We move forward!

de heus

powering progress

Parent company of Koudijs koudijs

DETERMINE THE RIGHT FEEDING STRATEGY FOR FISH AND KEEPING TRACK OF YOUR TILAPIA FARM PERFORMANCE

Co en Koen De Heus CEO 4th generation De Heus family millers

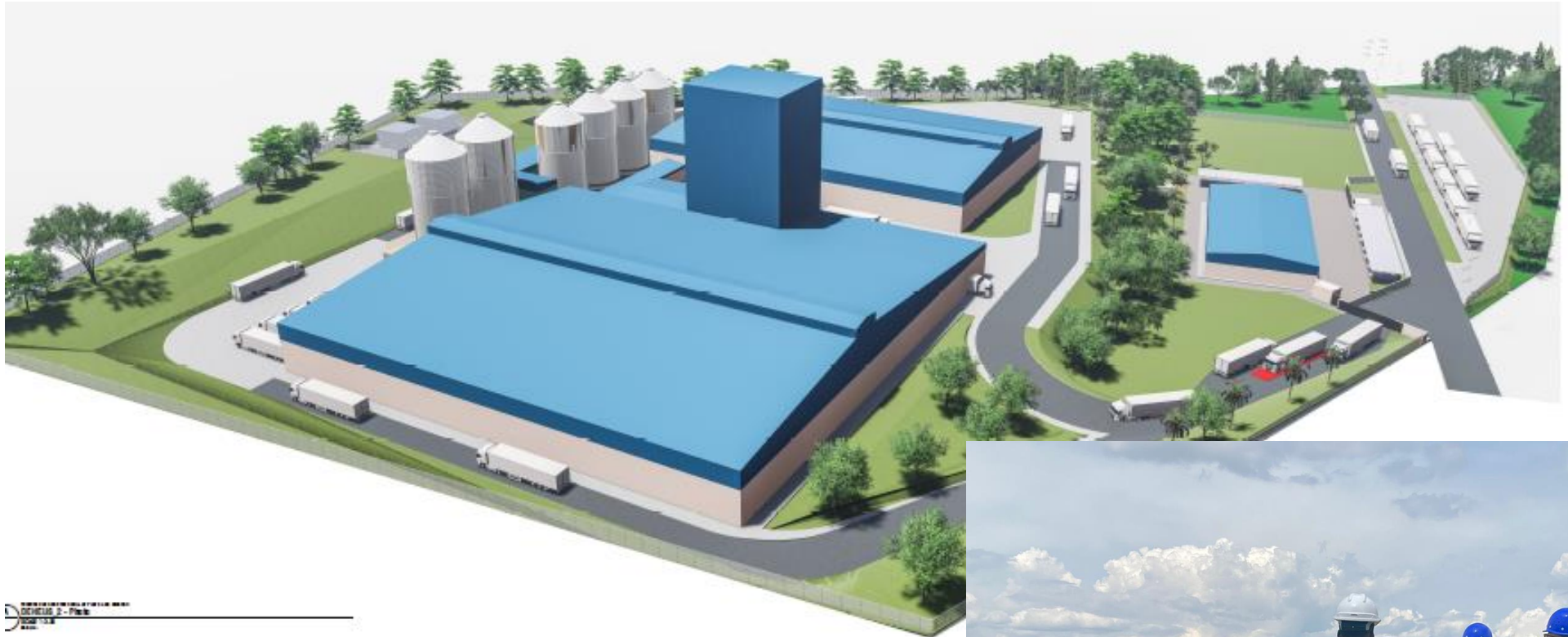
Dutch, Family owned company:

- *Short decision lines*
- *Entrepreneurship*
- *Ensuring (Dutch) quality*
- *Almost a century experience in agriculture*
- *International scope and standing*

Sister company Koudijs since 2015 in Uganda

De Heus Uganda entity since 2022

NEW DE HEUS FACTORY – PARENT COMPANY OF KOUDIJS



Starter

Fry crumble (0.5-0.8 mm)	Fry Powder <0.5 mm
	
Micro-pellet (0.8 mm)	**Starter pellet (1 mm)**
	

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GROWER AND FINISHER FEEDS

Grower	Grower pellet (2 mm) 	Grower pellet (3 mm) 
Finisher	Pre-finisher pellet (4 mm) 	Finisher pellet (6 mm) 

