

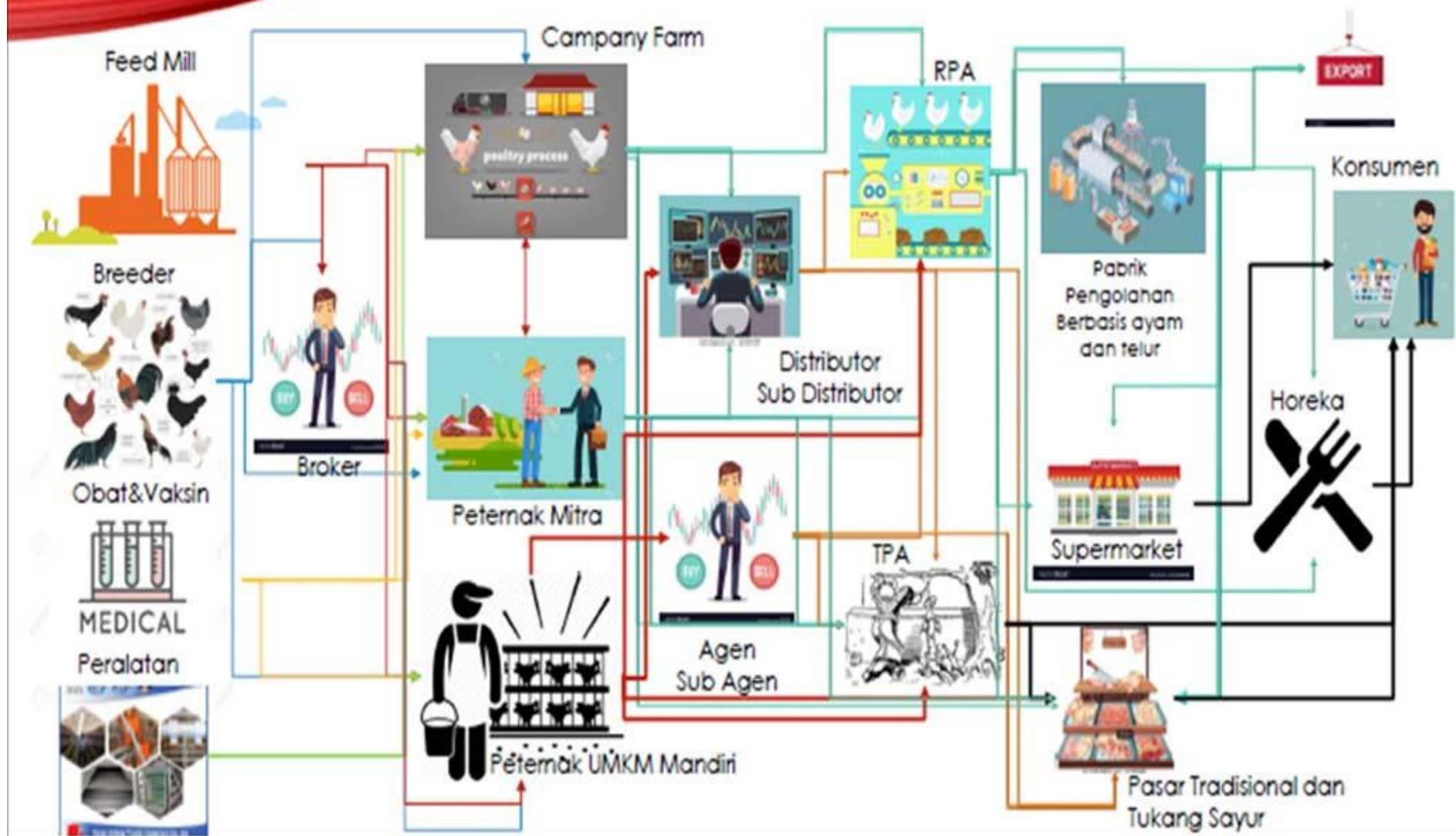
Big Data Industri Perunggasan  
dari Internet untuk Segala (IoT)  
& Aplikasi

# Jati Pikuuh

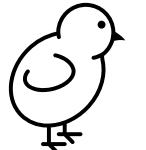


- Education
  - Assoc. degree Computer & Information System, UGM
  - Undergraduate Informatics, Universitas Amikom
- Experience
  - Lab Lecturer/Instructor, Sekolah Vokasi UGM
  - Web Developer, LPPM UGM
  - Chicken Farmer
  - CEO & Founder, PT Integrasi Teknologi Unggas
- Organization
  - Himpunan Pengusaha Muda Indonesia (HIPMI)  
BPC Kota Yogyakarta

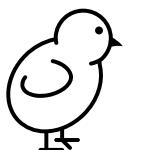
## Supply Chain Industri Ayam dan Telur



Impor Bibit Ayam Indukan GPS



Parent Stock

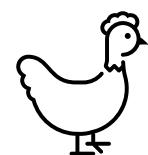


Final Stock

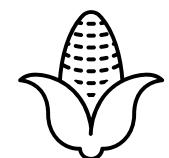


Pihak Ketiga  
Pakan & DOC

Commercial Farm / Peternakan  
UMKM / Inti-Plasma



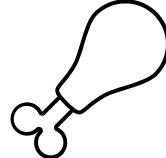
Live bird Final Stock



Bahan Baku Pakan



Feedmill



Rumah Potong Ayam



Pihak Ketiga  
Komoditi Karkas



Pihak Ketiga  
Komoditi Livebird

Harga Livebird



B2C & B2B Consumer

Harga Karkas

Harga Pakan & DOC



Obat & Vaksin



DOC



Pakan



Peralatan



Permodalan

Belum ada inviasi teknologi  
Anak Muda Kurang terlibat

Distributor / Broker

Rendahnya akses permodalan

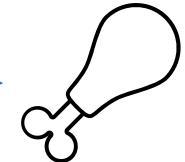
“60% dikuasai peternak mandiri & perorangan, 40% dikuasai korporasi”

Teten Masduki – Menteri Koperasi & UKM

Perlunya efisiensi Produksi

Trader / Distributor

Akses ke RPA /  
Konsumen Akhir  
masih kurang baik



Rumah Potong Ayam



1. Bermitra
2. Membentuk Koperasi / Badan Usaha
3. Perbaikan Manajemen Produksi dengan memanfaatkan Teknologi
4. Menjalin kerjasama dengan RPA & Penghasil Sapronak

