

#

idi jIvaSAstrapu SatAbdaM!

vEmUri vEMkaTESvararAvu

mIru vinE uMTAru -- 'iravayyO SatAbdaM bhautika SAstrAniki svarNayugaM ayitE iravayyokaTava SatAbdaM jIvaSAstrAniki svarNayugaM kAbOtUMdi' ani. I pravacanaM nijaM avunO kAdO nirdhAriMci ceppalEnu kAni, okaTi mAtraM nirdvaMdaMgA nijaM – bhautika SAstrapu paridhi kaMTe jIvaSAstrapu paridhi bAgA peddadi. E lekka prakAraM aMTArA? (amerika) prabhutvaM jIvaSAstraM mIda peTTE kharcu cUsinA, jIvaSAstrapu paridhiLO unna panivAri saMkhya cUsinA, jIvaSAstraMIO manaM cEsE pariSODhanala valla manaki vacce lAbhAlani lekka vEsukonna – ilA E dRkkONaMIO cUsinA jIvaSAstraM iravayyokaTava SatAbdAnni ElestuMdanaDaMIO saMdEhaM IEdu. nijAniki jIvaSAstrapu lOtullo unna rahasyAlani pariSodhiMci veliki tIsuku rAvaDaM valla kalige tAkiDi mana Ardhika vyavasthanI, naitika dRkpathAnni, Akhariki mana manugaDanI viparItaMgA prabhAvitaM cEstuMdanaTaMIO saMdEhaM IEdu.

I nijAlanniTini AkaLiMpu cEsukoni jIrNiMcukOvaTaM modaleTTagAnE oka cinna praSna eduravutuMdi. bhautika SAstrapu punAdulapai nirmiMcina saMkEtika bhavanaM pai vijaya kEtanAnni egarEsi kaMpyUTarla nuMDi kemErAla varakU, vidyut^ parikarAla nuMDi vimAnAla varakU enno sadupAyAlanI, saukaryAlanI manaM anubhavistUnnaTIE jIvaSAstrapu punAdulapai nirmiMcabaDutUnna saMkEtika saudhaM valla samakUrE sAdhana sadupAyAlu bhavishyattulo EvEmiTini manaM anubhaviMcagalaM? nannaDigitE gata ardha SatAbdaMIO kaMpyUTarlani maccika cEsukoni adupulo peTTaTaM valla samakUrina lAbhAla kaMTe jIvasAMkEtikaM (#biotechnology#) ni maccika cEsukOvaTaM valla samakUrE lAbhAlu atyadhikaM, anEkaM. caritra puTalani oka sAri punarvimarSistE kAni I vAkyam yokka aMtarArdhaM avagAhana kAdu.

sa. Sa. 1940 daSakaMIO mahA mEdhAvi vAn^ nOyiman^ kaMpyUTarla mIda pariSODhana modalu peTTERu. sAphT^vEr^ anE maTa Ayana kapOla kalpitaM kAkapOyina, prOgrAmu rAsi, dAnini kaMpyUTaru lOnE dAci, dAni sahAyaMtO kaMpyUTaru ni naDipiMcAlanE Uha Ayana buralO puTTinade. oka kramaNika (#program#) ni rAsi dAni dvArA okE kaMpyUTar^ cEta rakarakAla panulu cEyiMca vaccani Ayana uTaMkiMcEru. iMta mEdhAvi ayi kUDA ardha SatAbdaM tirakkuMDA aracEtilO paTTE kaMpyUTarlu vastAyaninNI, pillalu ATalu ADukone kaMpyUTarlu vastAyaninNI, iMTiMTA soMta kaMpyUTarlu velustAyaninNI Ayana kalalo kUDA UhiMca IEdu. Ayana dRshTilo kaMpyUTarlu aMTE oka pedda bhavanAnni AkramiMcE aMta bhArI yaMtraIE. 'amerika avasarAlaki enni kaMpyUTarlu kAvalisuMTuMdi?' ani oka pAtrikEyuDu aDigitE, Ayana oka nimishaM AIocimci 18 kaMpyUTarlu saripOtAyani aMcanA vEsEruTa Ayana!

