wgvktq t`u0Kti w`b |

tgvRvBK fvBivm tivtM
cvZv_tjtZ nj`y I meR
istqi tgvRvBK t`Lv hvq|

N. tiMevj vB: tXatmi tgvRvBK fvBivm Qrov Avi tKvb gviv³K tiM tbB ejtjB Ptj |
tgvRvBK fvBivm tivtM cvZv_tjtZ nj`y I meR istqi tgvRvBK t`Lv hvq| cvZv Kkt0
thtZ cvti Ges MvtQi evx I dj b Lv Ktg hvq| G tivtMi tKvbtv JIa tbB| Avlvsl MvQ
Ztj b0 Kti w`tZ nte| RigtZ cwb w`vkb KitZ nte| tiMlvsl MvQ t`tK exR e`envi
Kiv DvPZ btñ| G tiM mvari YZ dvtZ (White fly) tcvKvi 0vivi w`li jvf Kti | ZvB gvtS
gvtS KvUvK JIa (g`vj w_qb 57 E.C. 1 wj ./1000 wj . cwbZt wgvktq) e`envi Kitj G
tivtMi w`li tiva Kiv hvte| G Qrov fvBivm c0ZtivaK RvZ e`envi Kiv fvvtjv| thgb -
OK 285, Kvuj v BZ`w` (wP 5.16)|

Rvbkvj

meWRi Rb` 60 ntZ 80 w`b Ges exRi Rb` 120-130 w`b mgq j vtM|

dmj mslM I dj b

Pviv MRvtvvi 40-45 w`b ci tXam MvQ dvt w`tZ iia Kti | dvt tei nlqvi 3 w`b
(M0Kvj) Ges 5 w`b (kxZKvj) ci tXam 6-10 tm. wv. j v`nq| G mgq tXatmi dj big
_vtK Ges Av1/2y 0vivi mntRB fvslv hvq| meWR wntmte tXatmi Yv Y wVK ivLtZ ntj t`wi
bv Kti G mgqB avvtjv Qvj i mntvth` MvQ t`tK tXam KvUv DvPZ | fvBivm tiM c0Ztiva
Kivi Rtb` Avlvsl MvQ ntZ tXam KvUvi ci H GKB Qvj w`tq Ab` m`y MvtQi tXam KvUv
DvPZ nte bv|

exRi Rtb` dmj Klv: exR evri c0q 120-130 w`tbi gta` tXam_tjv i`wktq j v`v`vte
dvUvtZ iia Kti | tXam i`wktq hvl qvi mt1/2 mt1/2 avvtjv Qvj w`tq cvKv dj_tjv mslMn Kti
I tivt` fvvtjv Kti i`wktq gvovB Kivi ci exR WUv Kti c-w0K e`vtM fti ivLtZ nte|

dj b (c0Z tn±i):

meWR wntmte Pvlvt` dj b nq 8-10 Ub Ges exR wntmte Pvlvt` dj b nq 100-150
tKvR|



mvi gg®

- tXam GKUJ cypKi meiR|
- GtZ wfUmgB I LwbR c`v`h`ó cwi gvY we`gvb|
- Dò Rj evqyXam Pvl i Rb` Dc`hvMx|
- myb®mkZ t`v-Avka t`tK GtUj t`v-Avka gnu Dc`hvMx|
- eisj vt`tk tdeymii t`tK tg gym chSf tXam j vMv`bvi DchY mgq|
- Zte miv eQt i B tXatmi Pvl Kiv hvq|
- tn±i cãZ 4-5 tKUR exR cãqvRb|
- tXatmi tgvRvBK fivBim t`tK i`v`i Rb` fivBimgY RvZi Pvl Ki tZ nte|
- exR ectbi 40-50 w`tbi gta` tXam MvQ dj I dj Avtm|
- cãZ tn±i 8-10 Ub dj msMh Kiv hvq|

