

British Veterinary Poultry Association meeting Keith Gooderham Waterfowl Lecture

- UK Waterfowl production – Friend or Foe ?

Harrogate

14/03/2019

Andrew Ballantyne
Agricultural Technical Manager
Green Label Poultry Ltd

Global Market Summary

Duck & Goose World Market Summary

Duck	Nos millions
China	3,300
Asia	280
Europe	150
America's	40
Middle East & Africa	30

Goose Meat	tonnes
Africa	35,100
Asia	2,420,390
America's	2,257
Europe	63,140
Poland	18,400
Hungary	16,898
Germany	2,650
UK	2,500
TOTAL	2,521,416

UK Duck & Goose

2013 Defra figs

Ducks estimated 16 m/annum (GL = 8m)

Geese 180,000/annum (GL= 80k)

2012 Number of registered premises

Ducks 8,700

Geese 3760

Meat Industry predominantly Eastern England

2018 Broiler chick placings 1069.39m/annum

UK Duck Industry Profile

UK DUCK Nos 2018	Bird Numbers
Meat – 2 Company's	12,600,333
Small – 3 Company's	200,000
TOTAL MEAT	12,800,333
Meat Breeders	154,317
Shooting	1,435,000
Egg layers	140,000
Breeders Egg & Meat	489,000
Showing	18,000
Pets, Zoo's etc	698,000
TOTAL	15,734,650

Gressingham Foods Integrated

Duck, Goose & Turkey business



- Own and operate 20 company farms (57 % of our production volume) , two factory sites and two hatcheries. Also farm about 600 acres arable
- We have 35 contract farmer businesses supplying 43% of our duck production volume (and this area is continuing to increase)
- We are best known for the Gressingham breed and brand of duck
- Current annual production is:

7.5 to 8 m ducks
1.3 m turkey
75,000 geese



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Our Farms -Overview

- 93 farms in total
- 2 hatcheries
- 10 company commercial duck farms – 57% of total production
- 20 contract commercial duck farms – 43% of total production
- 6 parent duck laying farms
- 3 parent duck rearing farms
- 3 grandparent/pedigree duck laying farms
- 3 commercial goose production farms
- 25 commercial turkey rearing farms
- 19 All Year Round (AYR) stag farms
- 2 organic farms



Breeds of Duck – Gressingham, Pekin

Accreditation systems – Duck Red Tractor Assurance Scheme,

Turkey – QBT/Red Tractor, Freedom Foods, Organic, Red Tractor

Welfare on our Farms

Gressingham Ducks are bred, hatched and reared on **Red Tractor** assured farms in Suffolk and Norfolk

- Reared free-to-roam in light airy barns
- Access to water for preening
- Natural daylight
- Fresh bedding of straw every day
- straw stocked at <20kg/m²
- Continuous feed and fresh water throughout the day



Customer concerns - 5 Freedoms ?!

Challenges to any approach

Waterfowl – provision of water

Perception v reality & practicality

Housing v Free range/traditional FR

Stocking density – RT Assurance standards

Assessment criteria – Age when?

Welfare Outcomes – subjective/objective

Bird Performance – Costs

Holistic approach

Animal Welfare in its Holistic form

Is not just about the absence of suffering, but about providing animals with a **GOOD QUALITY OF LIFE**, that meets:



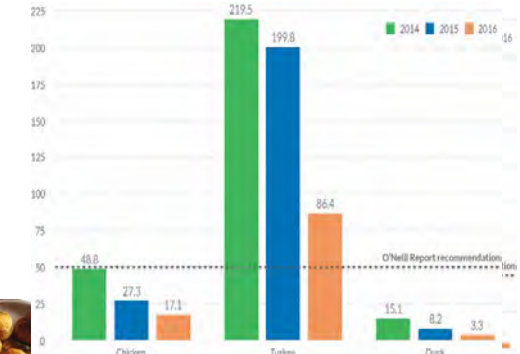
- Provides a net balance of positive experiences
- Gives animals what they want & need

Production focusing on good Welfare

Good welfare is underpinned by :-



Gressingham Foods - What the customer needs/wants/expects



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FREE RANGE GEESE



Land area = 10m²/goose
Area used 268.8 acres
Outside ranging from 17
days. Kill Average 7.3kg at
17- 26 weeks

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FREE RANGE



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Goose - Origins

European *Domestic Goose (Anser anser domesticus)* derived from greylag geese (*Anser anser*)

