

# Maklumat Pertanian Malaysia

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## LEMBAGA PENDAFTARAN DAN PELESENAN MINYAK KELAPA SAWIT (PORLA)

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Janet Chan  
Lembaga Pendaftaran dan Pelesenan Minyak  
Kelapa Sawit (PORLA)

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### Latar belakang

Lembaga Pendaftaran dan Pelesenan Minyak Kelapa Sawit (PORLA) adalah sebuah agensi kerajaan yang ditubuhkan untuk mengawasi perusahaan kelapa sawit bagi memastikan perkembangannya yang teratur. Ditubuhkan di bawah Akta 179 Lembaga Pendaftaran dan Pelesenan Minyak Kelapa Sawit (perbadanan) 1976 pada 15 Mei 1977, PORLA telah dilancarkan dengan resminya pada 31 Oktober 1977.

### Matlamat

PORLA ditubuhkan dengan tujuan mengawasi serta memajukan pengeluaran dan eksport minyak sawit, menggalakkan sistem pemasaran dan pengendalian yang cekap bagi faedah kedua-dua pihak pengeluar dan pengguna.

Ia juga bertujuan untuk membasmi sebarang penyelewengan di dalam urusan yang boleh mencemarkan imej perusahaan kelapa sawit secara

keseluruhannya.

### Fungsi

Bagi menjalankan tugas-tugas dan peranan yang telah dipertanggungjawabkan kepada Lembaga ini, PORLA bergerak selaras dengan fungsi-fungsi utamanya seperti berikut:-

1. untuk mengawal, menyelaras dan memajukan semua aktiviti berhubung dengan pembekalan, penjualan, pembelian, pengedaran dan pengimportan buah kelapa sawit, minyak kelapa sawit dan isirong kelapa sawit serta pengilangan buah kelapa sawit;
2. untuk menggalakkan pemasaran dan pengendalian yang cekap tentang buah kelapa sawit, minyak kelapa sawit dan isirong kelapa sawit;
3. untuk mengawal dan memperbaiki cara menyimpan dan mengangkut minyak kelapa sawit dengan kapal;
4. untuk memajukan langkah-langkah ke arah mencapai kualiti yang tinggi bagi minyak kelapa sawit termasuk menetapkan standard-standard (piawai) dan mengadakan suatu sistem pengredan yang cekap;
5. untuk bekerjasama dengan badan-badan lain dalam menyelaras dan menggalakkan penubuhan perusahaan-perusahaan yang mengeluarkan atau menggunakan minyak kelapa sawit;
6. untuk mengumpul maklumat-maklumat dan menyelenggara rekod-rekod tentang semua perkara yang berkaitan dengan perusahaan minyak kelapa sawit; dan
7. amnya melakukan apa jua perkara untuk memajukan lagi dan menjalankan dengan sempurna perusahaan minyak kelapa sawit.

### Kuasa-kuasa

Bagi menjalankan fungsi-fungsi di atas, PORLA telah diberikan kuasa-kuasa seperti berikut:

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MPM ialah sebuah buletin suku tahunan yang diterbitkan oleh Perpustakaan Universiti Pertanian Malaysia. Pandangan dan pendapat penyumbang tidak semestinya mencerminkan pandangan atau pendapat jemaah pengerang. Buletin ini diberi secara percuma atas permintaan. Sila alamatkan semua surat menyurat/pertanyaan kepada: Ketua Pengerang, Buletin Maklumat Pertanian Malaysia, Perpustakaan, Universiti Pertanian Malaysia, Serdang, Selangor.

Penasihat: Syed Salim Agha; Ketua Pengerang: Ibrahim Kassim.  
Pengerang-pengerang: Badilah Saad; Jamaliah Ahmad; Kamariah Abdul Hamid; Nor Hajar Abu Bakar.  
Penyunting: Jama'yah Zakaria

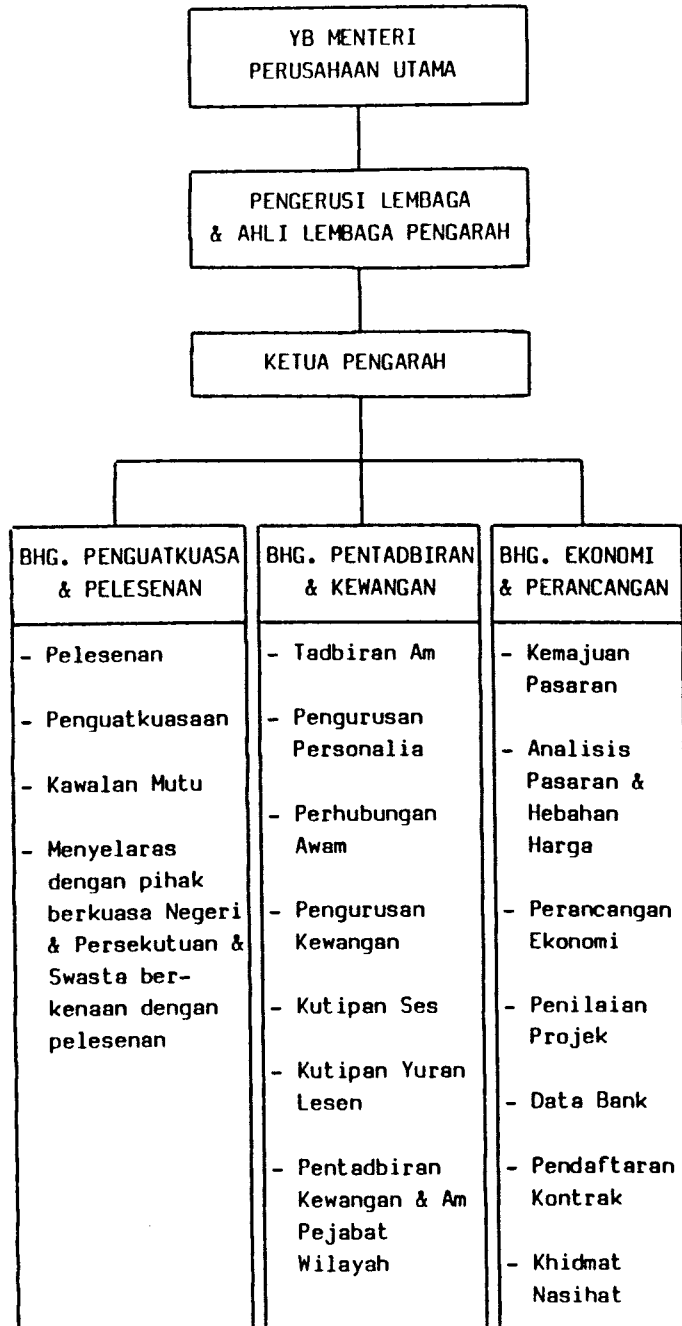
1. menghendaki supaya didaftar dan dilesen orang-orang yang berkenaan dengan mana-mana atau semua aktiviti yang termasuk di dalam bidang tugas-tugas Lembaga;
2. mengadakan peruntukan mengenai perkara-perkara berhubung dengan pendaftaran dan pelesenan, termasuklah cara memohon pendaftaran dan lesen, bayaran yang kena dipertimbangkan dalam memberi atau menolak sesuatu permohonan lesen, dan mengenakan dan mengubah syarat-syarat dan sekatan-sekatan;
3. mengadakan peraturan mengenai sesuatu atau semua aktiviti yang termasuk di dalam bidang tugas-tugas Lembaga dengan apa-apa cara selain daripada atau sebagai tambahan kepada pendaftaran dan pelesenan;
4. mengadakan peruntukan mengenai amalan-amalan yang hendak diikuti atau dielakkan dalam perusahaan minyak kelapa sawit;
5. mengadakan peruntukan mengenai pendaftaran kontrak-kontrak berhubung dengan penjualan minyak kelapa sawit dan butir-butir mengenai kontrak-kontrak itu;
6. menentukan dan mentakrifkan standard-standard atau gred-gred minyak kelapa sawit dan membuat peruntukan-peruntukan bagi menguatkuasakan standard-standard dan gred-gred itu, termasuk peruntukan-peruntukan mengenai atau berhubung dengan pelabelan;
7. menetapkan rekod-rekod yang hendak disimpan dan penyata-penyata yang hendak dikemukakan oleh pemegang-pemegang lesen;
8. menetapkan bayaran yang kena dibayar bagi apa-apa perbuatan atau perkhidmatan yang dilakukan atau diberi oleh Lembaga;
9. menetapkan penalti-penalti penjara bagi pelanggaran terhadap peruntukan-peruntukan peraturan-peraturan itu selama tidak lebih daripada dua tahun atau denda tidak lebih daripada sepuluh ribu ringgit atau penjara dan denda itu kedua-dua;
10. mengadakan apa-apa rundingan dengan perkiraan yang difikirkan perlu oleh Lembaga bagi memajukan kepentingan am