# Peran Institusi Pendidikan



Universitas Gadjah Mada

Penelitian



Korporasi Terpisah



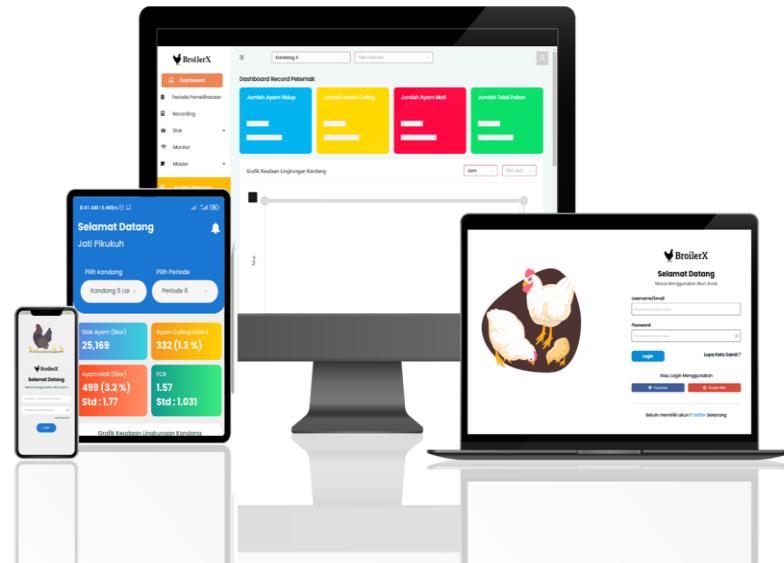
PT Integrasi Teknologi Unggas



PT Swayasa Prakarsa

# Produk

## Aplikasi Manajemen Budidaya Ayam Pedaging (Broiler)



<https://broilerx.com>



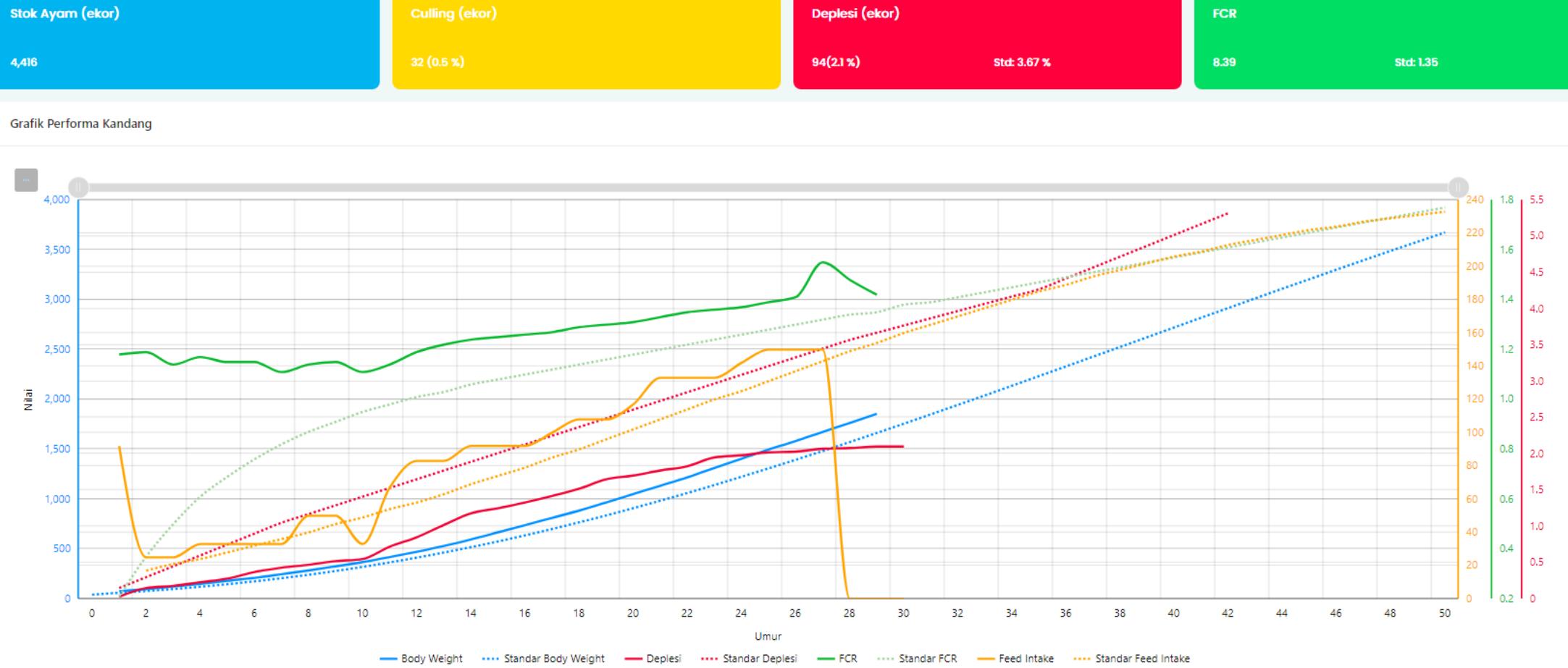
## Alat Monitoring Lingkungan Kandang Otomatis



<https://broilerx.com/ambient>

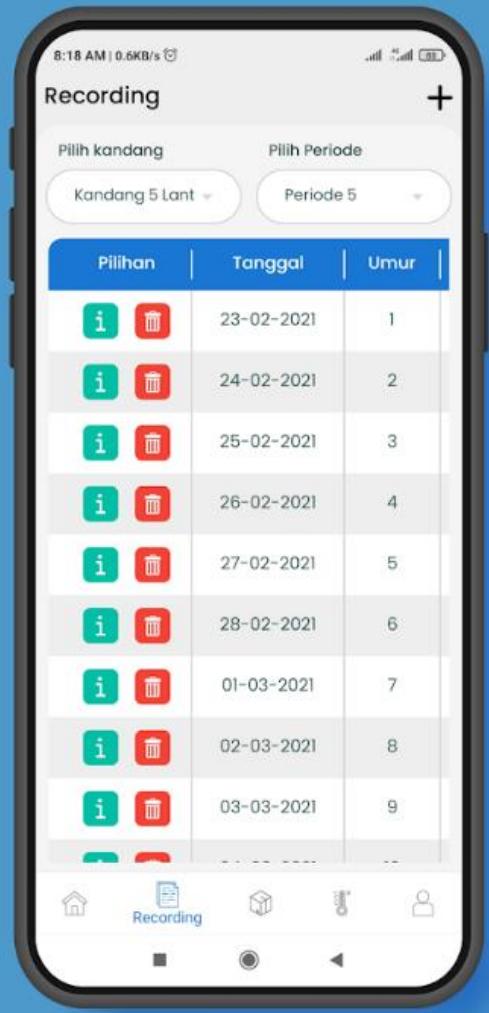
## Dashboard Record Peternak - Kandang CP Fapet Periode 1

