

PENINGKATAN KUALITAS KARKAS AYAM BROILER MELALUI PERBAIKAN MUTU & NUTRISI PAKAN

**FARM GENENGAN MALANG, NOVEMBER
– DESEMBER 2022**

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DASAR-DASAR YANG MEMPENGARUHI PEFORMA AYAM BROILER

METODE OPTIMALISASI NUTRISI PAKAN AYAM BROILER DI RESEARCH FARM

FLOW CHART ANALISA KUALITAS KARKAS DI RPA

IMPLICATION (**TANTANGAN INTERNAL**)

- Feeding recommendation
- Environment and water management
- Farm management
- Diseases management
- Genetic company updating of manual guide



IN OTHER HAND

(TANTANGAN EKSTERNAL)

Market price volatility

Policy update

Environment dynamic

Raw material scarcity

Competition and free trade

IoT (Internet of Thing)



FARM CHECK LIST

DOC

Brooder

T, RH, O₂, Density

Water

Feed and Tray

Litter

Lighting & eating

Diseases : preventive and curative

Biosecurity

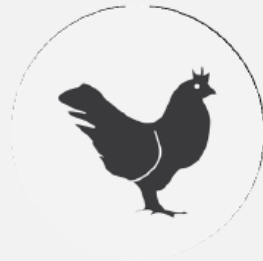
Animal behavior

Farmer goal

People, communications & recording



Customer concern



- | | | | | |
|--------------------------------|---------------------------|----------------------------|------------------------------|-----------------------|
| · FCR Improvement | · Eggshell Quality | · Average daily gain | · Little Size | · Growth optimization |
| · Foot Pad | · Eggshell Color | · Ketosis | · Milk Production | · Health & Immune |
| · Color Shank | · Egg yolk quality | · Carcass Quality | · Survival Rate | · Survival Rate |
| · Feather Quality | · Albumin Quality | · Balancing Micro Organism | · FCR Improvement | · Fish Fillet quality |
| · Body Weight | · Egg Lifetime | | · Carcass Quality | |
| · Bone Improvement | · Hen day production | | · Respiratory and Intestinal | |
| · Exudate Reduction | · Clean Egg | | | |
| · Panting | · Increasing Egg Lifetime | | | |
| · % Carcass | | | | |
| · Biosecurity & Safety Farming | | | | |



METODE OPTIMALIASI NUTRISI PAKAN BROILER :

1. REFORMULASI ASAM AMINO PADA PAKAN BROILER DENGAN STANDARISASI “**RANTAI ASAM AMINO BER CABANG**” (BRANCHED CHAIN AMINO ACID / BCAA)
2. REFORMULASI KANDUNGAN MINERAL PADA PAKAN AYAM BROILER DARI MINERAL “**INORGANIK**” DIGANTIKAN DENGAN MINERAL “**ORGANIK**”.