perusahaan minyak kelapa sawit; dan

11. menubuhkan jawatankuasa-jawatankuasa untuk mengkaji dan membuat laporan mengenai perkara yang ditentukan oleh Lembaga dan menetapkan tugas-tugas dan elaun-elaun bagi ahli-ahlinya.

### Organisasi PORLA

#### CARTA ORGANISASI



## Aktiviti-Aktiviti PORLA

### 1. Pelesenan/Penguatkuasaan

Pada awal tahun penubuhannya, PORLA menumpukan perhatiannya terhadap kerja-kerja asas bagi melaksanakan fungsi-fungsi yang telah dinyatakan dalam Akta PORLA. Di dalam tempoh masa ini, rangka peraturan yang dinamakan sebagai Peraturan-peraturan Perusahaan Minyak Kelapa Sawit (Pelesenan) 1979 telah dapat dikuatkuasakan pada 1 Mac 1979. Ini merupakan julung-julung kali suatu peraturan telah dikenakan kepada perusahaan minyak sawit. Peraturan ini meliputi semua peringkat perusahaan bermula daripada penjualan buah kelapa sawit hinggalan ke peringkat pengeksporan bahan-bahan daripada minyak sawit yang telah diproses. Tujuan utama mengadakan Peraturan Pelesenan ini adalah untuk mewujudkan peraturan dan garis panduan kepada mereka yang terlibat di dalam perniagaan minyak sawit serta mencegah daripada berlakunya amalan-amalan yang tidak sihat.

Setiap orang atau syarikat yang terlibat dalam mana-mana kegiatan dalam perusahaan minyak sawit dikehendaki mendapatkan lesen yang harus diperbaharui pada tiap-tiap tahun. Yuran lesen adalah \$100/- bagi setiap aktiviti. Walau bagaimanapun, pekebun kecil kelapa sawit - yang didefinisikan sebagai seseorang yang mempunyai kebun kelapa sawit kurang daripada 100 ekar - dikecualikan daripada sebarang pembayaran lesen berhubung dengan kegiatan menjual buah kelapa sawit.

Untuk memudahkan lagi kerja-kerja penguatkuasaan dijalankan, PORLA telah menubuhkan pejabat-pejabat wilayahnya di Johor Baru, Shah Alam, Kuantan, Butterworth dan Kota Kinabalu.

### 2. Galakan Pasaran

PORLA tidaklah terlibat dalam urusan dagangan sebenarnya, akan tetapi ia lebih menumpukan kepada aspek galakan pasaran minyak kelapa sawit. Kebanyakan keluaran minyak sawit mentah adalah diproses di-

dalam negeri dan sebahagian besar minyak sawit yang diproses adalah diekspor ke luar negeri. Minyak sawit Malaysia menghadapi saingan yang hebat bukan sahaja dari lain-lain negara pengeluar bahan yang sama seperti negara-negara Afrika dan Indonesia, bahkan ianya juga bersaing dengan negara-negara pengeluar 15 jenis minyak dan lemak yang lain. Maka, adalah penting bagi minyak sawit Malaysia mengadakan saluran pasaran yang berterusan di seberang laut.

Walaupun urusan jual beli langsung tidak melibatkan kerajaan, tetapi kerajaan atau PORLA memainkan peranan penting, umpamanya dalam urusan memudahkan kemasukan ke dalam pasaran tertentu ataupun membuat perhubungan dengan perbadanan milik kerajaan atau jabatan-jabatan kerajaan berkaitan di negara-negara tertentu.

Kegiatan penggalakan pasaran yang paling berkesan dianjurkan oleh PORLA ialah mengelolakan rombongan-rombongan penggalakan ke negara-negara terpilih. Usaha ini telah mendapat kerjasama yang sangat memuaskan daripada pihak industri dan dianggap sebagai satu sikap yang positif daripada kerajaan di dalam memperkukuh usaha-usaha yang dibuat sendiri oleh pihak industri. Selain daripada bertujuan membuat jualan, rombongan-rombongan ini juga meninjau potensi pasaran di negara-negara tersebut di samping memberi penerangan lanjut tentang penggunaan dan kelebihanannya dan seterusnya mengumpul dan menyelesaikan masalah-masalah yang dialami oleh pengguna di dalam penggunaan, penerimaan dan pengangkutan.

### 3. Pengumpulan dan Analisis Statistik

Pengumpulan dan pemerosesan data perusahaan minyak kelapa sawit adalah salah satu kegiatan yang sangat penting bagi PORLA. Dengan maklumat-maklumat ini, PORLA telah dapat mengesan dan mengawasi perkembangan perusahaan dalam aspek keluasan ditanam, pengeluaran, harga, jualan dan stok simpanan. Ia juga telah membolehkan PORLA untuk membuat telahan berhubung dengan pengeluaran, pasaran serta analisis dasar yang

berkaitan dan maklumat-maklumat ini telah disebarkan bukan sahaja untuk kegunaan jabatan-jabatan kerajaan, bahkan juga bagi pihak perusahaan. Sumber utama bagi maklumat-maklumat yang diperolehi oleh PORLA ialah melalui penyata-penyata bulanan yang dikemukakan oleh pelesen-pelesen PORLA, iaitu terdiri daripada kilang-kilang buah, kilang penapis, kilang isirong, estet, peniaga dan pusat-pusat simpanan.

#### 4. Pendaftaran Kontrak

Melalui Pendaftaran Kontrak, pemegang-pemegang lesen PORLA adalah dikehendaki mendaftarkan perdagangan minyak sawit mentah, minyak sawit diproses serta minyak isirong sawit mereka dengan PORLA dalam masa 24 jam selepas kontrak-kontrak diselesaikan.

Pendaftaran Kontrak membolehkan PORLA mengawasi aliran pemasaran minyak kelapa sawit dan minyak isirong sawit serta mengesan pengagihannya ke kilang-kilang penapis tempatan dan juga pasaran eksport. Di samping itu, ia juga dapat mengesan dengan segera sebarang amalan pemasaran yang tidak sihat. Jangkaan boleh juga dibuat terhadap arah perkembangan harga serta keseimbangan pembelian dan pembekalan minyak sawit dan minyak isirong sawit.