Asia *Domestic Goose (Anser cygnoides)* derived from swan geese (Chinese geese)

Widely introduced & crossed . Chinese goose distinguished by large knob at base of bill
But every variation possible

Geese bond for life. Incubation period circa 32 days

Despite lengthy period of domestication little published R&D and potential not exploited

Geese produced primarily for Christmas market – **know the market requirements**

DO NOT OVER PRODUCE – MAINTAIN PREMIUM

Goose produces circa 45 eggs in clutches Feb – June. Aim to produce 35 Goslings per bird

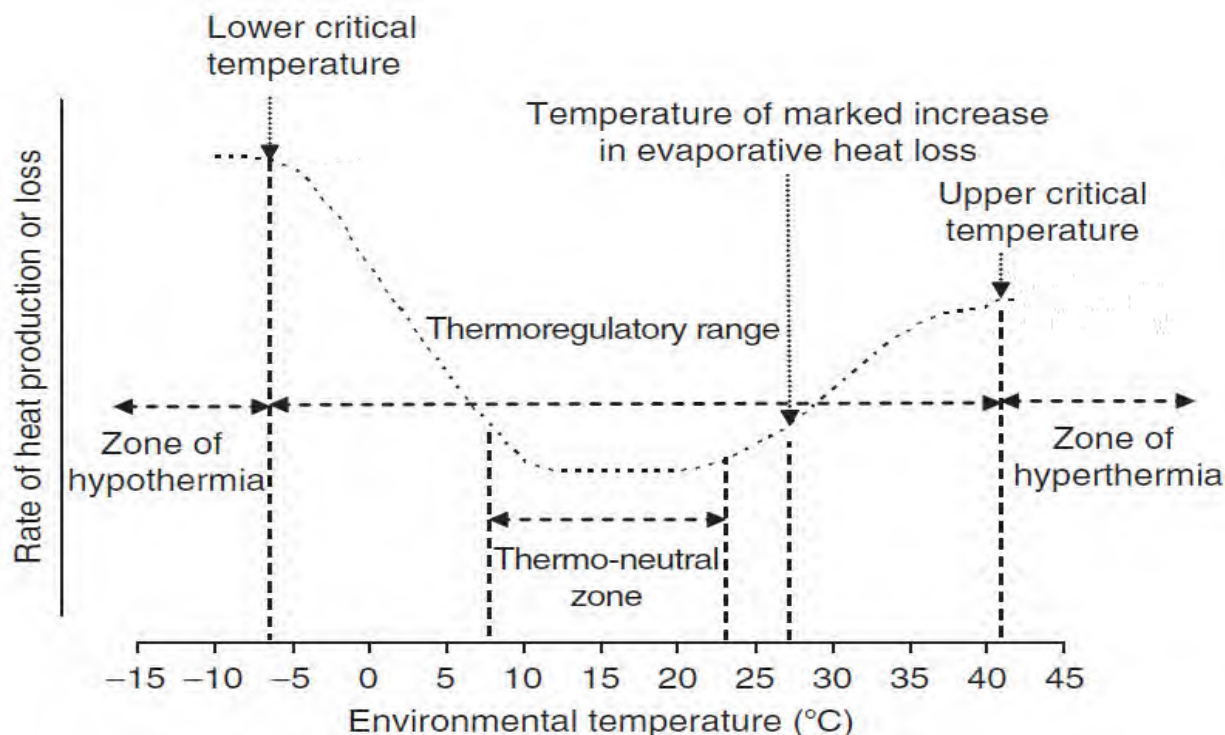
Need good conformation, white feather, good growth, FCR & low mortality

FINISH & PRESENTATION OF FINAL PRODUCT CRUCIAL

If you breed need facilities and a good laying strain to produce the viable commercial bird