Feed Formulation

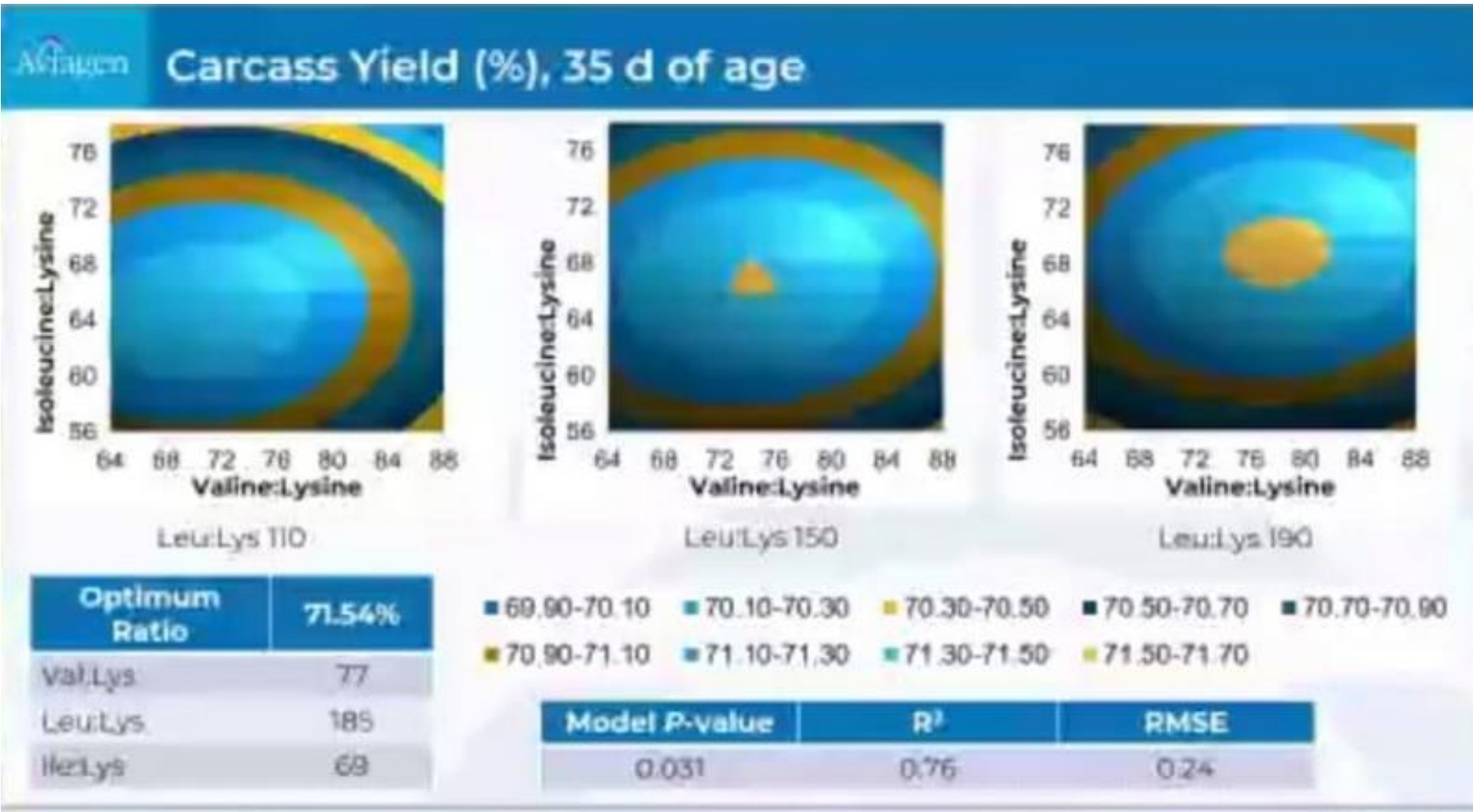
Ideal Protein/Balanced Protein, Ross 708			
Digestible Amino Acid	Starter 1-10	Grower 11-24	Finisher 25-end
Lysine, % in feed	1.28	1.15	1.03
Methionine + Cystine	74	76	78
Threonine	67	67	67
Valine	75	76	77
Isoleucine	67	68	69
Arginine	107	107	108

Ideal Protein/Balanced Protein, Cobb 500				
Digestible Amino Acid	Starter 1-8	Grower 9-18	Finisher 1 19-28	Finisher 2 >29
Lysine, % in feed	100	100	100	100
Methionine + Cystine	75	76	78	78
Threonine	68	65	65	65
Valine	73	75	75	75
Isoleucine	63	64	65	66
Arginine	105	105	105	105

Methionine + Cystine in feed = $1.28 \times 0.74 = 0.9472$

- Adjustment can be made depending on market objectives
 - Threonine – Gut health challenge
 - Arginine – Heat stress
 - Isoleucine – Breast meat yield
 - Consider antagonism between AAs

- Limiting AA in corn-SBM diets fed to broilers:
 - Methionine
 - Lysine
 - Threonine
 - Valine
 - Isoleucine – 4th in diets with animal by product meals
 - Arginine – 4th in sorghum based diets



NUTRIGUANIN DMC-01

INGREDIENTS		QUANTITY PER KG PRODUCT	
HyD	3.00	mcg	
L-Valine	175.00	mg	
L-Glycne	350.00	mg	
L-Isoleucine	75.00	mg	

The trial was designed to compare inorganic trace minerals (sulphates) to hydroxy trace minerals at a low versus high inclusion level of zinc in combination with nutritional levels of copper. Inorganic trace minerals have lower bioavailability, requiring increased feeding amounts, which can result in higher costs and more environmental waste. Independent research indicates supplementing hydroxy minerals (IntelliBond) will result in increased bioavailability. To evaluate this effect, broilers were given a diet with either inorganic or IntelliBond hydroxy trace minerals. Measurement parameters included broiler performance and carcass characteristics.