#### 5. Pengawasan dan Penyebaran Harga

Daripada aktiviti pendaftaran kontrak, PORLA telah dapat mengeluarkan dan menyebarkan maklumat tentang harga-harga purata harian minyak sawit mentah dan minyak sawit diproses yang diperniagakan di dalam negeri melalui media massa. Harga-harga ini merupakan purata wajaran yang diniagakan sebelumnya. Harga-harga

ini telah juga diedarkan dengan percuma kepada pihak-pihak yang memohon terutama pengilang, organisasi kerajaan yang terlibat di dalam perniagaan ini, peniaga dan badan-badan sebaran am dalam atau luar negeri. Harga PORLA ini telah diterima sebagai harga berkecuali (neutral) dan lazimnya digunakan sebagai panduan penting untuk menentukan harga buah sawit oleh pihak-pihak pengilang, peniaga dan penjual buah, di dalam perniagaan harian dan kontrak pembekalan jangka panjang mereka.

#### 6. Penerbitan

Kepesatan perkembangan perusahaan, khususnya penubuhan Busar Dagangan Kuala Lumpur (KLCE) memerlukan penyebaran maklumat yang kemaskini dan tepat untuk kegunaan umum. Bagi memenuhi kehendak ini, PORLA telah mengeluarkan beberapa penerbitan iaitu:

- a) **Palmoil Update** -majalah bulanan yang mengandungi maklumat mengenai pengeluaran, eksport dan harga minyak sawit serta lain-lain maklumat berhubung dengan minyak sayur dan lemak dunia
- b) **Palmoil Statistical Handbook** - penerbitan tahunan yang mengandungi maklumat statistik mengenai perusahaan minyak sawit Malaysia dan perusahaan minyak sayur dan lemak dunia
- c) **Directory of Oil Palm Industry** - penerbitan tahunan dengan senarai orang-orang yang terlibat dalam perusahaan minyak sawit Malaysia
- d) **Risalah Sawit** - majalah suku tahunan, khas untuk pekebun-pekebun kecil kelapa sawit.

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Ruangan ini menyenaraikan makalah-makalah yang membuat ulasan mengenai sesuatu perkara tertentu. Dari aspek penyelidikan, ulasan makalah adalah penting kerana ia memberi gambaran keadaan semasa perkara yang diperbincangkan disamping menekankan kepentingan penyelidikan-penyelidikan sebelumnya.

Senarai ini hanya memberi butiran bibliografi makalah-makalah berkenaan. Rujukan yang bertanda \* menunjukkan makalah tersebut terdapat di Perpustakaan Universiti Pertanian Malaysia. Adalah diharap agar pembaca dapat berhubung dengan Perpustakaan masing-masing untuk mendapatkan makalah yang diminati.

Pembaca adalah dipelawa untuk mencadangkan lain-lain topik yang difikirkan sesuai untuk dimuatkan dalam ruangan ini.

### AGROEKOSISTEM

1. Developing sustainable agroecosystems. ALTIERI, M.A.; LETOURNE., D.K.; DAVIS, J.R. Bioscience 33(1): 45-49. 1983. 51 ruj.
2. The impact of the common vole on the vegetation of agroecosystems. TRUSZKOWSKI, J. Acta Theriologica 27(13): 305-345. 1982. 57 ruj.
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### AYAM

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# Istilah Pertanian Pilihan



Bahasa Inggeris	Bahasa Malaysia		
<b>a</b>			
acetoin	- asetoin	algicide	- peracun algae
acetolysis	- asetolisis	allantoin	- allantoin
acetone	- aseton	allantois	- alantois
acetoxy	- asetoksi	allantois bud	- tunas alantois
achondrite	- akondrit	allelomorph	- alelomorf
achromatism	- akromatisme	allelomorphism	- alelomorfisme
achromic	- akromik	allergy	- alergi
achromic method	- kaedah akromik	Amblypod	- Amblipod
actinium	- aktinium	ameba	- ameba
actinium series	- siri aktinium	amebocyte	- amebosit
actinolite	- aktinolit	ameboid motion	- gerakan ameboid
actinometer	- meter sinar aktif	amenity forest	- hutan lipur
actinomorph	- aktinomorfik	amensalism	- amensalisme
actinomycetin	- aktinomisetin	amphibia	- amfibia
active glacier	- glasier aktif	Antarctic circle	- bulatan Antartika
active hydrogen	- hidrogen aktif	Antecedent	- anteseden/antejadian
active ingredient	- ramuan aktif	antecedent river	- sungai anteseden
active lattice	- kekisi aktif	anterior commissure	- komisur anterior
actor	- aktor; penindak	anterior vena cava	- vena kava anterior
acuminate	- runcing	anthra	- antra
acute	- tirus; runcing	anthracite	- antrasit
after glow	- marak lanjut	anthrasene	- antrasin
after heat	- haba lanjut	anthropod	- antropod
after ripening	- selepas masak	aqua -	- air; akua
agamogony, repeated	- agamogoni berulang	aqua compound	- sebatian akua
agamont	- agamon	aqueous humor	- gelumur berair
agamospermy	- agamospermi	aqueous solution	- larutan berair
agglucone	- aglukon	aquo-ion	- ion akua
agglutinate	- aglutinat	arbitrary	- sebarangan
aggregation	- agregasi	archeometry	- arkeometri
agitator	- penggugat/penggoncang	archeopteryx	- arkeopterika
agonic line	- garis agonik	archesporium	- arkesporium
alcohol burner	- penunu alkohol	Archimedes' principle	- prinsip Archimedes
alcohol ether	- alkohol eter	Archimedes' spiral	- lingkaran Archimedes
alcohol fuel	- bahan api alkohol	augar beetle	- kumbang augar
alcohol ketone	- alkohol keton	augmented flame	- nyala diimbuh
alcohol thermometer	- termometer/(meter suhu) alkohol	augmented matrix	- matriks diimbuh
		autumn	- musim luruh
alcoholmeter	- meter alkohol	auxiliary	- pembantu; cabang
alcoholmetry	- alkoholmetri	auxiliary angle	- sudut pembantu
algebraic sum	- hasil tambah algebra/ aljabar	auxiliary circle	- bulatan pembantu
		auxiliary equation	- persamaan pembantu
		auxiliary fault	- cacat cabang
		azobacter	- azobakter
		azoimide	- azoimid
		azole	- azol
		azophenol	- azofenel

