

## FORMULASI RANSUM DENGAN PROGRAM WINFEED



Departemen Ilmu Nutrisi dan Teknologi Pakan  
Fakultas Peternakan - Institut Pertanian Bogor  
<http://intp.fapet.ipb.ac.id>

### Apa itu Ransum ?

- ❑ Sebuah RANSUM adalah sejumlah bahan pakan yang diberikan pada ternak selama 24 jam.
- ❑ RANSUM SEIMBANG adalah jumlah pakan yang diberikan pada ternak dalam jumlah dan porsi yang tepat sesuai dengan kebutuhan ternak untuk tujuan produksi tertentu seperti pertumbuhan, pemeliharaan, kebuntingan, produksi susu dan

## Ransum Sapi Potong

- Calf (milk replacer, calf starter)
- Growing (grower ration)
- Fattening (finisher ration)



WinFeed - Feed Formulation Software

## Sapi Perah

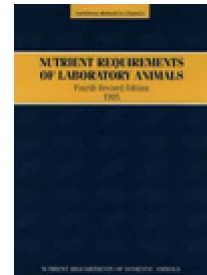
- Calf (milk replacer, calf starter)
- Growing (grower)
- Heifer (heifer ration)
- Lactation (lactation ration)
- Bull (bull ration)



WinFeed - Feed Formulation Software

## Kebutuhan Nutrien untuk Ternak

- ❑ Kebutuhan nutrien adalah jumlah nutrisi yang dibutuhkan hewan untuk tujuan produksi tertentu.
- ❑ Kebutuhan nutrient dipengaruhi oleh banyak faktor, seperti: jenis ternak, breed berat badan, jenis kelamin, pertumbuhan, periode laktasi, lingkungan dan lain-lain.
- ❑ Kebutuhan nutrient dapat ditemukan dalam tabel kebutuhan nutrient yang diterbitkanmisalnya dari National Research Council (NRC).



WinFeed - Feed Formulation Software

## Kebutuhan Nutrien

- ❑ Maintenance (nutrient for basic activities (breath, blood flow, low activities) without body weight change
- ❑ Production (milk, meat, egg, wool, reproduction, etc.)



WinFeed - Feed Formulation Software

## Program Win Feed

- ❑ Dikembangkan Laboratory of Nutrition, University of Cambridge, UK
- ❑ Program formulasi ransum sederhana yang dapat dipergunakan untuk menyusun ransum unggas atau ruminansia
- ❑ Metode formulasi ransum:
  - ❑ Linear Feed Formulation
  - ❑ Stochastic Feed Formulation
- ❑ [www.winfeed.com](http://www.winfeed.com)



WinFeed - Feed Formulation Software

## Prinsip Linear Program

- **Minimisasi**  $C_1X_1 + C_2X_2 + C_3X_3 + \dots + C_jX_j$
- **Kendala**
  - $a_{11}X_1 + a_{21}X_2 + a_{31}X_3 + \dots + a_{ij}X_j \geq b_1$
  - $a_{12}X_1 + a_{22}X_2 + a_{32}X_3 + \dots + a_{ij}X_j \geq b_2$
  - .....
  - $a_{1j}X_1 + a_{2j}X_2 + a_{3j}X_3 + \dots + a_{ij}X_j \geq b_i$
- **Asumsi**
  - $X_1 + X_2 + X_3 + \dots + X_j = 1$
  - $X_1, X_2, X_3, \dots, X_j \geq 1$

- $c_j$  = harga bahan pakan
- $x_j$  = jumlah penggunaan bahan pakan
- $a_{ij}$  = kandungan nutrisi dalam bahan pakan
- $b_i$  = kebutuhan nutrisi