Does adding IntelliBond trace minerals have an effect on growth performance and carcass quality of broiler chickens compared to inorganic trace minerals and is growth performance and carcass quality affected by supplementing low versus high zinc in combination with nutritional levels of copper?

For the overall period, supplementation with IntelliBond (IB) trace minerals resulted in an improved feed conversion (FCR) regardless of zinc inclusion level ($p = 0.02$) (Figure 1). This effect was mainly found in the final feeding phase of the trial where there was also a strong tendency to improve gain and average daily gain (ADG) with broilers fed IB trace minerals ($p = 0.06$). For the overall period IntelliBond zinc supplemented at 20 ppm compared to 80 ppm zinc sulphate increased weight gain and ADG ($p = 0.036$).

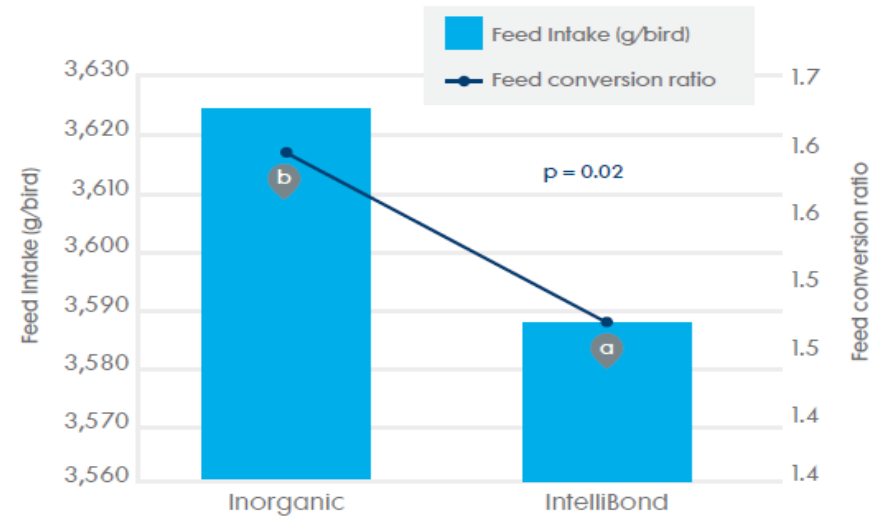


Figure 1. Effect of treatment on overall performance of broilers comparing inorganic and hydroxy mineral sources. Different labels imply significant differences. p -Values < 0.05 indicate significant differences.

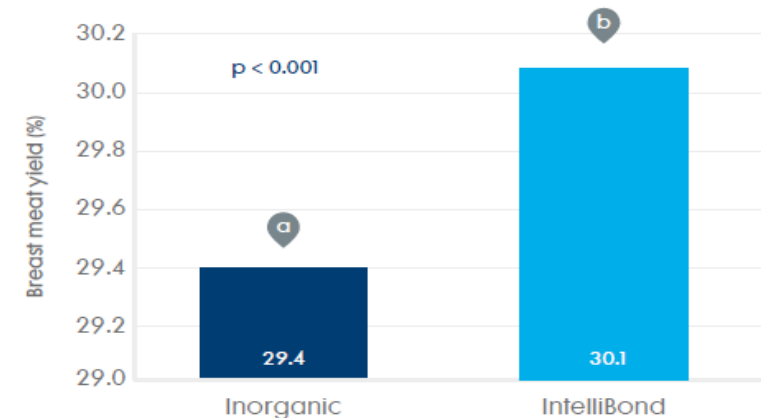


Figure 2. Effect on breast meat yield (BMV) of broilers comparing inorganic and hydroxyl mineral sources. Different labels imply significant differences. p -values < 0.05 indicate significant differences.