- Dashboard
- Periode Pemeliharaan
- Recording
- Stok
- Monitor
- Pemakaian Umum
- Stok Flow
- Master

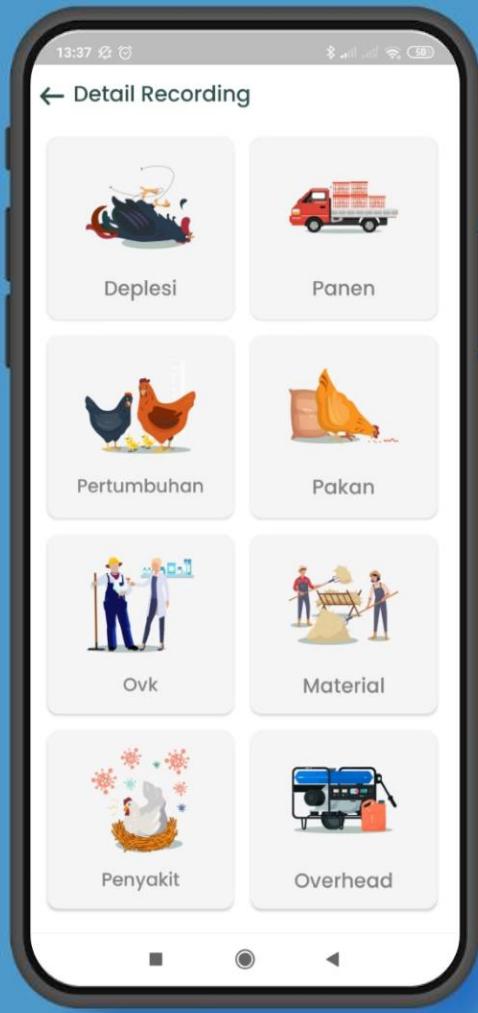


Tabel Performa Kandang

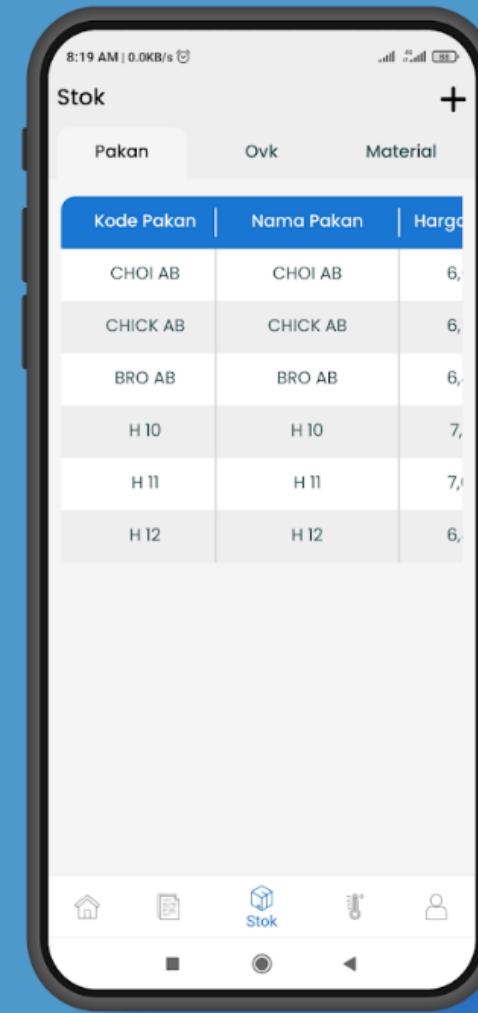
Tanggal	Umur	Populasi (ekor)	Deplesi			Sampling	STD (Gr/ekor)	Ket	Adg (Gr)	Std Adg (Gr)	Fcr			IP	Hpp/Kg (Rp)
			CUM (%)	Std (%)	Ket						Act Cum (Gr)	STD (Gr)	Ket		
28 Maret 2021	1	5.998	0.03	0.15	Aman	77.6	61	Aman	27.60	18	1.18	0.21	Warning	658	0
29 Maret 2021	2	5.991	0.15	0.30	Aman	98	79	Aman	20.40	18	1.19	0.37	Warning	412	0
30 Maret 2021	3	5.989	0.18	0.45	Aman	124.1	99	Aman	26.10	20	1.14	0.50	Warning	363	0
31 Maret 2021	4	5.986	0.23	0.60	Aman	150.5	122	Aman	26.40	23	1.17	0.61	Warning	322	0
01 April 2021	5	5.983	0.28	0.75	Aman	181.6	148	Aman	31.10	26	1.15	0.69	Warning	316	0
02 April 2021	6	5.978	0.36	0.90	Aman	211	176	Aman	29.40	29	1.15	0.76	Warning	306	0
03 April 2021	7	5.974	0.43	1.05	Aman	247.8	208	Aman	36.80	32	1.11	0.82	Warning	319	0