**b**

back fold (geo)	- lipatan landai
back limb (geo)	- sayap landai
back pressure	- tekanan balik
back reef	- karang belakang
backshore	- tepi laut belakang
bacteriolysis	- bakteriolisis
bacteriophage	- bakteriofaj
bacteriostat	- bakteriostat
balance of nature	- keseimbangan semulajadi
balance weights	- batu timbang
balancing column	- turus pengimbang
bandwidth	- lebar jalur
Bangka drill	- gerudi Bangka
band, canal	- tebing terusan
bank, concave	- tebing cekung
bank, river	- tebing sungai
bank, sand	- tebing pasir
base angle	- sudut tapak
base camp	- khemah pengkalan
base exchange	- pertukaran bes
base level	- (p) aras asas
base line	- garis tapak
basin, catchment	- lembangan tadahan
basin, intermontane	- lembangan antara gunung-gunung
basioccipital	- basiokspital
basipetal	- basipetal
beach	- persisir
beach cusp	- juring pesisir
beach ridge	- permatang persisir
bead test	- ujian manik
beaker	- bikar
bedded, thinly	- berlapis nipis
bedding, graded	- peralapisan bergred
bedding plane	- satah peralapisan
beetle, furniture	- kumbang kayu perabot
bile pigment	- pigmen hempedu
biliary obstruction	- penyekatan hempedu
bimetallic strip	- kepingan dwilogam
bimetallic thermometer	- termometer/(meter suhu)/dwilogam
bioanalysis	- bioanalisis
bioassay	- biocerakin/bioasai
biocatalyst	- biomangkin
biocenose	- biosenos
bioderm	- bioderma
biprism	- dwiprisma
bipyramid	- dwipiramid
biquinary code	- kod dwilelima/dwikuiner
birdfoot delta	- delta kaki burung
birefractive	- dwibiasan
birefringence	- dwibiasan

black diamond	- intan hitam
black flash	- kilat hitam
black lead	- plumbum hitam
black platinum	- hitam platinum
black powder	- serbuk hitam
blind valley	- lurah mati
blindness, night	- rabun malam/rabun ayam
blindspot	- titik-but
blister cone	- kon gelembung
blue mud	- lumpur biru
blue thymol	- timol biru
blue unit	- unit biru
blue vitriol	- vitriol biru
blue water gas	- gas air biru
bluff (river)	- tubir
breadth	- lebar
break	- putus; takuk; pecah; lompong
breakage, ring	- putusan gelangan
break-in-slope	- takuk-pada-lerang
break, stratigraphical	- lompong stratigrafi
break water	- pemecah ombak
breaker	- hempasan gelombang; pemecah gelombang
brimstone	- batu belerang
brine	- larutan garam
brittle	- rapuh; getas; rangup
brittleness	- kerapuhan; kegetasan; kerangupan
bromural	- bromural
bronchi	- brongkus
bronchial	- brongkusan
bulk	- gumpalan; pukal; gugus
bulk density	- ketumpatan pukal
bumping	- perenihan
bundle scar	- parut berkas
bundle sheath	- selaput berkas

**c**

calcium acetate	- kalsium asetat
calcium acid phosphate	- kalsium asid-fosfat
calcium chloride tube	- tabung kalsium klorida
calcium line	- garis kalsium
centraliser	- pemusat
centre of a circle	- pusat bulatan
centre of curvature	- pusat kelengkungan
cerebellar hemisphere	- hemisfera serebelum
cerebellum	- serebelum
cerebral cortex	- korteks serebrum
charcoal	- arangkayu
charcoal, animal	- arang haiwan/tulang
chemical action	- tindakan kimia

chemical activity	- kreaktifan kimia	dihybrid ratio	- nisbah dwihybrid
cinnabar	- sinabar	discrete topology	- topologi diskret
clad	- salut	discrete value	- nilai diskret
cladode	- kladod	discrete variable	- pembolehubah diskret
cladophyll	- kladofil	distil	- suling
clasper	- perangkum	distillate	- sulingan
coenobium	- senobium	distillation	- penyulingan
coenocytic	- senositik	dithizone	- dwitizon
coenzyme	- koenzim	divided leaf	- daun sumbing
cofactor	- kofaktor	dodecahedron	- dodekahedron
coil	- gegelung	draught animal	- haiwan penarik
coil, induction	- gegelung aruhan	drilling	- menggerudi; penggerudian; gerudian
concentric	- bersepusat	drilling mud	- lumpur gerudian
concentric circle	- bulatan bersepusat		
condenser	- (alat kondensasi)/ penumpang/kondenser		
condenser flask	- kelalang (alat kondensasi)/penumpang/ kondenser	<b>e</b>	
condition	- keadaan/suasana; syarat; kondisi	ecotone	- ekoton
condition, physical	- syarat fisis/fizik, keadaan fisis/fizik)	ectoblast	- ektoblas (t)
		eddy	- pusar
		eddy current	- arus pusar
		eddy viscosity	- kelikatan pusat
		electrolysis	- elektrolisis
		electrolyte	- elektrolit
<b>d</b>		elution	- elusi
dead cell	- sel mati	elutriation	- elutriasi
dead space	- ruang mati	eluvial	- eluvium
deaeerate	- nyahudara	enanthyl	- enantil
deaeeration	- penyahudaraan	enargite	- enargit
dealcoholizing	- penyahalkoholan	enclosed phase	- fasa dilingkung, di lingkungi
decreasing function	- fungsi menyusut	endo-	- endo; dalam
decrement	- susutan	endoblast	- endoblast
decrepitation	- peletikan	endochondrium	- endokondrium
deduct	- tolak	endogonic	- endogonik
deduction	- deduksi	endolymph	- endolimfa
dehydrothiotoluidine	- dehidrotiotoluidin	endrupf	- endrupf
deicnize	- nyahion	enechelon	- enechelon
dekalin	- dekalin	energetics	- kajitenaga
demal	- demal	equator	- khatulistiwa
demal solution	- larutan demal	equicontinuous	- (selanjar sama)/sama selanjar
demand, water	- permintaan air	equidistant	- (sama jarak)/Jarak sama
dense set	- set tumpat	equilateral	- (sisi sama)/sama sisi
densi-tensimeter	- meter tumpat tekanan wap	era	- era
diagonal	- pepenjuru	erbium compound	- sebatian erbium
diagonal fault	- sesar pepenjuru	erecting prism	- prisma tegak
diagonal relationship	- perhubungan pepenjuru	erepsin	- erepsin
diagonal scale	- skala pepenjuru	essence	- pati
dialysed	- mendialisis	essential	- perlu; penting; pati
dialysis	- dialisis	essential oil	- minyak pati
dihybrid	- dwihybrid	essential salt	- garam pati
dihybrid cross	- kacuk dwihybrid		

**f**

fenster, tectonic	- tingkap tektonik
ferberite	- ferberit
fermentation alcohol	- alkohol penapaian/ fermentasi
fermentation, alcoholic-	fermentasi/penapaian alkohol
fermi	- fermi
filter	- turas; penuras
filter aid	- pembantu turas
filter bag	- beg turas
filter paper	- kertas turas
filtering dish	- ceper penuras
flap	- kelopak
flare	- menyala
flaser structure	- struktur flaser
flavin	- flavin
flavonoide	- flavonoid
fluoride	- fluorida
fluoride, calcium	- kalsium flourida
fluorimeter	- meter kependaran
foam	- busa
foaming agent	- agen pembusa

**g**

genital atrium	- atrium jantina/genital
genitourinary system	- sistem kumuhbiak
genome	- genom
geology, applied	- geologigunaan
geology, military	- geologi ketenteraan
geyserite	- geiserit
giant cell	- sel gergasi
gluconate, calcium	- kalsium glukonat
glucosum	- glukosam
gonangium	- gonangium
goniometer	- goniometer
goodness of fit	- kebangsaan penyesuaian/ pencocokan
gradient, negative	- kecerunan negatif
gradient, potential	- kecerunan (ke) upayaan
gradient, zero	- kecerunan sifar
gravimeter	- gravimeter
gravimetric analysis	- analisis gravimetri
gravimetrik factor	- faktor gravimeter/meter berat
gravimetry	- gravimetri