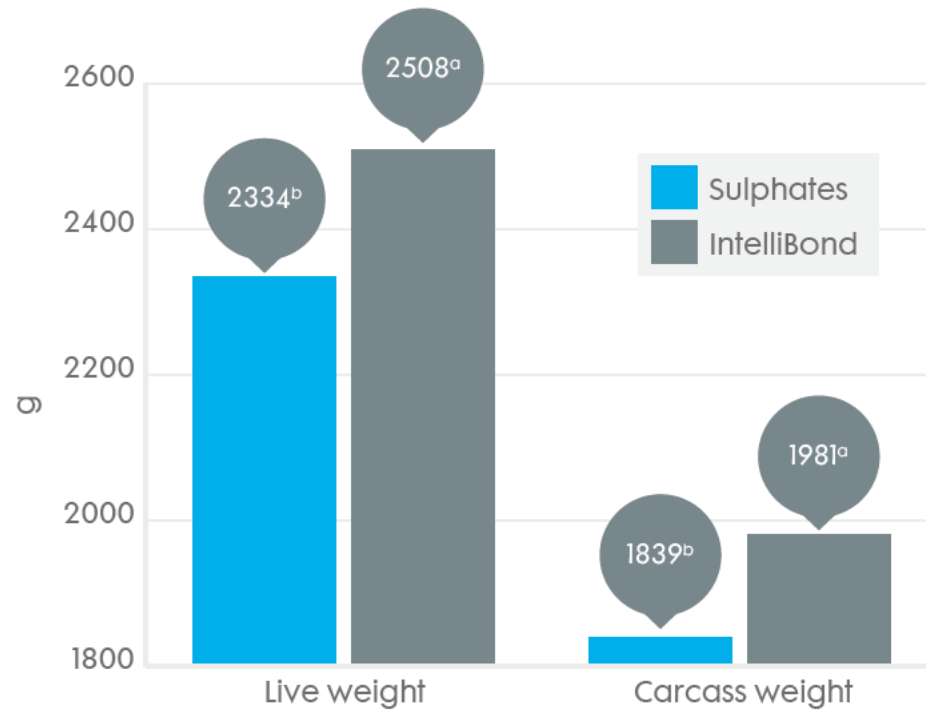


Figure 3. Live and carcass weights of broilers fed different trace mineral programmes for 35 days. Letters above bars denote statistically different values ($P < 0.05$).

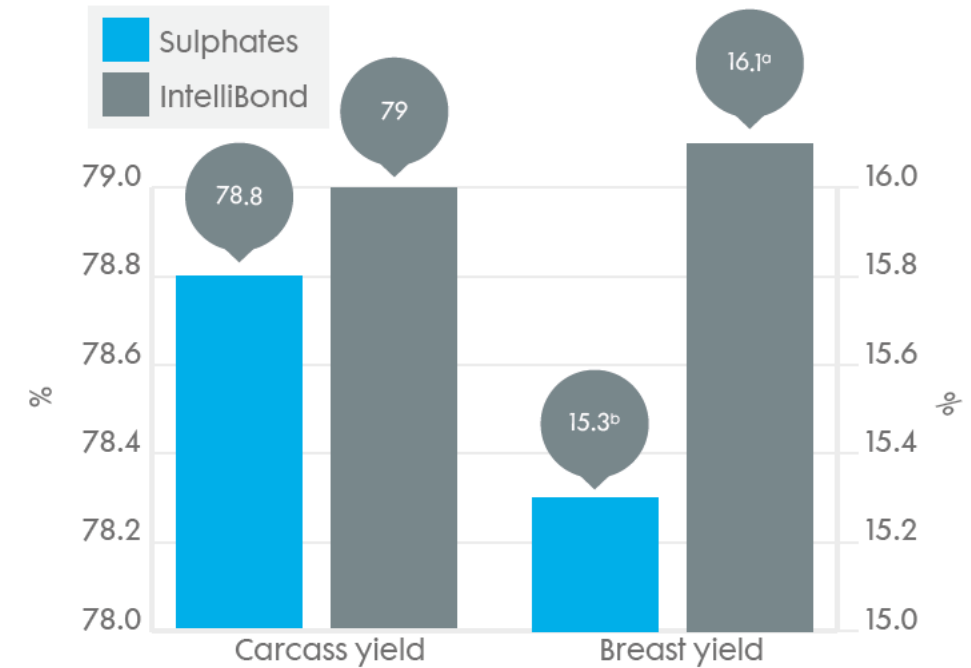


Figure 4. Carcass and breast meat yield of broilers fed different trace mineral programmes for 35 days. Letters above bars denote statistically different values ($P < 0.05$).