RECORDING



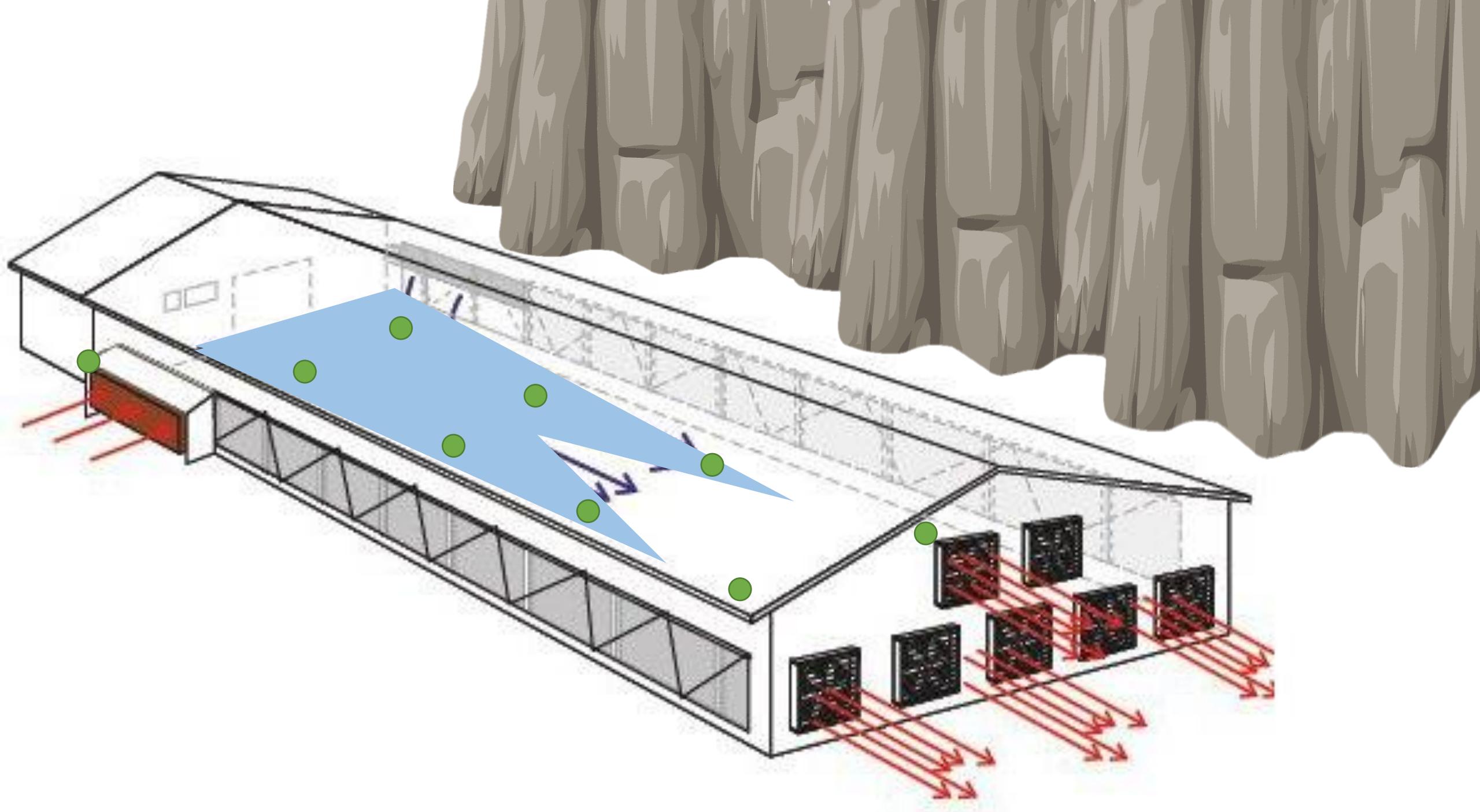
RECORDING



STOK



BERANDA



# BROILER



**Table 2.3:** Principles of how optimum dry bulb temperatures for broilers may change at varying RH. Dry bulb temperatures, at the ideal RH at an age, are colored red.

Age (Days)	Dry Bulb Temperature °C (°F)			
	40 RH%	50 RH%	60 RH%	70 RH%
Day-old	36.0 (96.8)	33.2 (91.8)	30.8 (87.4)	29.2 (84.6)
3	33.7 (92.7)	31.2 (88.2)	28.9 (84.0)	27.3 (81.1)
6	32.5 (90.5)	29.9 (85.8)	27.7 (81.9)	26.0 (78.8)
9	31.3 (88.3)	28.6 (83.5)	26.7 (80.1)	25.0 (77.0)
12	30.2 (86.4)	27.8 (82.0)	25.7 (78.3)	24.0 (75.2)
15	29.0 (84.2)	26.8 (80.2)	24.8 (76.6)	23.0 (73.4)
18	27.7 (81.9)	25.5 (77.9)	23.6 (74.5)	21.9 (71.4)
21	26.9 (80.4)	24.7 (76.5)	22.7 (72.9)	21.3 (70.3)
24	25.7 (78.3)	23.5 (74.3)	21.7 (71.1)	20.2 (68.4)
27	24.8 (76.6)	22.7 (72.9)	20.7 (69.3)	19.3 (66.7)

\*Temperature calculations based on a formula from Dr. Malcolm Mitchell (Scottish Agricultural College).

ons at placement are: ick height in the area where feed and wat brooding. er for spot brooding (refer to <b>Table 2.2</b> ) 4-86.0°F).

After 27 days of age, temperature should remain at 20°C (68°F) or  
avior. The temperatures indicated are based on an RH of 60-70% up  
reafter.

Age (Days)	Whole-House Brooding Temp °C (°F)	Spot Brooding Temp °C (°F)	
		Brooder Edge (A)	2 m (6.6 ft) from Brooder Edge (B)
Day-old	30 (86)	32 (90)	29 (84)
3	28 (82)	30 (86)	27 (81)
6	27 (81)	28 (82)	25 (77)
9	26 (79)	27 (81)	25 (77)
12	25 (77)	26 (79)	25 (77)
15	24 (75)		25 (77)
18	23 (73)		24 (75)
21	22 (72)		23 (73)
24	21 (70)		21 (70)
27	20 (68)		20 (68)

## Housing and Ventilation Systems

There are two basic types of ventilation systems:

### Natural Ventilation

- Also known as "open-sided," "curtain-sided," or "natural" houses.
- Fans may be used inside the house to circulate and move air.

### Power Ventilation (controlled/closed environment housing)

- These houses usually have either solid sidewalls or curtains that are kept closed during house operation.
- Fans and inlets are used to ventilate the house.

### Natural Ventilation: Open-Sided Housing

Natural ventilation refers to an open-sided house with, most commonly, curtains (although flaps or doors can also be used) on the sidewalls (**Figure 6.1**). The operation of open-sided houses involves opening and closing the curtains or flaps to allow convection currents (wind or breezes) to flow air into the house. Generally speaking, open-sided houses are best managed only when the ambient conditions are close to the required set-point temperature in the house.

## Section 6 - Housing and Environment

### Objective

To provide an environment that permits the bird to achieve optimum performance in growth rate, uniformity, feed efficiency, and yield, while ensuring that the health and welfare of the bird are not compromised.

### Principles

Ventilation is the main means of controlling the birds' environment. Ventilation maintains acceptable air quality in the house while keeping the birds within their comfort temperature. Ventilation provides adequate fresh air, removes excess moisture, and limits the build-up of potentially harmful gases and airborne by-products.

During the early stages of the birds' life, ventilation distributes heat within the house and provides sufficient fresh air to maintain an acceptable air quality in the house.

As the birds grow and start to produce more heat, higher ventilation rates are needed to remove heat and the products of respiration (moisture) from the house.

Monitoring bird behavior and adjusting ventilation in response to bird behavior to ensure that bird comfort and activity is maintained is key.