**h**

hard water	- air liat
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hardening	- pengerasan/pengliatan
hardening of fat	- pengerasan lemak
heat content	- kandungan haba
heat convection	- olakan haba
heat of cooling	- baha pendinginan
heat of crystalization	- haba penghabluran
heat production	- pengeluaran haba
heat pump	- pam baha
heat of transition	- haba peralihan
heavy liquid	- cecair berat
heavy metal	- logam berat
heavy mineral	- mineral berat
helical	- haliks
helical antenna	- antena heliks
helicite	- helisitit
high polymer	- polimer tinggi
high potential	- Kondenser upaya tinggi condenser
high precision machine	- mesin kejituan tinggi
high pressure	- tekanan tinggi
high pressure cut-out	- pemutus tekanan tinggi
high pressure steam	- paip stim tekanan tinggi <sup>i</sup>
pipe	- paip stim tekanan tinggi <sup>i</sup>
high quartz	- kuatza tinggi
histocyte	- histosit
histogenesis	- histogenesis
histogram	- histogram
homocline	- homoklin
homocyclic	- homokitar
homocyclic compound	- sebatian homikitar
homodont	- homodon
humidity	- kelembaban
humidity, absolute	- kelembaban mutlak
humidity, atmospheric	- kelembaban atmosfera
humidity, relative	- kelembaban relatif
hybrid	- hibrid
hybrid model	- peraga/model hibrid
hybrid vigour	- kecergasan hibrid
hydrothermal	- hidroterma
hydrotropism	- hidrotropisme
hydrous	- berhidrat

**i**

illuviation	- iluviiasi
almenite	- ilmenit
alvaite	- ilvait
imitation	- tiruan
immature soil	- tanah muda/takmatang
immediate predecessor	- pendahulu terdekat
inactive compound	- sebatian tak aktif
inactive enzyme	- enzim tak aktif
incongruent melting	- leburan tak kongruen
incongruent saturated	- larutan tepu tak solution kongruen

inconsistent	- tak konsisten
index of refraction	- indeks pembiasan
index plane	- satah indeks
indexed set	- set berindeks
indicator, airspeed	- penunjuk laju di udara
indicator function	- fungsi penunjuk
indigo	- indigo
indigo copper	- indigo tembaga
indirect cycle reactor	- reaktor kitar tak terus/ tak langsung
induced fit	- gegas tetaruh
instinct	- naluri
instruction	- arahan/instruksi
intake	- pengambilan; kemasukan
intake control	- kawalan kemasukan
integer	- integer
integrable	- boleh kamil/terkamirkan
intercellular	- antarasel
intercellular fluid	- bendalir antarasel
intercellular transmission	- pengiriman antarasel
intestinal gas	- gas usus
intestinal juice	- jus usus
intestine	- usus
invaginate	- menginvaginasikan
invagination	- invaginasi
invalid argument	- hujah tak sah
invar	- invar
ion	- ion
ion, aqua	- ion akua
ion beam	- alur ion
ion dipole interaction	- interaksi/salingtindak ion dwikhutub
ion engine	- engin/jentera ion
iridium	- iridium
iridium sesquioxide	- iridium seskuioksida
iridoamine	- iridosmin
iris	- iris
iron	- besi

## k

karst	- kars (t)
karst topography	- topografi kars (t)
keratin	- keratin
kermesite	- kermesit
kernel	- inti
knob	- gembul
knock compound	- sebatian ketuk
knoll	- anak bukit
knot	- simpul; knot; buku
kraft paper	- kertas kraft

## l

lath	- berotai
lathe	- bindu/larik
lather value	- nilai buih
latin square	- segiempatsama latin
laughing gas	- gas ketawa
law of alternation	- hukum selangseli
law of chemical equilibrium	- hukum keseimbangan kimia
law of combining weight-	- hukum penggabungan berat
law of conservation of angular momentum	- hukum keabadian momentum
law of conservation of mass	- hukum keabadian jisim
leaf sheath	- kelopak/salut daun
leaf trace	- surih daun
leaflet	- daun kecil
lichen	- liken
lick, salt	- jilatan garam
liebigite	- liebigit
life period	- tempoh kehidupan/hayat
life, plant	- kehidupan tumbuhan
life shortening	- pemendekan umur
ligament	- ligamen
light water	- air ringan
light, wave theory of	- teori gelombang cahaya
light year	- tahun cahaya
lime glass	- kaca kapur
lime water	- air kapur
limestone	- batukapur
line, base	- garisan/garis tapak
line, boundary	- garisan/garis sempadan
line, broken	- garisan/garis putus
liquid crystal	- hablur cecair
liquid curve	- lengkungan cecair
liquid glue	- glu cecair
liquid immiscibility	- ketaklarutcampuran cecair
liquid limit	- had cecair
lithosol	- litosol
lithosphere	- litosfera
lithostatic pressure	- tekanan litostatik
loch lock	- tasik; tebuk
locomotor	- lokomotor
locomotor ataxia	- lokomotor ataksia
longitudinal	- membujur/longitud
longitudinal dune	- gumuk membujur/longitud
low grade ore	- bijih gred rendah
lowlands	- tanah pamah
lump	- tumpuk; gumpal
lumped	- tergumpal
lunar	- rambulan



macromolecule	- makromolekul	neotype	- neotip
macronucleus	- makronukleus	neuron	- neuron
maggot	- berenga	neuronal synapsis	- sinapsis neuron
magnesia	- magnesia	neutral point	- titik/takat neutral
magnesia mixture	- campuran magnesia	neutral salt	- garam neutral
magnetic	- magnet	neutrality	- keneutralan
magnet coil	- gegelung magnet	nichrome	- nikrom
magnetic line of force	- garis daya magnet	nickel	- nikel
magnetic rotation	- putaran magnet	nicotine	- nikotin
magnetic strirrer	- pengacau magnet	nicotinic acid	- asid nikotinic
marginal community	- komuniti tepi	night blindness	- rabun ayam/malam
marginal basin	- lembangan tepi	node	- nod; buku
marginal distribution	- taburan sut/margin	nodular	- bintil
marginal distribution density	- taburan ketumpatan sut/margin	nonaqueous solvent	- pelarut tak berakua
marginal escarpment	- tebing-curam tepi	nondrying oil	- minyak tak mengeringkan
mass spectrograph	- spektrograf jisim	nonpolar compound	- sebatian tak berkutub
mass spectrometer	- spektrometer jisim	nonpolar solvent	- pelarut tak berkutub
mass spectroscopce	- spektroskop jisim	nonpolarizable electrode	- elektrod tak terkutubkan/boleh khutub
maternal	- maternal	nucellus	- nuselus
maturation	- pematangan/pendewasaan	nuclear	- nukleus
mature	- matang/dewasa	nuclear basin	- lembangan nukleus
mature river	- sungai dewasa/dewasa	nuclear chain	- rantai nukleus
microsome	- mikrosom		
microspheric	- mikrosfera		
microsplit	- mikropecah belah		
mineral/ore dressing	- pengolahan mineral		
mineral dye	- pencelup mineral		
mineral fat	- lemak mineral		
mixed base	- minyak bercampur		
mixed crystal	- hablur bercampur		
mixed dyes	- pencelup bercampur		
mode of decay	- ragam reputan		
mode-locked laser	- laser ragam-terkunci		
mount	- melekap; tunggang; gunung		
mountain tract	- galuran gunung		
mounting	- pelekapan; penungganggan		
moving average	- purata bergerak		
<b>n</b>		<b>o</b>	
nacreous	- kilau mutiara	oceanite	- oseanit
native coke	- kok asli	oceanography	- oseanografi/grafi lautan
native compound	- sebatian asli	ocellar	- (bar) oselus
native element	- unsur asli	octagon	- oktagon
natural sine	- sinus asli	octopus	- kurita
natural tangent	- tangen asli	odograph	- odograf
near shore circulation	- peredaran dekat pantai	offshore beach	- pesisir tepi pantai
neon	- neon	oil spring	- mata minyak
neontology	- neontologi	oil well	- perigi minyak
		oleum	- oleum
		olfaction	- olfaksi
		olfactometry	- olfaktometri
		opal glass	- kaca baiduri
		opalescence	- kependaran baiduri
		opalized wood	- kayu terbaiduri/dibaiduri
		open pack	- laut air batu/ais terbuka
		ore bed	- lapisan bijih
		ore blocket out	- ketul bijih jelas
		ore body	- ketul bijih
		ore channel	- saluran bijih
		oriental agate	- akik indah
		oriental amethyst	- kecubung tanah
		origanum oil	- minyak origanum
		osmates	- osmat
		osmolar	- osmolar