gaMtalukaTTina kaLLatO bhavishyattulOki cUsina vAn^ nOyiman^ ki kaMpyUTarlu prabhutvapu adhInaMIO uMDE bhArI yaMtrAlala elA kanipiMcEyO, adE vidhaMgA dinadina pravardhamAnaMgA edugutUnna I jIvasAMkEtikaM yokka bhavishyattu gaMtalukaTTukunna mana kaLLaki 'idEdO #Monsanto# lAMTi bahukoddi bahuLajAti kaMpenIla adhInaMIO uMDE mahA pariSrama' lA kanipistOMdi. I #Monsanto# vaMTi kaMpenIlaMTE manaki oka pakka apanammakamU, maroka pakka bhayamUnu. krimikITakAdulani caMpE guNanni kaligiMcE janyu padArdhAnni I kaMpenI mokkalalo pravESapeTTaDAniki prayatniMcaDamE I bhayaniki prEraNa kAraNaM. gata SatAbdapu Ebhayyava daSakaMIO jAn^ vAn^ nOyiman^ nI, Ayana anunAyulanI kUDa ilAgE janAlu anumAniMcEru. kaMpyUTarlu gumastAla udyOgAlu UDagoTTaTAniki vaccina maYadAri yaMtrAlani okaru ADipOsukoMTE, I kaMpyUTarla sahAyaMtO rahasyaMgA haiDrojan^ bAMbulu tayAru cEstunnArani marokaru AvEdana paDDaru. ippuDu kaMpyUTarla vADuka oka kuTira pariSramala mArIPOvaTaMtO kaMpyUTarla yeDala uMDE A bhIti pOyiMdi. idE vidhaMgA janyu sAMkEtikaM (#genetic engineering#) koddi bahuLajAti kaMpenIla kabaMdha hastAlOMci bayaTapaDi janasAmAnyapu cEtulloki vaccinappuDu I janyu sAMkEtikaM mIda apanammakam maTumAyamaipOtuMdi.

janyu sAMkEtikaM kUDa kalana yaMtrAlu tokkina dAri veMbaDE veLLina pakshaMIO – aMTE oka mahA pariSramala koddimaMdi cEtulalo kAkumDA, oka kuTira pariSramala tayArayina nADu – I pariSramaki kUDa oka svarNa yugaM vastuMdi. monna monnaTi varaku bIda dESaMgA maggina bhArata dESaM kaMpyUTarla dharmama ani akasmAttuga madhya taragati dESamainaTIE, I janyu sAMkEtikaM kUDa kuTira pariSramala parivartana ceMdina nADu mana dESaM maroka adugu muMduku vEsi sakala aiSvaryAlatO tulatUgutuMdani jOSyaM cebutunnAnu. A roju eppuDu vastuMdi? kaMpyUTaru pariSrama Upu elA amdukuMdo aTuvaMTi paristhitulu maLLa janyu sAMkEtikaM vishayaMIO samakUDina nADu! kaMpyUTarla dhara naluguriki amduBATu lOniki rAvaTaM, kaMpyUTaru vADakaniki kramaNikalurAyagalige pratibha amdariki avasaram IEkapOvaTaM, amtarjAlaM (#Internet#) anE rahadAri dvArA samAcArAnni prapaMcaMIO oka mUla nuMDi maroka mUlaki lipta mAtrapu kAlaMIO paMpagalige sthOmata rAvaTaM – I mUDU kaMpyUTarlani kuTira pariSramaga mArcaTAniki tODpaDDAyI. I rakapu trivENI samgamaM valla jIvasAMkEtika raMgaMIO viniyOgadArulaki anukUlamaina snEhaSila (#user-friendly#) vAtAvaraNaM vaccina nADu jarugutuMdi.

konni udAharaNalu cebutAnu. peMpuDu jaMtuvula saMgatE cUddAM. koMdariki paMcaraMgula cEpalani peMcE kutUhalaM uMTuMdi. I kutUhalaMtO vAru rakarakAla samkara jAti cEpalani 'tayAru cEsi' ammutunnAru. puvvula saMgatI amTE. I rojullo gulAbilu erraganE uMDakkara lEdu. erra baMti puvvulu, nIlam kanakAMbrAlu, raMgu raMgula jAma paLLu, kobbari boMDAM parimANaMIO boppAyI paLLu, ... ila na cinnatanaMIO cUDani puvvulu, paLLu ippuDu bajarulo dorukutunnAyI. giMjalu lEni drAksha, pucca modalaina paLLu kUDA dorukutunnAyI kada! I rakAlanni ekkaDa nuMDi puTTukocAyI? abhilasha, avakASaM unna vyaktulu prayOgAlu ceyyaga puTTukocAyI. lEda, ekkaDO prakRti siddhaMgA janyu padArdhaMIO

prErEpiMcabaDDa prativartita (#mutation#) valla puTTina kotta jAtini tsukocci niladokkukunna jAtulatO aMTu tokkaTaM lAMTi prakriyala valla puTTukocCAyi (giMjalu lEni drAksha ilAgE manaki labhistOMdi). I rakaM prayOgAlu mana pUrvulu aicchikaMgA kUDA cEsEvAru. kaMcara gADidalu alA puTTukoccinavE. aMTu mAmiDi alA puTTukocciMdE. vArasavAhikala (#DNA or chromosomes#) vainaM ardhaM ayina tarvAta, I rOjullo I prayatnAlu UpaMdukonnAyi.