MOST PEOPLE BUY IN DAY OLDS

HOW CAN WE IMPROVE ? – **APPLY WHAT WE KNOW**



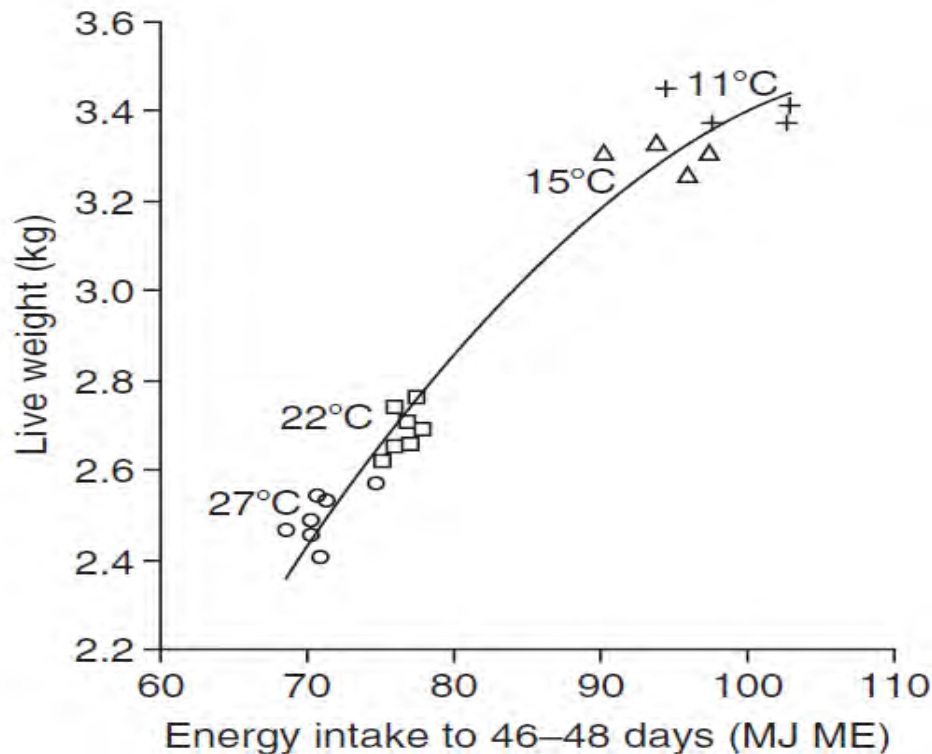
Temperature Regulation in Adult Ducks

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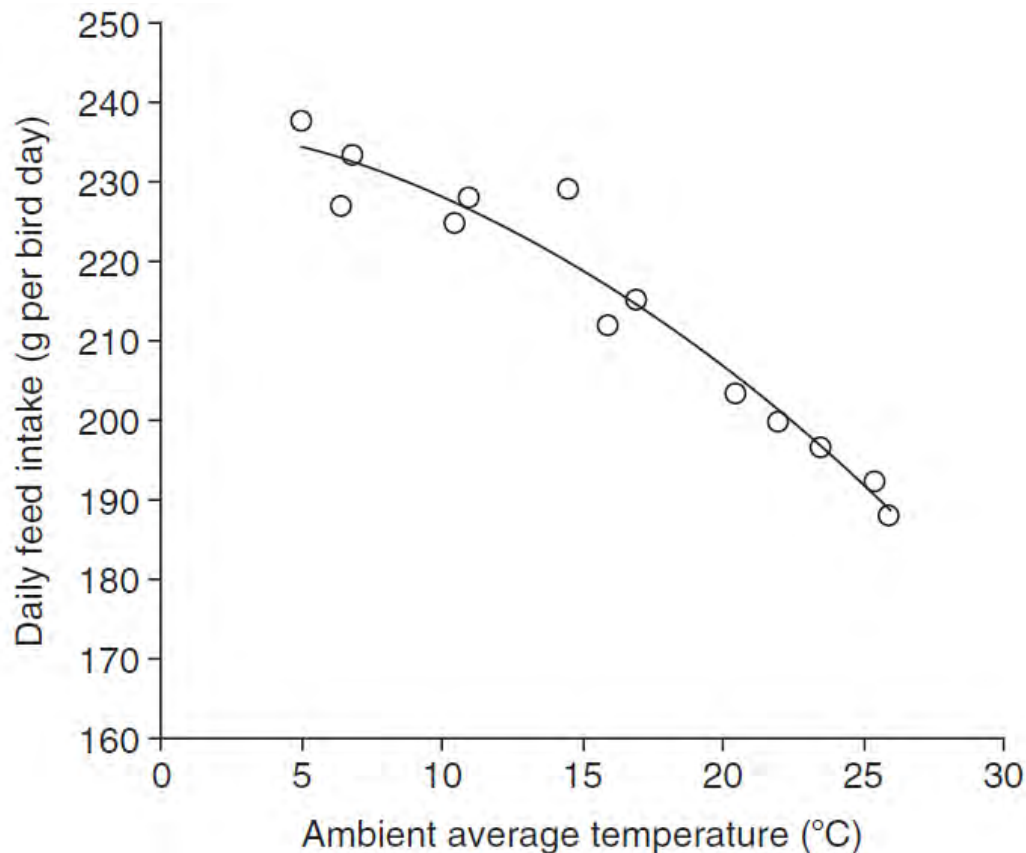
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Effect of Energy Intake on Liveweight