### Air

The main contaminants of air within the house environment are dust, ammonia, carbon dioxide, carbon monoxide, and excess water vapor, and levels of these contaminants must be kept within legal limits at all times. Continued and excessive exposure to these contaminants can:

- Damage the respiratory tract.
- Decrease the efficiency of respiration.
- Trigger disease (e.g. ascites or chronic respiratory disease).
- Affect temperature regulation.
- Contribute to poor litter quality.
- Reduce bird performance (**Table 6.1**).

**Table 6.1:** Effects of common broiler house air contaminants.

Ammonia	Ideal level <10 ppm. Can be detected by smell at 20 ppm or above. >10 ppm will damage lung surface. >20 ppm will increase susceptibility to respiratory diseases. >25 ppm may reduce growth rate depending upon temperature and age.
Carbon Dioxide	Ideal level <3,000 ppm. >3,500 ppm causes ascites. Carbon dioxide is fatal at high levels.
Carbon Monoxide	Ideal level <10 ppm. >50 ppm affects bird health. Carbon monoxide is fatal at high levels.
Dust	Damage to respiratory tract lining and increased susceptibility to disease. Dust levels within the house should be kept to a minimum.
Humidity	Ideal level 50-60% after brooding. Effects vary with temperature. At >29°C (84.2°F) and >70% RH, growth will be affected. RH <50%, particularly during brooding, will affect growth.

### Air

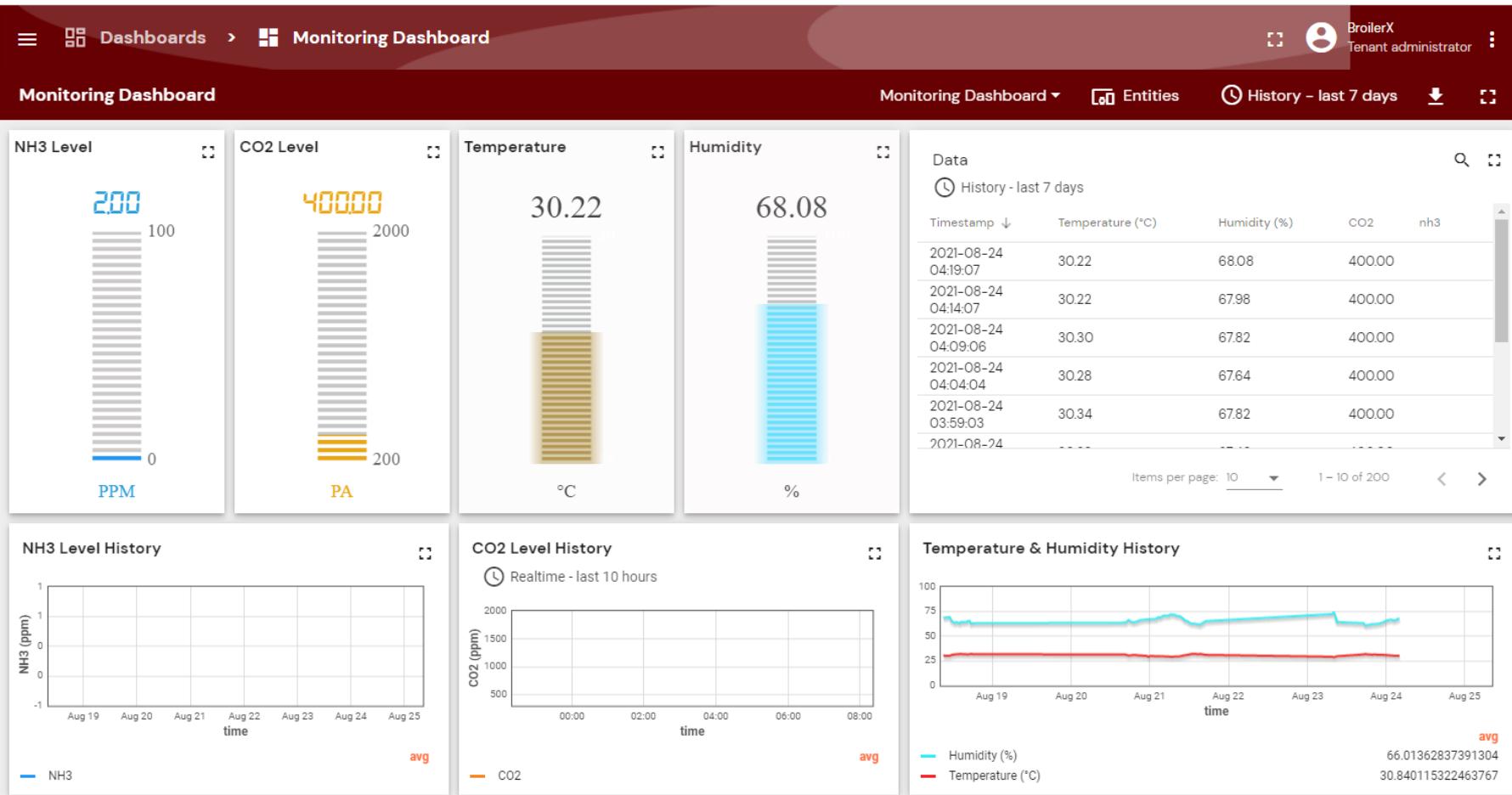
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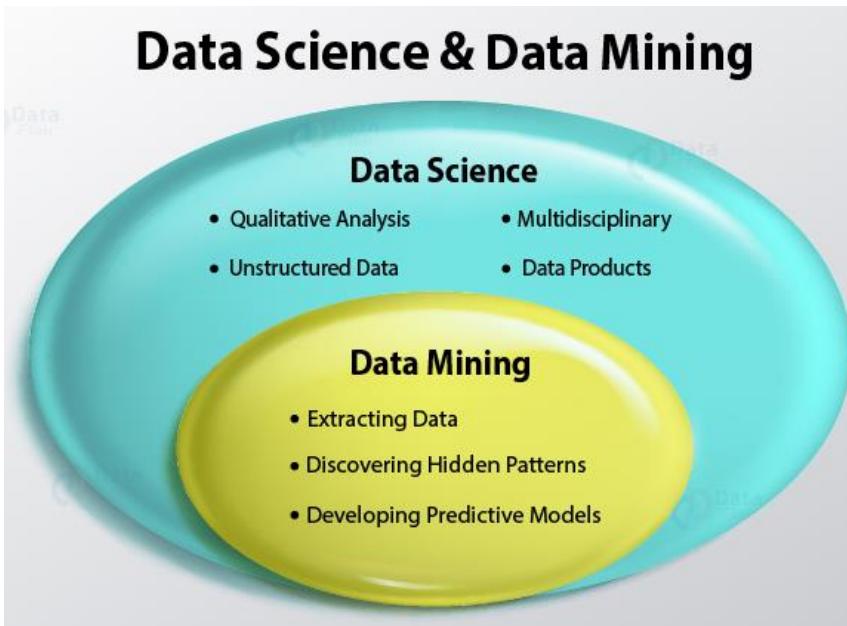
# BroilerX Ambient Air Quality Monitoring Device