koMceM UhAgAnaM cEddAM. ippuDu prapaMca vyAptaMgA jarugutunna pariSOdhanala valla vArasavAhikalalO dAgI unna rahasyAlu baTTabayalu avutunnAyi kada. I vij~nAna saMpada aMdariKI aMdubATulOKi vastOMdi kUDA. I j~nAnAnni upayOgiMci abhilAsha unna vyaktulu, oka kuTira pariSramala, kromgotta phala pushpAlani puTTiMci prayOgAlu ceyyaDAniki avakASaM kalugutOMdi. ilAMTi prayOgAlu cEsi, pulinI, siMhAnnI porliMci 'puhaM' (#liger#), 'siMli' (#tion#) anE kaMcara jaMtuvulani kUDA ceyyoccu. 'eMDA vAnA kukkala nakkala peLLi' anE pillala pATa nijaM kAvaccu.

kaLAKaruDi cEtilO baMkamaTTiLA I janyu sAMkEtikaM oka kuTira pariSramala vardhillina nADu I prapaMcaM elA uMTuMdO UhiddAM. kotta kotta jAtula puvvulu, kAyalu, jaMtu saMtati mUDu puvvulu Aru kAyalu lA vardhillutAyi. EkasAyaM (#monoculture#) mIda AdhAra paDE vyavasAya paddhatulu, pariSramalaki badulu maLLA bahuSyaM vADukaLOki vastuMdi. janyu padArdhaM Silpi cEtilOni baMkamaTTiLA, citralEkhakuni cEtilOni raMgupadArdhaMlA tayAravutuMdi. ilA sarva vyAptamaina kuTira pariSramalO konni kaLAKhaMDAIU puDatAyi, konni nAsi rakaM sRjanaLU jarugutAyi. manamaMtA pOtanala rAyalekapOyinA padyAlu rAyataM manutunnAmA? rAyaga, rAyaga, prayOgAlu ceyyaga, ceyyaga marO mahAkAvyaM puDutuMdi!

manaM ilA UhiMcukuMTUnna jIvasAMkEtika viplavaM nijaMgA saMbhaviMcinaTlayitE manaM, aMTE manavAli, aidu mukhyamaina praSnalaki samAdhAnAlu vetukkOvAli. okaTi, I viplava taraMgAlani Apu ceyya galama? reMDu, Apu ceyyAlasina avasaraM uMda? mUDu, I viplavAnni ApaDaM mana taraM kAkapOyinA, alA ApaDAniki prayatniM ceyyaTaM kUDA abhilashaNiyaM kAkapOyinA, I viplava jvAlalu viSRMkhalaMgA nalu diSala vyApiMcakuMDA manava saMghaM Emaina adupulu, kaTTubATlu nirdESiMca galada? nAlugu, A adupulEmiTO elA nirdhAriMcaDaM? ayidu, A adupulani evvarU adhigamiMcakuMDA paryavEkshiMci gastI kAyataM elA? jAtIya sthAyilOnA? aMtArjAtIya sthAyilOnA?

idaMtA utta uhAjanitaM maAtrame. dinadinAbhi vRddhi ceMdutUnna I jIvasAMkEtikaM elA pariNati ceMdotuMdO I rOju ceppaTaM kashTaM – 1950 IO vAn^ nOyiman^ kaMpyUTarla bhavishyattu vishayaMIO elA pappulo kaIEsErO alAgE mana UhAgAnAlu kUDA tappula taDakale kAvaccu. nEnu ikkaDa ceyya galigEdalla nEnu UhistUnna kuTira pariSramaki kAvalasina saraMjAmA elA uMTuMdO maroka