Additives

Compounds of trace elements :

	Unit/kg	Product	Endproduct
Organic Iron	mg	4,000.00	4.00
Iron	mg	11,000.00	11.00
Hydroxy Copper	mg	6,000.00	6.00
Organic Manganese	mg	5,000.00	5.00
Hydroxy Manganese	mg	35,000.00	35.00
Organic Zinc	mg	5,000.00	5.00
Hydroxy Zinc	mg	35,000.00	35.00
Organic Selenium	mg	200.00	0.20
Selenium	mg	100.00	0.10
Iodine	mg	4,000.00	4.00

- Ayam broiler ex DMC 1500 ekor yang dipelihara pada umur 0–32 hari sebanyak 750 ekor untuk pakan SB20 dan SB21 Kontrol (A) dan 750 ekor untuk pakan SB20 dan SB21 Trial (B & C) di kandang terbuka (*open house*)
- **Farm Genengan, Kandang 4 dan 5** . Tanggal : 18 November 2022 (estimasi Pada umur pemberian pakan trial 32 hari / BW 2.3 Kg)
- **Pemeriksaan Laboratorium-Feedmill**
Analisa proksimat, pati (Starch), Ca, P, Na, Cl dan K pakan percobaan / QC Proses
- **Uji Fisik pakan percobaan**
- **Riset Farm – Genengan Malang, melakukan pemeliharaan broiler dan pengambilan data-data :**
 - a. Daya Hidup (DH)
 - b. Konsumsi pakan (FI)
 - c. Pertambahan Bobot Badan (WG)
 - d. Konversi pakan (FCR)
 - e. Pendapatan diatas biaya pakan (IOFC)
 - f. Indeks Performans (IP)
 - g. Income Over Feed Cost (IOFC)
- **RPA DMC – Beji Pasuruan, melakukan pemeriksaan dan pengambilan data-data :**
 - a. Karkas (%)
 - b. Daging Dada Utuh (%)
 - c. Daging Paha Utuh (%)
 - d. Boneless Dada Pakai Kulit (%)
 - e. Boneless Dada Tanpa Kulit (%)
 - f. Boneless Paha Pakai Kulit (%)
 - g. Boneless Paha Tanpa Kulit (%)