rain, cyclonic	- hujan saikelun	sewage sludge	- enapcemar/kumbahan
rain shadow	- kawasan terlindung hujan	sewage treatment	- perlakuan/pergolahan kumbahan
rainfall	- curahan hujan	sewer	- pengubah
rainfall, annual	- curahan hujan tahunan	shade	- ronagelap; teduh; lorek
rainfall, average	- purata curahan hujan	sieve	- saring/tapis; syak
rainstorm	- hujan ribut	sieve analysis	- analisis tapis/saring
raised beach	- pesisir terangkat/timbul	sieve tube element	- unsur tiub tapis/saring
raised reef	- terumbu terangkat/timbul	sight	- bearing/sudut kompas; titik tetap (ukur)
rare earth metal	- logam nadir bumi	silica	- silika
rare earth mineral	- mineral nadir bumi	silica gel	- gel silika
rare earths	- unsur nadir bumi	silicon	- silikon
reafforestation	- pugar penghutan	silicon bronze	- gangsa silikon
receptor	- reseptor	silicon carbide	- karbida silikon
receptor cell	- sel reseptor	silicon copper	- tembaga silikon
reclaimed land	- tanah tebusguna	silver	- perak; Argentum
recoil	- sentak; sentakan	silver bromide	- Argentum bromida
recoil atom	- atom sentakan	silver chloride	- Argentum klorida
reservoir	- bakungan	slant	- sendeng
residual soil	- tanah tinggal	slide, glass	- slaid kaca
residue	- reja/sisa/baki	smog	- kabut
residue, carbon	- sisa karbon	smoke fish	- ikan salai
respiratory enzyme	- enzim respirasi	smooth muscle	- otot licin
respiratory movement	- gerakan respirasi	soda glass	- kaca soda
resultant velocity	- halaju paduan	soda lime	- kapur soda
retained water	- air tertahan	sodium	- naterium
reversed arc	- lengkok tersongsang	soil amelioration	- perbaiki tanah
reversed limb	- sayap songsang	soil moisture	- kelengasan tanah
revolution	- (per)kitaran	soil profile	- profil tanah
revolution (of the earth)	- (per)kisaran (bumi)	solar eclipse	- gerhana suria
root hair	- rambut akar	solar energy	- tenaga suri
root, mountain	- akar gunung	solar flame	- nyala suria
root nodule	- bintil akar	sound	- bunyi
rootless	- tak berakar	sound barrier	- sawar bunyi
rostrum teeth	- gigi rostum	sound energy	- tenaga bunyi
rough surface	- permukaan kasar	source material	- bahan punca
rounded topography	- rupabumi beralun	source rock	- batuan punca
roundness	- kebundaran	spawn	- menelur
ruby	- delima	spawning	- bertelur
		species	- spesies
		species (taxonomy)	- spesies
		specific activity	- keaktifan spesifik
		specific power	- kuasa spesifik
		specific rotation	- putaran spesifik
		specific volume	- isipadu spesifik
		spectrochemistry	- spektrokimia
		spectrogram	- spektrogram
		spectroscopy	- spektroskopi
		speedometer	- meter laju
		sperm	- sperma
		spill	- tumpahan; limpahan; melimpah; limpahkan
		spillway	- pelimpas
		spin	- spin; pintal; pusing
		spin, parallel	- spin selari

spring balance	- dacing spring	temperature recorder	- perekod suhu
spirit level	- timbang air	terminal of a battery	- terminal bateri
spit	- tanjung pasir	terminating decimals	- perpuluhan berterterminal
spleen	- limpa	terminating fraction	- pecahan berterterminal
spore	- spora	terraettes	- jenjangan
sporophore	- sporofor	terrain	- terain
sporophyll	- sporofil	thermal conductivity	- daya pengkonduksian terma
spring wood	- kayu musim bunga	thermal cracking	- retakan terma
square root	- punca kuasa dua	thermodynamic concentration	- kepekatan termodinamik
stabiliser	- penstabil	thermodynamic system	- sistem termodinamik
stable system	- sistem stabil	thermometer, geologic	- termometer geologi
stack	- timbunan; batu tonggak	thermoneutrality	- keneutralan terma
stagnation	- genangan	threadworm	- cacing-benang
stagnation point	- titik genangan	threshold	- ambang
stain	- pewarna; mewarna	threshold energy	- tenaga ambang
stalactite	- stalaktit	thrombin	- trombin
stalagmite	- stalagmit	thrombocyte	- trombosit
step function	- fungsi langkah	thrust	- tujuh; sungkup
step response	- sambutan langkah	thrust sheet	- kelopak sungkup
stereoscope	- stereoskop	time reversal	- pembalikan masa
stereoscopic vision	- nampakkan stereoskop	time signal	- isyarat waktu/masa
stock	- stok	tin oxide	- timah oksida
stock bouillon	- stok simpanan	tissue culture	- kultur tisu
stockpile	- timbukan stok	tissue fluid	- bendalir tisu
storm	- ribut	titanium alloy	- aloi titanium
storm beach	- pesisir ribut	tone	- nada
storm tide	- pasang ribut	tone of sound	- nada bunyi
strata	- stratum	tonsil	- tonsil
stratification	- penstratuman	topographic adjustment	- pelarasan topografi
structural control	- kawalan struktur	topographic maturity	- kematangan topografi
structural fabric	- fabrik struktur	topography	- topografi
structural low	- rendah struktur	transition state theory	- teori keadaan peralihan
structure geology	- geologi struktur	translocation	- translokasi/pindah lokasi
structure of matter	- struktur jirim	transmitted light	- cahaya ditransmisi/tertransmisi
supplementary angles	- sudut-sudut penganap/suplemen	transplantation	- pencedugan
surface contamination	- kontaminasi/pencemaran permukaan	transversal velocity	- halaju rentas lintang
surface density	- ketumpatan permukaan	trigger	- pencetus; mencetuskan
surrogate	- surogat	trigonal system	- sistem trigon
suspend	- gantungan; ampaian	triple point	- takat/titik tigaan
suspension	- gantungan; ampaian	triple salts	- garam tigaan
suspension method	- kaedah ampaian	tropical cyclone	- siklon/puting beliung tropika
<b>t</b>		trough	- palung
tarnish	- sebam	trough of wave	- palung gelombang
tarsal bone	- tulang tarsus	trunk glacier	- glasier induk
taste-bud	- puting kecap	tuber	- tuber
technical analysis	- analisis teknik	tuff	- tuf
technical chemistry	- kimia teknik	tuff ball	- bola tuf
temperature, earth	- suhu bumi	tuff lava	- lava tuf