WinFeed - Feed Formulation Software

## Cara Install WinFeed 1#

- ❑ Click **WINFEED283.EXE**



- ❑ Click **NEXT >**

WinFeed - Feed Formulation Software

## Cara Install WinFeed 2#

- ❑ Click **I accept in the terms in license agreement**



- ❑ Click **NEXT >**

WinFeed - Feed Formulation Software

## Cara Install WinFeed 3#


- ❑ Tuliskan **license key**

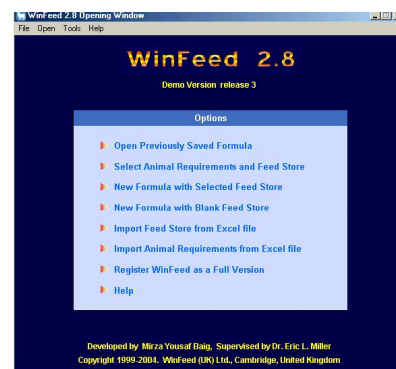


- ❑ Click **NEXT >**

WinFeed - Feed Formulation Software

## Tahapan dalam Formulasi

- ❑ Membuat Database Pakan
- ❑ Pilih Bahan Pakan yang akan digunakan
  - ❑ Check list nama bahan pakan 
  - ❑ Periksa harga pakan
  - ❑ Kembali (Go Back)
- ❑ Masukan Kebutuhan Nutrien (Nutrient Requirement)
- ❑ Hitung (Formulate)




WinFeed - Feed Formulation Software

## Option (Menu Utama)

Options	
▶ Open Previously Saved Formula	➤ Buka Formula Sebelumnya
▶ Select Animal Requirements and Feed Store	➤ Pilih Kebutuhan Nutrien dan Bahan Baku
▶ New Formula with Selected Feed Store	➤ Formula Baru dari Bahan Baku Terpilih
▶ New Formula with Blank Feed Store	➤ Formula Baru dari Database Baru
▶ Import Feed Store from Excel file	➤ Import Bahan Baku dari File Excel
▶ Import Animal Requirements from Excel file	➤ Import Kebutuhan Ternak dari File Excel
▶ Register WinFeed as a Full Version	➤ Register
▶ Help	➤ Help

WinFeed - Feed Formulation Software

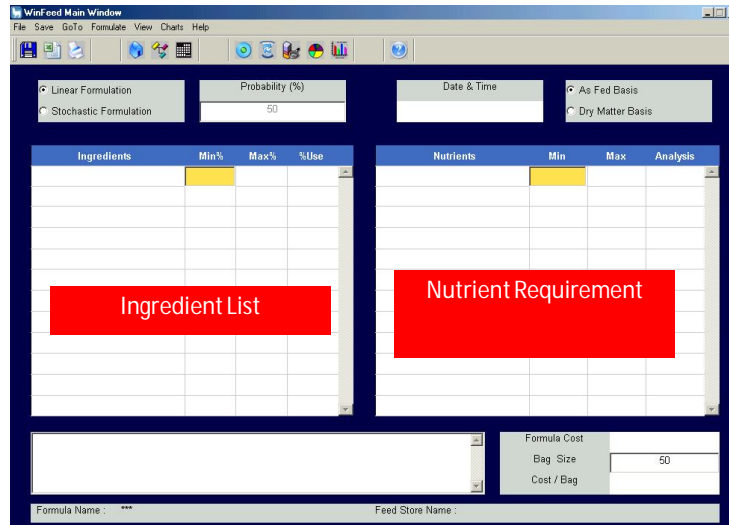
## Menu Utama



The screenshot shows the WinFeed 2.8 software interface. The title bar reads "WinFeed 2.8 Opening Window". The menu bar includes "File", "Open", "Tools", and "Help". The "Open" menu is expanded, showing the following options: "Open Previously Saved Formula", "Select Animal Requirements and Feed Store", "New Formula with Selected Feed Store", and "New Formula with Blank Feed Store". A red arrow points to the "Open" menu item. In the background, the "Options" panel is visible, listing the same menu items as in the first slide. The software version "WinFeed 2.8" and "Version release 3" are also visible in the background.