- Increased energy intake increases liveweight
- Live weight & energy intake highest at lower temps

Effect of Temperature on Feed Intake of Adult Pekin Breeders



- Higher temp
Reduces
Feed Intakes

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Calculation of Minimum Ventilation Rates **for GEESE** based on Metabolic body weights or m³std

FARM HALL FARM BAWBURGH

House Details 2 Number of birds housed **DO 5000** Number of Fans 2 Fan Size & performance 2.6 m³/s

Bird type/strain **Geese**

Starved

Age of Stock (Weeks)	Feed consumption (g/d)	Daily feed Usage (t)	Minimum Vent required m ³ /s	Maximum Vent required m ³ /s	Geese Body Wt (kg)	Metabolic Body Wt kg^{0.75}	Minimum vent required m³/s
1	60	0.300	0.60	6.00	0.4	0.503	0.402
2	120	0.600	1.20	12.00	1.025	1.019	0.815
3	150	0.750	1.50	15.00	1.525	1.372	1.098
4	170	0.850	1.70	17.00	2.2	1.806	1.445
5	180	0.900	1.80	18.00	2.75	2.135	1.708
6	200	1.000	2.00	20.00	3.375	2.490	1.992
7		0.000	0.00	0.00	3.775	2.708	2.166

These are guides to minimum vent rates to prevent Carbon dioxide & Ammonia reaching excessive levels. Increase as required. Fans ON or OFF & avoid drafts on stock

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Light Programme

Ducks

Day	Duration of Light (hrs)	Off times
1	24	
2	23	9pm-10pm
3	22	9pm-11pm
4	21	9pm-12pm
5	20	9pm-1am
6	19	9pm-2am
7	18	9pm-3am

Goose

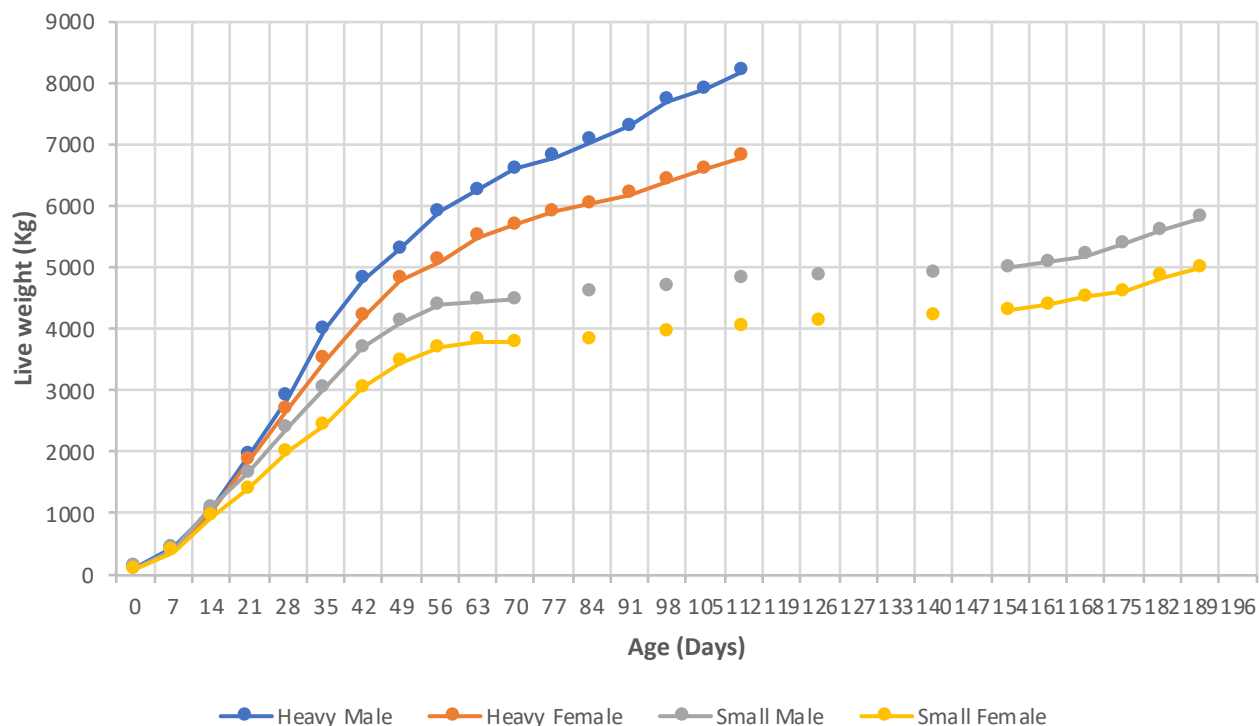
Day	Duration of Light (hrs)
1	23.75
4	21
21-28	18
Windows 3% of floor area	Excluding dawn:dusk dimmers