**u**

udder	-	ambing
ulna	-	ulna
ultra short wave	-	gelombang (pendek ultra) ultra-pendek
ultra structure	-	(struktur ultra)/ultra-struktur
ultramarine	-	ultra-samudra
unavailable energy	-	tenaga tak sedia ada
unbalanced force	-	daya tak berimbang
uncertainty	-	ketakpastian
uncertainty principle	-	prinsip ketakpastian
under clay	-	lapisan berakar
underflow	-	aliran bawah
underground drainage	-	saliran bawah tanah
underground storage	-	storan bawah tanah
unicellular	-	berekasel
unit ball	-	bola unit
unit cell	-	sel unit
unstable equilibrium	-	keseimbangan tak stabil
uphole shooting	-	penembakan berperingkat
uptake	-	pengambilan
upthrow	-	blok sesar terangkat
urælite	-	urælit
uranium period	-	kala uranium
uranium tetrafluoride	-	uranium tetrafluorida

**v**

vacuum brake	-	vakum
vacuum drying oven	-	gok/oven pengering
vacuum evaporation	-	penyejatan vakum
vacuum still	-	suling vakum
vacuum tube	-	tiub vakum
valine	-	valina
valley	-	lurah; lembah
valley train	-	pawai lurah
valve, bunsen	-	injap bunsen
vanadium	-	vanadium
vanadium carbide	-	vanadium karbida
vanadium sulphate	-	vanadium sulfat
variable point	-	titik (boleh ubah)/terubahkan
viscosity	-	kelikatan
viscosity, absolute	-	kelikatan mutlak
viscosity coefficient	-	pekali/koeefisien kelikatan
vitro, in	-	in vitro

vivo, in	-	in vivo
void	-	liang; kosong
void ratio	-	nisbah liang; nisbah kosong
volcanic ejecta	-	semburan (gunung berapi)/vulkano
volcanic pipe	-	lohong/paip (gunung berapi)/vulkano
volcanic plug	-	sumbat (gunung berapi)/vulkano
volcanic slag	-	sanga (gunung berapi)/vulkano
vulkano, active	-	vulkano (gunung berapi) hidup/aktif
vulkano, composite	-	vulkano/(gunung berapi) gubahan
volt	-	volt
volta couple	-	gandingan volta
voltaic electricity	-	keelektrikan/letrik volta
volume recombination	-	penggabungan semula isipadu
volume, specific	-	isipadu spesifik
voluntary muscle	-	otot kawal
vomerine teeth	-	gigi vomer

**w**

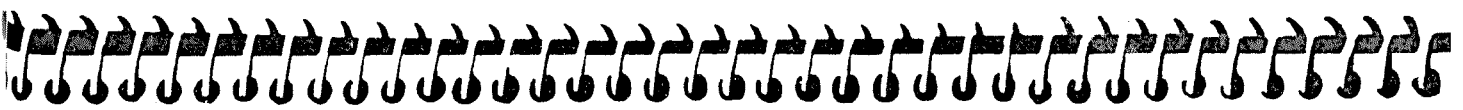
water, capillary	-	air rerambut
water, density of	-	ketumpatan air
water, expansion of	-	pengembangan air
water, flooding	-	pembanjiran air
water of imbibition	-	air pedapan
water, interstitial	-	air interstis
water, running	-	air mengalir
water table	-	(p)aras air tanah
wave built platform	-	pelantar/pentas timbunan gelombang

**z**

zenith	-	rembang
zero hour	-	waktu sifar
zigzag folds	-	lipatan-lipatan berliku-liku
zinc alloy	-	aloi zink/zinkum
zinc borate	-	zinkum/zink borat

**Ikhlas dari:**

Cawangan Istilah  
Bahagian Pembinaan dan Pengembangan Bahasa  
Dewan Bahasa dan Pustaka  
Kuala Lumpur



# Kalendar Kongres Pertanian

Kalendar ini menyenaraikan seminar, konferens, simposium dan bengkel peringkat kebangsaan dan antara-bangsa mengenai pertanian dan perkara-perkara berkaitan dengannya yang akan diadakan dari bulan April hingga bulan Disember 1984. Untuk melengkapkan lagi senarai ini, anda adalah dipelawa untuk melaporkan apa juga maklumat mengenai lain-lain seminar, konferens dan bengkel pertanian yang tidak termasuk di dalam senarai ini.

## April 5

Judul: Simposium Profesionalisma dalam Perhutanan di Malaysia  
Tempat: UPM, Serdang  
Anjuran: Instituti Rimbawan Malaysia (IRIM) dan Fakulti Perhutanan, UPM

## April 8-10

Judul: Memproses Kicap  
Tempat: Kuala Trengganu  
Anjuran: Bahagian Teknologi Makanan, MARDI

## April 9-13

Judul: GEOSEA V  
Tempat: Kuala Lumpur  
Anjuran: Persatuan Geologi Malaysia

## April 15-17

Judul: Memproses Kacang Soya  
a) tauhu  
b) air kacang soya  
c) fucuk  
Tempat: Tampoi  
Anjuran: Bahagian Teknologi Makanan, MARDI

## April 17-18

Judul: Memproses Tapai  
Tempat: B. Raya  
Anjuran: Bahagian Teknologi Makanan, MARDI

## April 25-27

Judul: Memproses Halwa  
a) halwa nenas  
b) halwa limau  
Tempat: Serdang, Selangor  
Anjuran: Bahagian Teknologi Makanan, MARDI

## April 30 - Mei 3

Judul: Secon International Seminar on Veterinary Education  
Tempat: UPM, Serdang  
Anjuran: Fakulti Kedokteran Veterinar dan Sains Peternakan, UPM

## Mei dan December

Judul: Kursus Pendek Memproses Makanan  
Tempat: UPM, Serdang  
Anjuran: Fakulti Sains dan Teknologi Makanan, UPM

## Mei 8-10

Judul: Memproses Hasil dari Ikan  
a) Bebola ikan (fish ball)  
b) Kek Ikan (fish cake)  
Tempat: Kuala Trengganu  
Anjuran: Bahagian Teknologi Makanan, MARDI

## Mei 14-31

Judul: Kursus Pendek Ekonomi Untuk Sains Perikanan & Akuakultura  
Tempat: UPM, Serdang  
Anjuran: Fakulti Ekonomi Sumber & Perniagaantani, UPM

## Mei 11 - Jun 4

Judul: Regional Course in Veterinary Immunology UPM, Serdang  
Tempat: UPM, Serdang  
Anjuran: Fakulti Kedokteran Veterinar dan Sains Peternakan, UPM/CIDA

## Mei 24-26

Judul: Memproses Kicap  
Tempat: Bukit Ridan  
Anjuran: Bahagian Teknologi Makanan, MARDI

**Mei 29-31**

Judul: Memproses Mee dan Laksa (L)  
 a) mee kuning  
 b) mee hoon  
 c) laksa  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Julai 23-27**

Judul: Workshop on Microfungi  
 Tempat: UPM, Serdang  
 Anjuran: UPM/MPPS

**Julai 24-26**

Judul: Latihan untuk Pengilang Kecil Padi (L)  
 Tempat: B. Raya  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Julai 25-27**