# Tantangan

- Harga perangkat Monitoring Device  
*"yang membuat kandang lebih produktif bukan sistem otomasi tapi lebih ke manajemennya, yang mahal kan hardwarenya (hardware perangkat otomasi)"*
- Infrastruktur telekomunikasi (di farm susah sinyal)
- Transfer knowledge ke petugas kandang
- Keamanan Data
- Data peternakan di Indonesia belum terintegrasi

# Manfaat Big Data

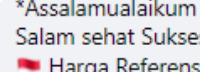
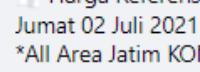


[https://data-flair.training/blogs/  
data-mining-and-data-science/](https://data-flair.training/blogs/data-mining-and-data-science/)

- Bigdata adalah kumpulan data yang sangat besar yang berisi fakta yang bisa digunakan untuk:
  1. Menentukan penyebab suatu masalah
  2. Pengambilan sebuah keputusan yang cerdas dan tepat berdasar data
  3. Estimasi, Forecasting, dan Klasifikasi

# Contoh Data

 Infone Mbak n Mas BRO (Ribu/kg)  
 Kamis 1 Juli  
  
 \*SUMATERA\*  
 \*Pekanbaru\* 0.8-0.995kg225 1-1.295kg220 1.3-1.495kg210 1.5kgup205  
 \*Lampung\* 0.8-1.29kg160 1.3-1.59kg150 1.6-1.8kgup140  
 \*JAWA BARAT+BANTEN\*  
 \*Serang\* <1.4kg160 1.4-1.6kg150 1.6-1.8kg145  
 1.8kgup130-140 \*Tangerang\* 0.8-1kg160 1.4-1.6kg155  
 1.6-1.8kg145 1.8-2kg130, \*Sukabumi\*  
 1.5kgup140(telur200), \*cianjur\* 2.3-2.5kg140 \*Subang\*  
 0.8-1kg160 2-2.2kg140 \*bandung\* 1.2-1.4kg160 1.8-2kg140 1 \*Sumedang\* 1.7-1.9kg140 \*Garut\* 1.7-1.9kg140, \*Indramayu\* 1.6-1.8kg150, \*cirebon kunungan majalengka\* 1.4-1.8kg150 2.2-2.4kg140 \*tasikmalaya\* 1.6-1.8kg150 (Jantan190 telur188), \*Ciamis\* 1.6kgup160  
 \*JAWA TENGAH+DIY\*  
 \*Jogja\* 140-5, \*Klaten solo Wonogiri Sragen mgl tmg Wonosobo kebumen pwt tegal pml PKL batang sala3 Demak kudus\* 140, \*smg\* 140 (telur184)  
 \*JAWA TIMUR\*  
 \*Madiun Malang jember bwi\* 140, \*Jombang mjk kediri\* 138-140  
 \*BALI + NUSA TENGGARA\*  
 \*Bali\* ab150 ak160, \*Lombok\* 175-180  
 \*KALIMANTAN\*  
 \*Balikpapan\* 270, \*Banjarmasin\* 230-240  
 \*SULAWESI\*  
 \*Makasar\* ak210 ab220 ab180-190 \*Palu\* ak250-260 ab230-240, \*Manado\* ak230 ab220  
 Mohon dikoreksi jika ada kesalahan. Maturnuwun 

 \*Assalamualaikum wr wb\*  
 Salam sehat Sukses dan Barokah untuk kita semua   
 Harga Referensi \*JATIM\*  
 Jumat 02 Juli 2021  
 \*All Area Jatim KOMPAK UP 500 NET 14.500\*  
 Tetap \*Semangat..!!!\*  
 Jatim \*KOMPAK!!!\*  
 Bersama pasti \*BISA!\* 

## Realisasi Harga Ayam Broiler

Jumat, 9 Juli 2021

- Sumatera:** Aceh 15.200 / Medan 15.500 / Muarabungo 13.500 / Pekanbaru 16.000 / Jambi 14.500 / Bangka 16.500-17.500 / Belitung 24.000-25.000 / Palembang 13.500 / Lubuklinggau 13.500 / Muaraenim 13.500 / Lampung
- Banten:** Serang 15.000-16.500 / Tangerang 15.000-16.500
- Jawa Barat:** Depok/Bogor 15.000-16.500 / Sukabumi 15.000-16.500 / Cianjur 15.000-16.500 / Bekasi/Karawang/Subang/Purwakarta 15.000-16.000 / Bandung 15.000-16.500 / Garut/Sumedang 15.000-16.500 / Cirebon/Kuningan/Majalengka/Indramayu/Ciamis/Tasikmalaya 15.000-16.000
- Jawa Tengah/DIY:** Solo 13.000-13.500 / Sragen 13.000-13.500 / Wonogiri 13.000-13.500 / Klaten 13.000-13.500 / Salatiga 13.000-13.500 / Semarang 13.500-14.000 / Pati 13.500-14.000 / Jepara 13.500-14.000 / Rembang 13.500-14.000 / Cilacap 13.000-13.500 / Yogyakarta 14.000 / Gunungkidul 13.500-14.000 / Magelang 13.500 / Temanggung 13.500 / Purworejo 13.500-14.000 / Kebumen 13.500-14.000 / Banjarnegara 13.500-14.000 / Purwokerto 13.500-14.000 / Batang 13.500 / Pekalongan 14.000 / Pemalang 14.000 / Tegal 13.500-14.000 / Brebes 13.500
- Jawa Timur:** Magetan 14.000-14.300 / Madiun 14.000-14.300 / Nganjuk 14.000 / Tulungagung 14.300-14.500 / Kediri 14.300-14.500 / Blitar 14.300-14.500 / Mojokerto 14.300-14.500 / Surabaya 14.300-14.500 / Sidoarjo 14.500 / Pasuruan 14.300-14.500 / Bojonegoro 14.300-14.500 / Tuban 14.500-15.300 / Lamongan 14.300-14.500 / Gresik 14.300-14.500 / Madura 14.300-14.500 / Lumajang 14.300-14.500 / Banyuwangi 15.000-15.200
- Bali:** 14.000-14.500
- NTB:** Lombok 14.000-14.500
- NTT:** Kupang 27.000-30.000
- Kalimantan:** Pontianak 22.000-24.000 / Palangkaraya 21.000-21.500 / Samarinda 22.000 / Sampit 21.000-22.000 / Paringin/Kandangan/Barabai/Amuntai/Tanahmerah 20.500-21.500 / Balikpapan 21.000-21.500 / Samarinda 21.000 / Bontang/Sangatta 21.000-21.500 / Berau 25.000-26.000
- Sulawesi:** Manado 21.000-22.500 / Palu 19.500 / Gorontalo 23.000 / Makassar 17.000-24.000