METODE OPTIMALISASI NUTRISI PAKAN AYAM BROILER DI RESEARCH FARM

SB20 0-14 HARI

RIGHT

TRIAL

CONTROL

TRIAL

CONTROL

LEFT

L
A
Y
O
U
T

K
A
N
D
A
N
G

SB21 15 HARI - PANEN

RIGHT

TRIAL -
CONTROL

CONTROL
-TRIAL

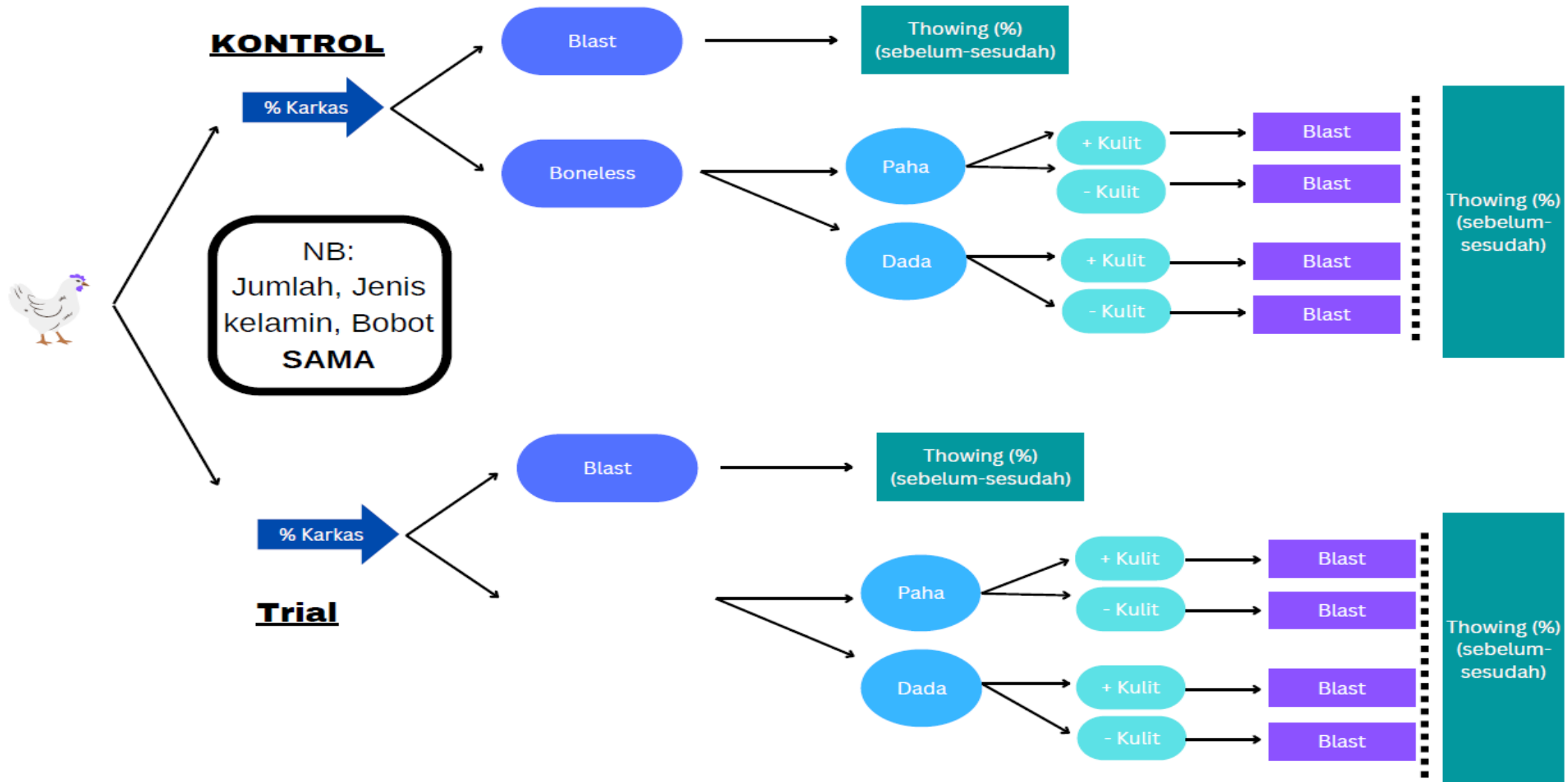
TRIAL -
TRIAL

CONTROL-
CONTROL

LEFT

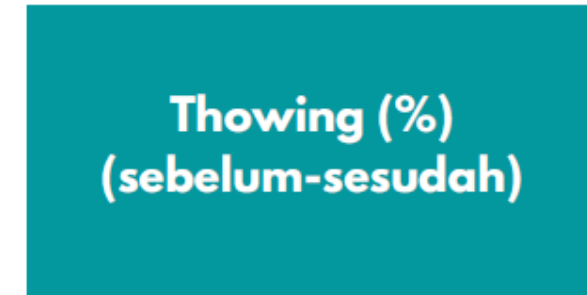
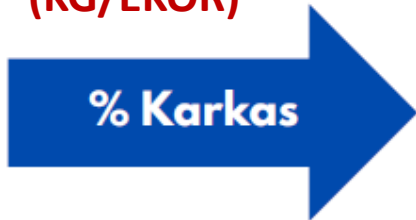


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**BW KARKAS
(KG/EKOR)**



**BW KARKAS
(KG/EKOR)**

48 EKOR AYAM:

- 24 BETINA
- 24 JANTAN



48 EKOR AYAM:

- BETINA (TT/CC @12 ekor, TC/CT @12 ekor)
- JANTAN (TT/CC @12 ekor, TC/CT @12 ekor)