UhAgAnaM ceyyaTaM. jIvasAMkEtika raMgaMIO, kaMpyUTaru raMgaMIO lA, kuTIra pariSrama aMTU okaTi velistE dAniki ayidu haMgulu uMDAli. okaTi, mokkalani oka nirdhishTamaina vAtAvaraNaMIO peMcaTAniki oka tOTa kAnI, haritagRhaM (#greenhouse#) kAni, dAniki saMbaMdhiMcina upakaraNAlu, rasAyana padArdhAlu uMDAli. reMDu, adE vidhaMgA jaMtuvulani oka nirdhishTamaina vAtAvaraNaMIO peMcaTAniki sadupAyAlu uMDAli. vITi avasarAlaki oka paSuvula sAla, dANA, maMdulu, vagairA kAvAli. vITitO sAmAnyulu kUDA prayOgAlu ceyyaTAniki vIlugA snEhaSIlata gala (#user friendly#) parikarAlu uMDAli. nAlugu, vArasavAhikalalo unna oka baNuvu (#molecule#) yokka kaTTaDini vellaDiMcagala #sequencer# uMDAli. AkharugA, manaki kAvalasina vidhaMgA vArasavAhikalani malacagala sAmardhyaM unna saMSIEshaNa yaMtraM (#DNA synthesizer#) uMDAli. paina ceppina jAbitAIO modaTi mUDU manaki ippuDu labhyamavutunnAyi, Akhari reMDU iMka evvarU tayAru ceyya lEdu. rAbOyE daSAbdaMIO aTuvaMTi parikarAlu tappakuMDA tayAravutAyi; eMdukaMTE vyApAra vANijya raMgAlalo vATi vADukaki avakASAlu kollalugA unnAyi.

nA cinnatanaMIO rEDiyO mIda utsAhaM unnavAru oka #kit# konukkuni prayOgAlu cEsEvAru. mA abbaYi cinnatanaMIO oka kaMpyUTaru #kit# konukkuni dAnitO prayOgAlu cEstU ATalu ADukonEvADu. alAgE bhavishyattulo mana manumalu jIvasAMkEtika #kit# konukkuni mokkala mIda, jaMtuvula mIda prayOgAlu cEstE manaM abbura paDakkara lEdu.

iTuvaMTi prayOgAla phalitAlu elA uMTAyO UhiddAM. manaM rOjU vADukonE kurcIlLu, maMcAlu, pAtra sAmAnulu, vagairAlani 'tayAru' ceyyaTAniki badulu 'peMcu'tAM. I rakaM vyApAra prakaTana okaTi appuDE Telivishan^ IO vastOMdi. I rOjullo #internet, e-mail, web, blog# modalaina maTalu mana bhAshalOki elA vaccEyO adE vidhaMgA jIvasAMkEtika bhAsha marokaTi puTTukostuMdi. A bhAshalO maTIADE vAri maTalu, A maTalatO kaTTina kathalu UhiMcE Sakti nAku lEdu.

eMta UhiMcE Sakti lEkapOyina oka vishayaM talucukuMTE mAtraM piDa kala vaccinaTlu oLLu jaladaristOMdi. bhavishyattulo vaidyulu mRtyuvuni jayiMcEranukoMdAM. appuDu I bhUIOkam aMtA vayasu mIrina vayOjanulatO niMDi pOyi kotta tarAlaki cOTu lEkuMDA pOTuMdi. appuDu bhavishyattu SUNyaMgA kanipiMcEsariki mana pillalu tiragabaDatAru. tAmu ceppina maTA tama pillalu vinaTaM lEdani AvEdana paDE tallitaMDrulakoka UraTa maTA: "muMduMdi musaLLa paMDaga!"

nEniLA annAnani bhavishyattu aMtA iMta bhayaMkaraMgA uMTuMdanukoni kaMgAru paDakaMDi. kiDeMci mEleMcammannAru kada ani muMduga koMceM bhayapeTTenu. kAni vij~natatO kaLLeM vEsi I jIvakAMkEtikAnni vADukoMTE, ennO samaSyalu sAdhiMca vaccu. udAharaNaki, aMgAraka grahAniki valasa veLLavalasi vastE akkaDi

vAtAvaraNAniki anukUlamaina kroMgotta paMTalani, pADI paSuvulani ikkaDE
tayAru cEsukoni manatO paTTikeLLaccu kadA. ceTla uniki valle I bhUgrahaM mana
manugaDaki anukUlaMgA tayArayinaTIE, aMgAraka grahAniki anukUlamaina ceTlani
peMci, akkaDi vAtAvaraNaMIO manaki kAvalasina prANavAyuvuni sRshTiMci,
appuDu manaM akkaDaki veLLi sthira nivAsaM ErparacukOvaccu kadA. ilA
AIOfiMcina koddI avakASAlu kanabaDatAyi.

kaMpyUTarla Saktini upayOgiMci janyu SAstrAnni maccika cEsukonE prakriya
appuDE modalayiMdi. rAbOyE daSAbdaMIONe ennenno AkarshaNIyamaina
upayOgAlu manaki kanabaDatAyani nA nammika.

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