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BROODSTOCK FEED / OTHER TRIALS

Separate formulations possible

- Short term:
- Smart protein
- Feed from Egypt

Long term

- Catfish feed?
- More species

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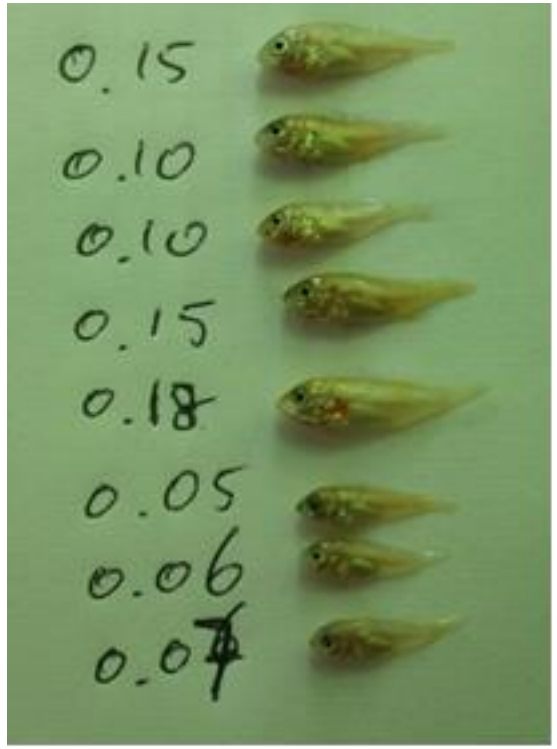
TILAPIA FEEDING – FISH SIZE



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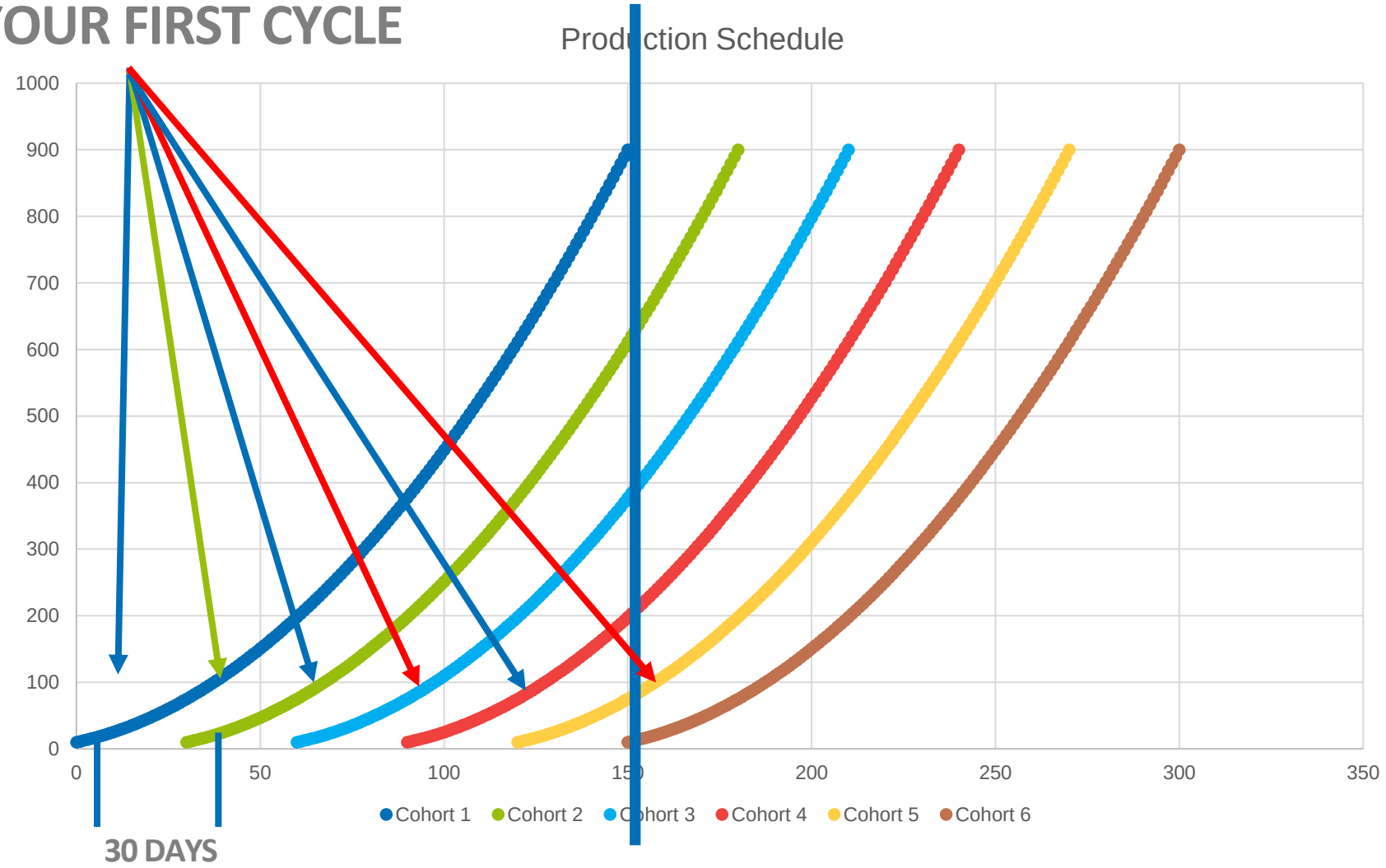
ESTIMATE ENOUGH FEED