24 EKOR AYAM:

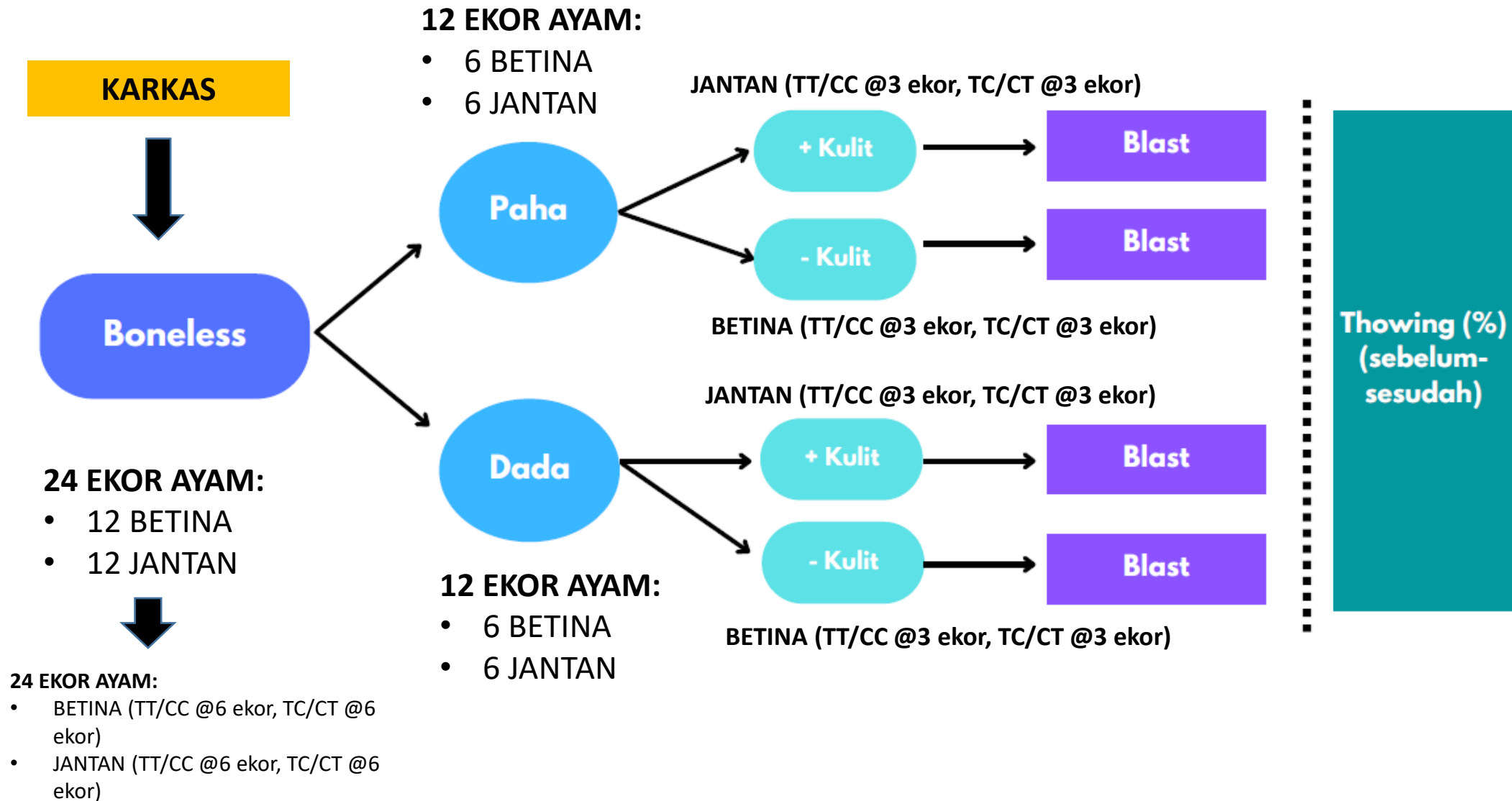
- 12 BETINA
- 12 JANTAN



24 EKOR AYAM:

- BETINA (TT/CC @6 ekor, TC/CT @6 ekor)
- JANTAN (TT/CC @6 ekor, TC/CT @6 ekor)

FLOW CHART ANALISA KUALITAS KARKAS DI RPA





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Thank you