## (\*) INFO Realisasi

### (\*) SUMATERA (\*)

Aceh: 20.0  
 Medan: 20.0  
 Muara Bungo: 19.5  
 Jambi: 19.5  
 Rengat: 21.2  
 Pekanbaru: 20.7  
 Padang: 20.2  
 Payakumbuh: 20.5  
 Bangka: 18.0-19.0  
 Belitung: 22.0-23.0  
 Bengkulu: 22.0  
 Lbk.linggau: 20.0  
 Muaraenim: 19.0  
 Palembang: 19.0-19.5  
 Lampung: 18.0-18.5

### (\*) BANTEN (\*)

Serang: 19.0-20.0  
 Tangerang: 19.0-20.0

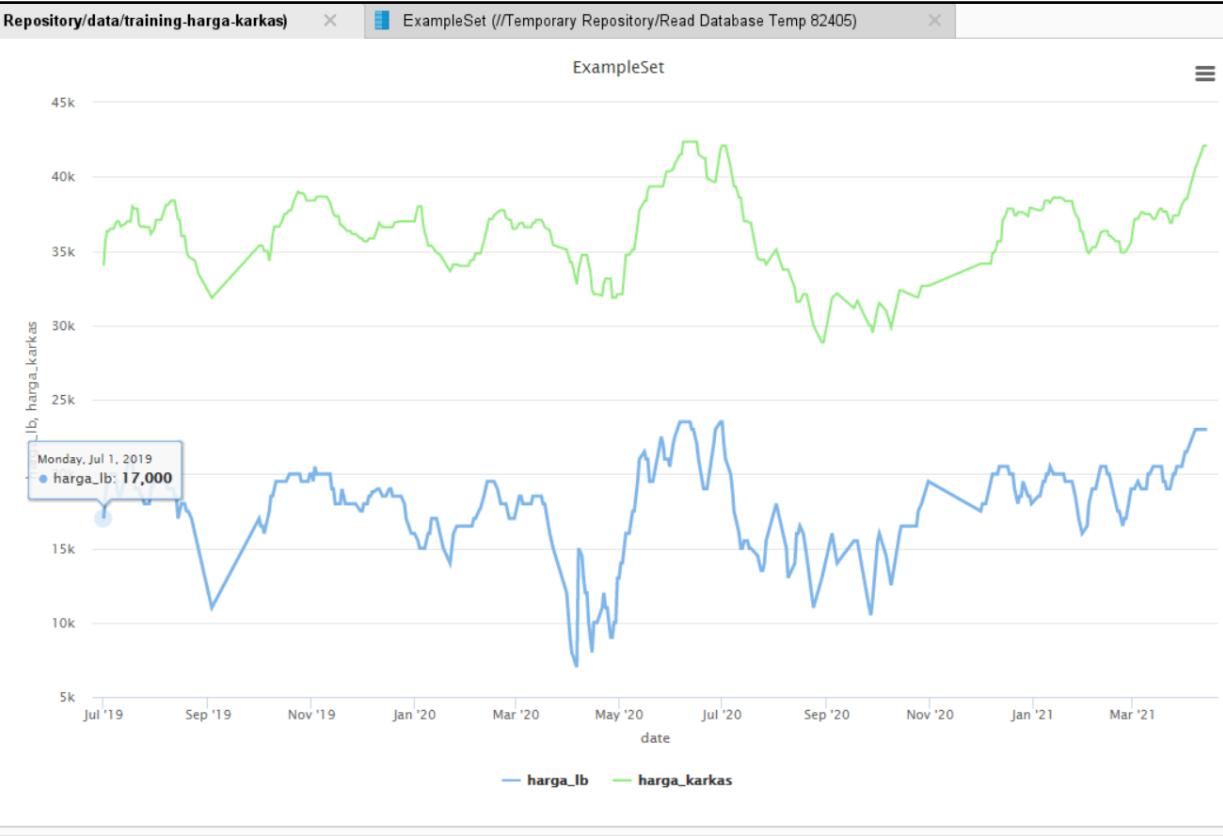
### (\*) JAWA BARAT (\*)

Bogor/Depok: 19.0-20.0  
 Skbmi: 19.0-20.0  
 Cianjur: 19.5-20.0  
 Krwng,Bekasi,Subang,Purwakarta: 19.0-20.0  
 Bandung-Sumedang-Garut: 19.5-20.0  
 Cirebon-Kuningan-Majalengka-Indramayu: 19.0-20.0  
 Tasikmalaya-Ciamis: 19.0-19.5