Judul: Memproses Jem dan Kodial  
 a) jem nenas  
 b) kodial  
 Tempat: Bukit Ridan  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Julai 25**

Judul: Bengkel Pembungkusan Makanan (L)  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Julai 31 - Ogos 2**

Judul: Jeruk Buah-buahan dan Kerepek  
 a) jeruk mepelam, cili, betik  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Ogos 3-8**

Judul: Ag-Asia 1984  
 Tempat: UPM, Serdang  
 Anjuran: Agricultural Institute of Malaysia

**Ogos 6-8**

Judul: Memproses Sosej dan Burger  
 a) sojek daging  
 b) burger daging  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Ogos 12-14**

Judul: Memproses Makanan Ayam  
 Tempat: Pasir Putih  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Ogos 13-15**

Judul: International Conference on Soils and Nutrition of Perennial Crops  
 Tempat: Kuala Lumpur  
 Anjuran: Malaysian Society of Soil Science

**Ogos 20-22**

Judul: Jeruk Buah-buahan dan Kerepek  
 a) jeruk mepelam, cili, betik  
 b) kerepek pisang  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Ogos 22-24**

Judul: Jeruk Buah-buahan dan Kerepek  
 a) jeruk mepelam, cili, betik  
 b) kerepek pisang  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**September 3-5**

Judul: First Regional Symposium on Biological Control  
 Tempat: UPM, Serdang  
 Anjuran: MAPPS/Fakulti Pertanian, UPM

**September 13-14**

Judul: Seminar Kebangsaan Pengurusan dan penggunaan Sisa-sisa Industri  
 Tempat: UPM, Serdang  
 Anjuran: Jabatan Alam Sekitar, Kementerian Teknologi Alam Sekitar, UNESCO/Fakulti Kejuruteraan Pertanian, UPM

**September 19-20**

Judul: Memproses Tapai  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**September 23-25**

Judul: Memproses Sos  
 a) sos cili  
 b) sos tomato  
 Tempat: Tampoi  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Oktober 2-4**

Judul: Jeruk Buah-buahan dan Kerepek  
 a) jeruk mempelam, cili, betik  
 b) kerepek pisang  
 Tempat: Bukit Ridan  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Oktober 15-18**

Judul: International Conference on Cocoa and Coconuts - Progress and Outlook  
 Tempat: Kuala Lumpur  
 Anjuran: Incorporated Society of Planters and the Malaysian Cocoa Growers Council

**Oktober 15-18**

Judul: Memproses Kulit  
 Tempat: Pasir Putih  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Oktober 17-24**

Judul: Fungicide Resistance Course  
 Tempat: UPM, Serdang  
 Anjuran: UPM/MPSS

**Oktober 30-31**

Judul: Bengkel Kebersihan dalam Industri Makanan  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**November 5-7**

Judul: Memproses Dadeh dan Telur Masin  
 a) daheh  
 b) telur masin  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**November 11-16**

Judul: World Conference on the Processing of Palm, Palm Kernel, and Coconut Oils  
 Tempat: Kuala Lumpur  
 Anjuran: Oil Chemists' Society and PORIM

**November 20-22**

Judul: Memproses Jem dan Kodial  
 a) jem nenas  
 b) kodial  
 Tempat: Tampoi  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**November 21-23**

Judul: Memproses Roti, Kek dan Biskut  
 a) roti  
 b) kek  
 c) biskut  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**November 27-29**

Judul: Bengkel Kawalan Mutu Pengeluaran Makanan  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**November 28-30**

Judul: Jeruk Buah-buahan dan Kerepek  
 a) jeruk mempelam, cili, betik  
 b) kerepek pisang  
 Tempat: Bukit Ridan  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Disember 10**

Judul: Seminar on Current Research Trend in Food Science  
 Tempat: UPM, Serdang  
 Anjuran: Fakulti Sains dan Teknologi Makanan, UPM

**Disember 12-14**

Judul: Memproses Kacang Soya  
 a) tauhu  
 b) air kacang soya  
 c) fucuk  
 Tempat: Serdang, Selangor  
 Anjuran: Bahagian Teknologi Makanan, MARDI

**Bibliografi-Bibliografi Terbitan Perpustakaan  
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Perpustakaan UPM telah menerbitkan beberapa buah bibliografi yang merupakan sumber rujukan yang amat berguna. Bibliografi-bibliografi tersebut adalah seperti berikut:-

<u>Judul</u>	<u>Harga</u>
1. Abstrak Alam Sekitar Malaysia. (Malaysian Environment Abstracts). 1981	\$ 5.00
2. Abstrak Buah-buahan Malaysia. (Malaysian Fruit Abstracts) Nov. 1980	\$10.00
3. Abstrak Penukaran Biojisim Kepada Bahan Tenaga. (Abstracts on Bioconversion for Fuel production). Okt. 1981	\$10.00
4. Asas Ekologi untuk Kegunaan Rasional Sumber Hutan di Asia Tenggara. (Ecological Basis for Rational Utilization of Forest Resources in Southeast Asia: A bibliography).1982	\$ 5.00
5. Bibliografi Alam Sekitar ASEAN. (ASEAN Environment Bibliography).1981	\$ 5.00
6. Bibliografi Bioteknologi (Bibliography on Biotechnology) Mac 1984	\$ 5.00
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8. Bibliografi Pendidikan Jasmani dan Sukan dalam Pembangunan Negara. (A Bibliography on Physical Education and Sport in Nation Building). Ogos 1982	\$10.00
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14. Bibliografi Teknologi Bijih Benih di Tropika (A Bibliography on Seed Technology for the Tropics). Okt. 1982	\$10.00
15. Bibliografi Teknologi Menangkap Ikan di Kawasan Asia, 1972-1982 (Bibliography on Capture Fisheries in the Asian Region, 1972-1982)	\$ 5.00
16. Bibliography of Malaysian Soils. 1981	\$ 5.00
17. Hasil-hasil Hutan Malaysia dan Kegunaannya: sebuah bibliografi. (Malaysian Forest Products Their Utilization: a bibliography). Okt. 1979	\$ 1.00
18. Hidroponik: sebuah bibliografi (Hydroponics: a bibliography) Okt 1981	\$ 5.00
19. Kerbau: sebuah bibliografi. (Buffalo: a bibliography). 1979	\$ 5.00
20. Kesan Kegiatan Perhutanan dan Penghutanan Semula ke atas Hidrologi: sebuah bibliografi. (Hydrological Impacts of Forestry Practices and Reafforestation: a bibliography). 1981	\$ 5.00
21. Makanan dan Pemakanan di Asia: sebuah bibliografi. (Food and Nutrition in Asia: a bibliography). 1981	\$ 5.00
22. Malaysian Animal Science Abstracts, 1975-1979, 1980	\$15.00
23. Mycorrhiza: sebuah bibliografi. (Mycorrhiza: a bibliography). Apr. 1982	\$ 5.00
24. Orkid: Senarai Bahan-bahan Dalam Perpustakaan. (Orchid: List of Materials in the Library). Ogos 1980	Percuma
25. Pendidikan Veterinar: sebuah bibliografi (Veterinary Education: a bibliography).Julai 1979	\$ 5.00
26. Pengurusan Sumber Alam: sebuah bibliografi.(National Resources Management: a bibliography) Jun 1979	\$ 5.00
27. Penyakit Kuku dan Mulut: sebuah bibliografi. (Foot-and-Mouth Disease: a bibliography) Feb 1979	\$ 5.00

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