START OF YOUR FIRST CYCLE



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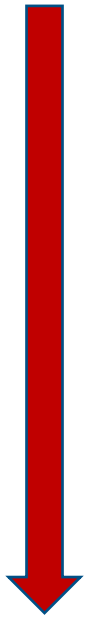

RECOMMENDED FEEDING LEVELS AND FEEDING FREQUENCIES*								
FISH WEIGHT (G)	FEED PARTICLE SIZE (MM)	CRUDE PROTEIN MIN. (%)	FEEDING FREQUENCY (TIMES/DAY)	FEEDING LEVEL (KG FEED PER 100 KG FISH PER DAY)				
				18 °C	22 °C	26 °C	29 °C	33 °C
0.01-2	<0.5	47	8-9	4.5	5.5	7.5	10.0	8.0
1-5	0.5-0.8	47	5-6	3.6	4.0	5.0	6.0	5.5
2.5-10	1.0	42	4-5	3.1	3.5	4.5	5.5	5.0
5-50	2.0	37	3-4	2.2	3.0	4.0	4.5	4.5
25-100	3.0	32	2-3	1.0	2.0	3.0	4.0	3.5
50-150	3.0	32	2	0.6	1.4	2.0	2.9	2.3
100-250	4.0	32	2	0.5	1.2	1.7	2.5	2.0
200-600	4.0	32	2	0.4	1.0	1.4	2.0	1.6
>400	6.0	30	2	0.3	0.8	1.3	1.8	1.3

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TILAPIA FEEDING - TEMPERATURE

The daily amount of feed required by farm-raised fish is affected by:

- ***>32 °C - Stress***
- ***27° to 30 °C - Optimum***
- ***<21°C - feeding activity is inconsistent***
- ***<12-15°C – No feeding***
- ***<10 °C - mortality***

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Tilapia Feeding – Recommended feeding Table

This is a feeding guideline under optimal conditions. Adapt according to local conditions e.g. appetite.

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This is a feeding guidline under optimal conditions. Adapt according to local conditions e.g. appetite.