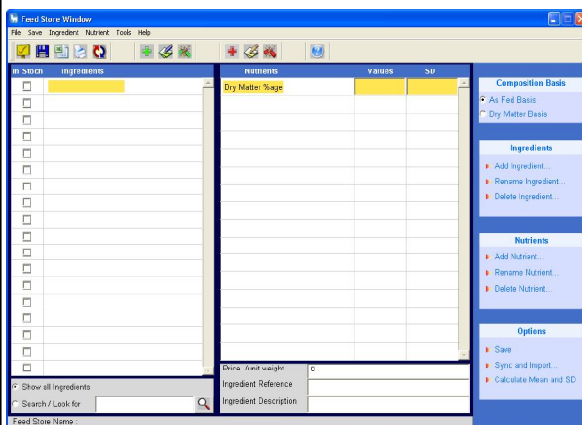
WinFeed - Feed Formulation Software

## Menyusun Ransum Baru dengan Data Bahan Pakan Baru (New formula with blank feed store)



WinFeed - Feed Formulation Software

## Membuat Database Bahan Pakan (New formula with blank feed store)



- Tuliskan nama bahan pakan
- Tuliskan nama nutrisi
- Pastikan komposisi nutrisi dalam *dry matter basis* atau *as feed basis*
- Masukkan kandungan nutrisi dan harga dari setiap bahan pakan

WinFeed - Feed Formulation Software



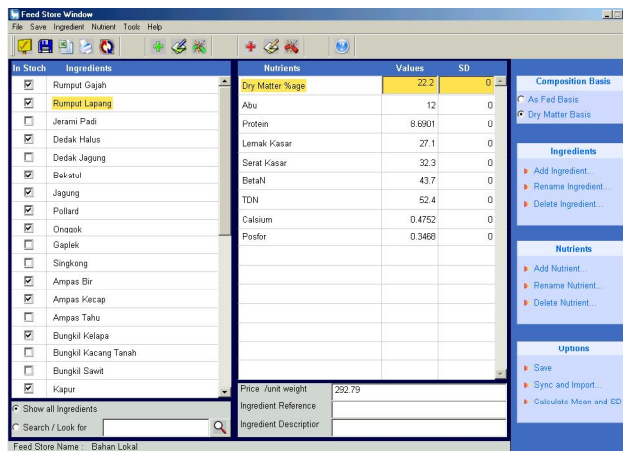
## Membuat Ransum Baru (New Formula with Selected Feed Store)


- Pilih data base bahan pakan  
(Select the feed Store)*



WinFeed - Feed Formulation Software

## Data Base Bahan Pakan (Feed Store)



- ✓ Pilih bahan pakan yang akan digunakan dalam ransum
- ✓ Contreng bahan pakan yang dipilih 
- ✓ Click Go Back

WinFeed - Feed Formulation Software

## Bahan Pakan yang Dipilih (Selected Ingredients)

The screenshot shows the WinFeed Main Window with the following data:

Ingredients	Min%	Max%	%Use
Rumpus Gajah			
Rumpus Lapang			
Dedak Halus			
Bekatul			
Jagung			
Pollard			
Onggok			
Ampas Bir			
Ampas Kecap			
Bungkil Kelapa			
Kapur			

Nutrients	Min	Max	Analysis
Dry Matter %age			
Abu			
Protein			
Lemak Kasar			
Serat Kasar			
BetaN			
TDN			
Calcium			
Posfor			

Formula Cost	Value
Bag Size	50
Cost / Bag	

Formula Name : \*\*\*      Feed Store Name : Bahan Lokal

WinFeed - Feed Formulation Software

## Pembatasan Bahan Pakan dan Nutrien (Ingredient & Nutrient Constraints)

The screenshot shows the WinFeed Main Window with the following data:

Ingredients	Min%	Max%	%Use
Dedak Halus		30	
Bekatul			
Jagung		40	
Pollard			
Onggok			
Ampas Bir		15	
Ampas Kecap		15	
Bungkil Kelapa		20	
Kapur	1	1	


  

Nutrients	Min	Max	Analysis
Dry Matter %age			
Abu			
Protein	16		
Lemak Kasar			
Serat Kasar			
BetaN			
TDN	70		
Calcium			
Posfor			

Formula Cost	Value
Bag Size	50
Cost / Bag	

Formula Name : \*\*\*      Feed Store Name : Bahan Lokal

- Tuliskan batas penggunaan MIN dan MAX bahan pakan
- Tuliskan batas MIN dan MAX kebutuhan nutrien
- Click FORMULATE 