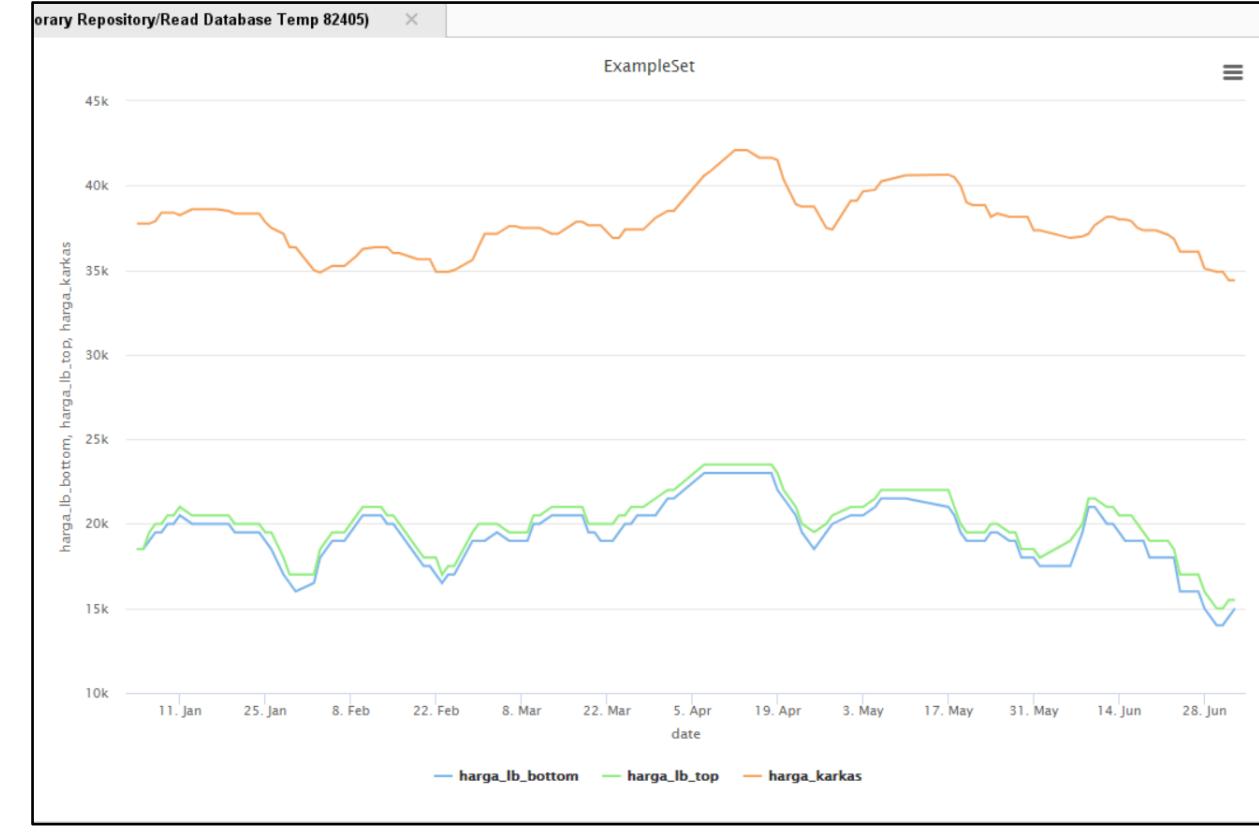
### (\*) JAWA TENGAH-DIY (\*)



WILAYAH	KOTA-KABUPATEN	HARGA
Sumatera	Aceh	14.200
	Medan	15.200
	Muara Bungo	18.000
	Jambi	18.000
	Rengat	17.500
	Pekanbaru	17.500
	Padang	18.200
	Payakumbuh	18.000
	Bangka	22.000 -
		23.000
	Belitung	24.000 -
		25.000
	Bengkulu	20.000
	Lbk.Linggau	18.500
	Muaraenim	18.000
	Palembang	18.500

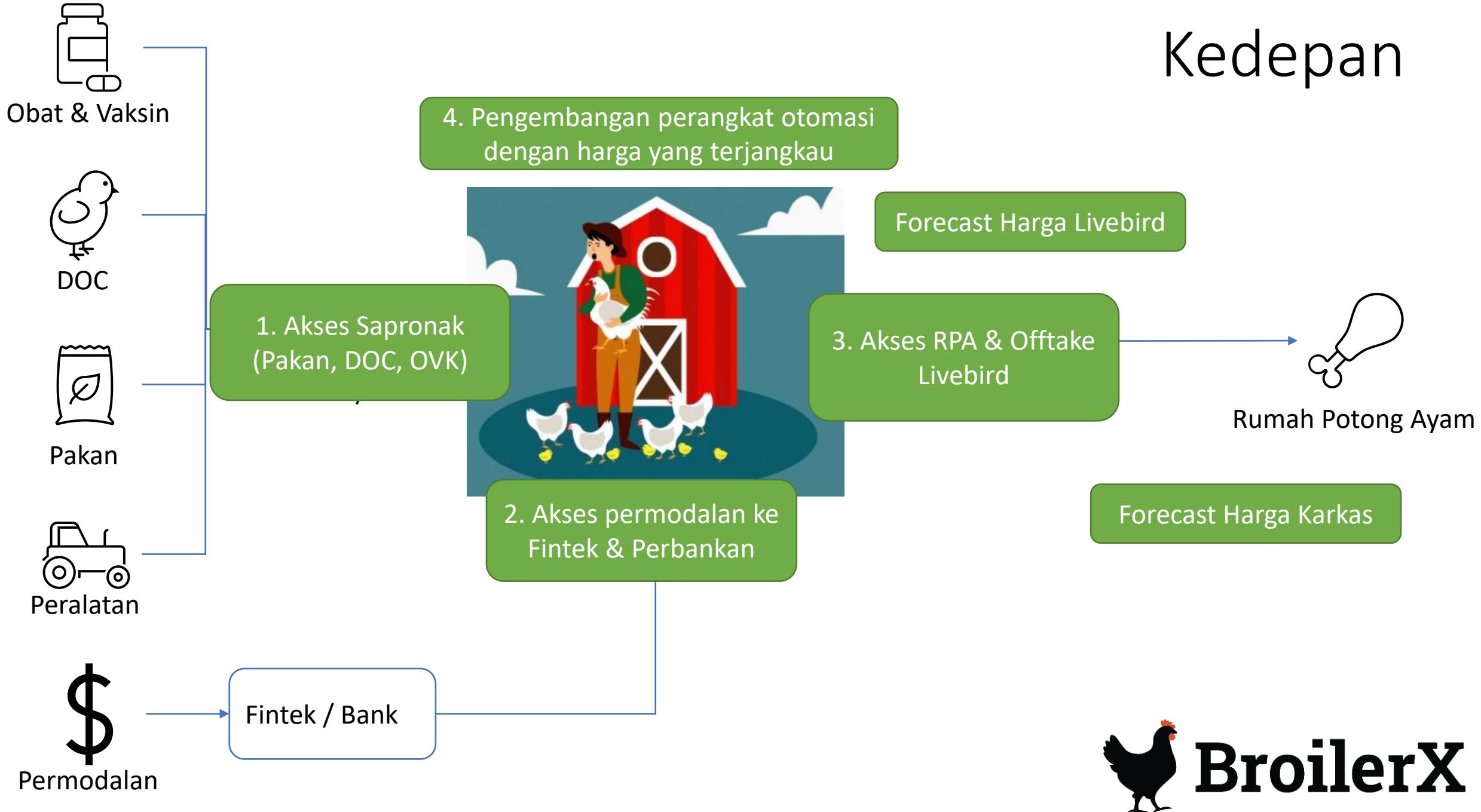


Jabodetabek, Juli 2019 – April 2021



Jabodetabek, Januari 2021 – Juni 2021

# Kedepan



*“Apabila dalam diri seseorang masih ada rasa malu dan takut untuk berbuat suatu kebaikan, maka jaminan bagi orang tersebut adalah tidak akan bertemu ia dengan kemajuan selangkah pun.”*

*Ir. Soekarno*



Bantu kami dengan memberikan feedback di

**<https://s.id/surveypeternak>**