TILAPIA FEEDING - TABLE

- What size are they now?
  - 45 grams per fish
- What is the temperature of the water?
  - 27℃
- How many fish in your pond/cage?
  - 20,000 fish

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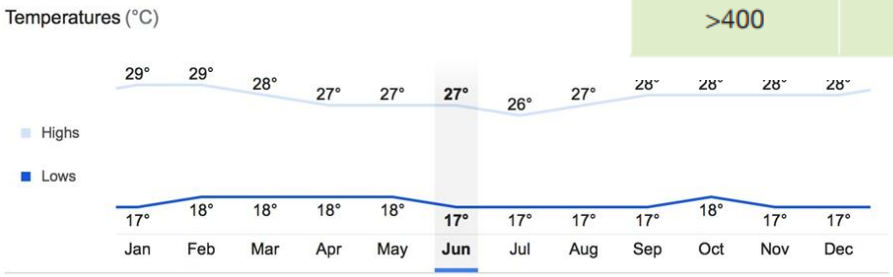

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TILAPIA FEEDING - TABLE

- 45 gram fish in 27℃ needs to be fed at 3% of body weight
- 20,000 x 45 = 900,000 gram = 900 kg of fish
- 900 kg of fish x 3/100 = 27 kg of feed for this day

Always observe your fish

Take note and keep records

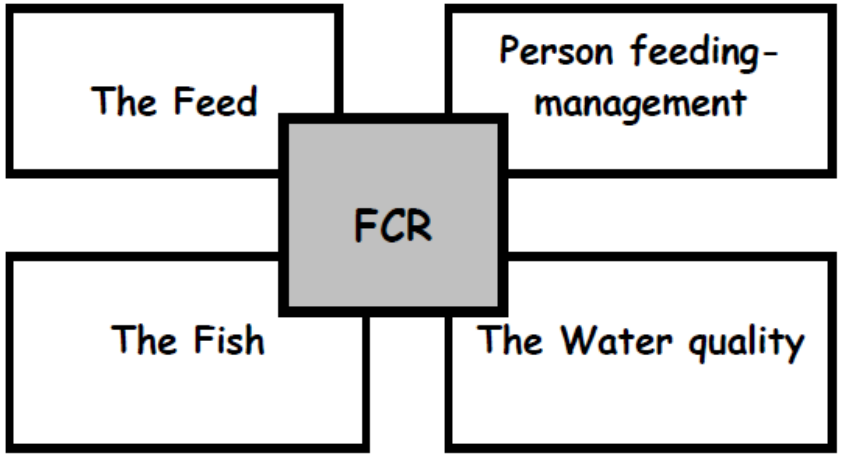
TRANSLATING PERFORMANCE INTO PROFIT

- Planning is important
- Farms need to be profitable
- Expenses lower than the turnover
- Cheaper feeds do not always lead to profit

FCR FEED CONVERSION RATIO

Efficiency of feed use (Kg feed /Kg fish)

Record keeping



FCR CALCULATION

$$FCR = \frac{\text{Total feed given (Kg)}}{\text{Total fish produced (Kg)}}$$

- Farmer stocks 1000 fish of 50 grams = 50Kg
- Farmer harvests 270 Kg of fish
- Total fish produced is 220 Kg

- Records show he has used 300Kg of fish

- FCR = 300/220 = 1.36

FCR AND ECONOMICS.

- Protein level higher ➔ Lower FCR➔ (Why)
- Relatively more $ ➔Require Less feed ➔ 1 kg of fish.

Feed 1		Feed 2	
Diet Protein (%)	32	Diet Protein (%)	24
FCR	1.3	FCR	2.5
Production target (kg)	1000	Production target (kg)	1000
Required feed (kg)	1300	Required feed (kg)	2500
Cost /kg feed	4500/=	Cost /kg feed	3000/=
Total costs	5,850,000/=	Total costs	7,500,000/=

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RECORD KEEPING

How often do you record the data?

Daily

Financial
- ✓ Expenses
- ✓ Turnover

Feeding & mortalities
- ✓ Given feed (brand and type)
- ✓ Amount of feed given
- ✓ Feeding time(s)
- ✓ Number of dead fish
- ✓ Expected cause of mortality
- ✓ Medication used
- ✓ Remark(s)

Water quality
- ✓ Water temperature
- ✓ Oxygen levels
- ✓ Remark(s)

Twice weekly

Water quality
- ✓ pH

Weekly

Water quality
- ✓ Ammonia
- ✓ Nitrite
- ✓ Nitrate

One time in a production cycle

Stocking & harvesting data
- ✓ Stocking date
- ✓ Number of fish stocked
- ✓ Fingerling price
- ✓ Stocking biomass (kg)
- ✓ Harvested biomass (kg)
- ✓ Number of fish harvested