WinFeed - Feed Formulation Software

## Ransum Hasil Formulasi

**WinFeed Main Window**

File Save GoTo Formulate View Charts Help

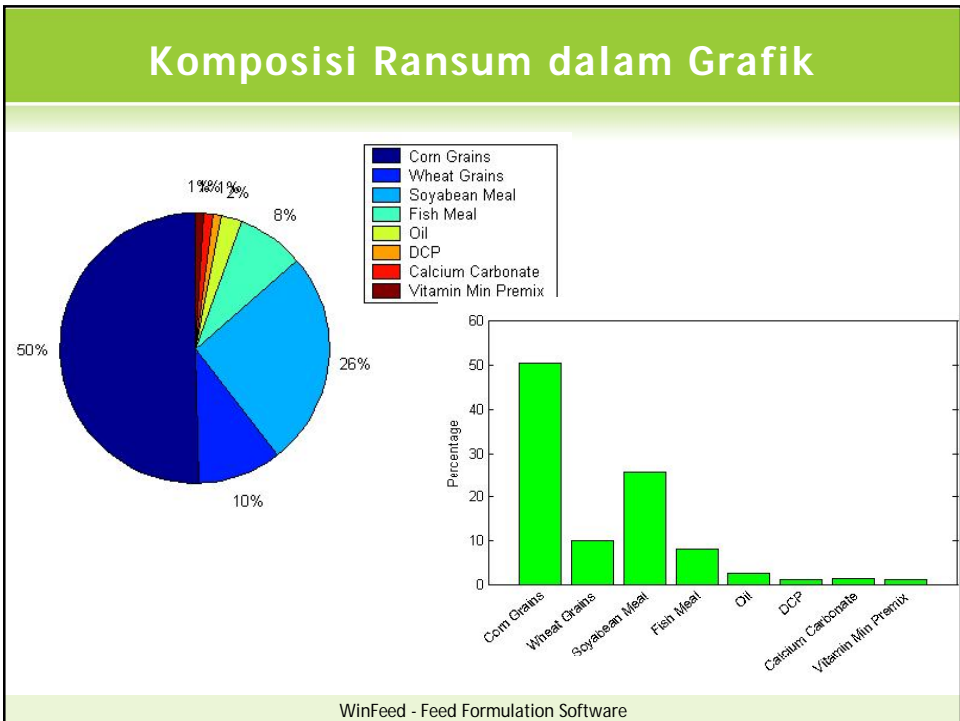
Linear Formulation      Probability (%) 50      Date & Time 24-Mar-2006 08:40:42       As Fed Basis  
 Stochastic Formulation       Dry Matter Basis

Ingredients	Min%	Max%	%Use	Nutrients	Min	Max	Analysis
Dedak Halus		30	30	Dry Matter %age			87.483
Bekatul			16.58	Abu			9.043
Jagung			0	Protein	16		16
Pollard		40	0	Lemak Kasar			8.064
Onggok			17.42	Serat Kasar			12.917
Ampas Bir	15		15	BetaN			47.908
Ampas Kecap	15		0	TDN	70		75.506
Bungkil Kelapa	20		20	Calcium			0.552
Kapur	1	1	1	Posfor			0.914

Formula Cost: 950.3  
 Bag Size: 50  
 Cost / Bag: 47515

Formula Name: \*\*\*      Feed Store Name: Bahan Lokal

WinFeed - Feed Formulation Software



## Simpan File Ransum (Save, Save As)

The screenshot shows the WinFeed Main Window with the File menu open. The 'Save' option is highlighted, and the 'Save As...' option is also visible. A dialog box titled 'Name of the WinFeed Feed Formula' is open, showing a file list with various feed formulas like 'Example 28 Broiler', 'Konsentrat Sapi Laktasi 2', and 'Ransum Broiler Bekasi'. The 'Save' button is highlighted in the dialog box.

**Save (nama file)**

WinFeed - Feed Formulation Software

## Buka File Ransum Sebelumnya (Open previously saved formula)

The screenshot shows the WinFeed 2.8 Opening Window with the File menu open. The 'Open' option is highlighted, and a red arrow points to it. A dialog box titled 'Select the Feed Formula' is open, showing a file list with various feed formulas like 'Konsentrat Sapi Laktasi 2', 'Ransum Hay Rami 1', and 'Ransum Silase Rami 1'. The 'Open' button is highlighted in the dialog box.

WinFeed - Feed Formulation Software

Terima Kasih