Goose breeder

Age	Duration of Light (hrs)
DO-2 wk	10
Nov	
Nov - Feb	6
Feb	11

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Growth Curve for Two Breeds of Goose

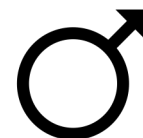


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Gressingham Foods - BREEDS



Gressingham Duck – Bespoke Branded product

Pekin duck bred from Mallard and Aylesbury and Pekin

Gressingham Goose – Traditional Free-Range, Branded product

Breeding in conjunction with Gulliver Ltd .Stow White heavy, Danish & some German Genetics

11 flocks, including GP's, flocks circa 450 birds, total 4,800 birds

White Geese, Legarth cross bred strain known as the Embden strain.

Embden Lf x Embden Lm = STOW GOOSE

f = 6.4kg m = 8.6kg

Embden Lf x Large strain m = SUPER STOW

1:4

one gander: 5 females

Last 5 years could live approx. 30 years



Nightly housed to avoid predation. Mortality spikes into & out of lay

Lay Feb to July. post on holding ration

Annual vaccination for Salmonella & Derzsy's disease. circa 20% mortality at 4-5 yrs

Gressingham Foods - Breeding

What you need

Geese form sets – 3 – 5 females to 1 male. Stable usually for life

At Day old remove front claw of male for identification

Flock size circa 460 birds

Either run together from DO or in small pens till bonded (6 weeks)

Flocks perform well for circa 5 years. No spiking with males

Stock at 100 birds per hectare – dependant on soil type



Housing (2m²/goose)

Provide shelter, accommodation, feed, water, thermal comfort and nesting.

Tyres or open topped box of 0.5m x 5m per 5 geese. Nest material shavings or good straw.

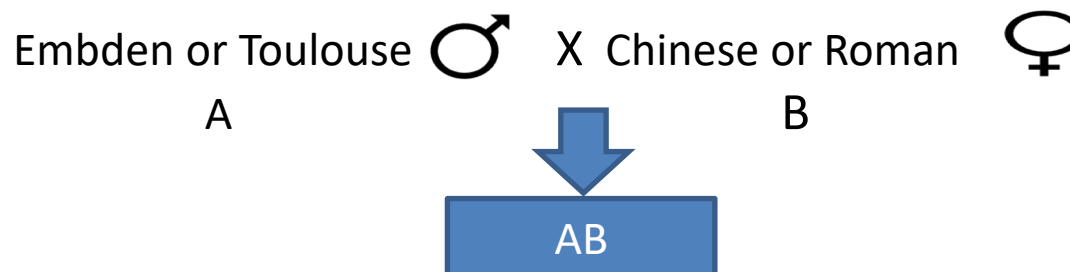
Need light proofing. Rear on 6 hours light before introducing 10 hours

Feed

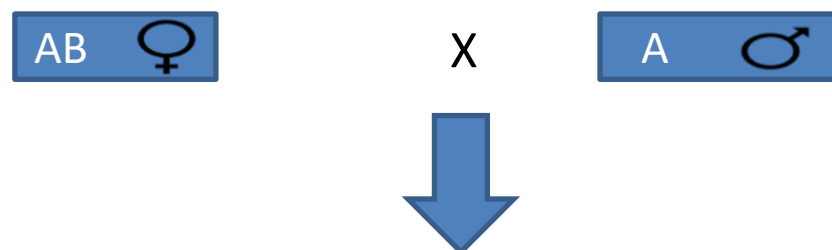
Rearing Duck starter (2.5 wks), controlled layer diet (Aug 113g, Feb inc – Mar @ 312g)

Breeding strategy

* Simple cross



* Three way cross



Three way cross progeny

Embden & Toulouse good confirmation, poor egg production and not always White feathered

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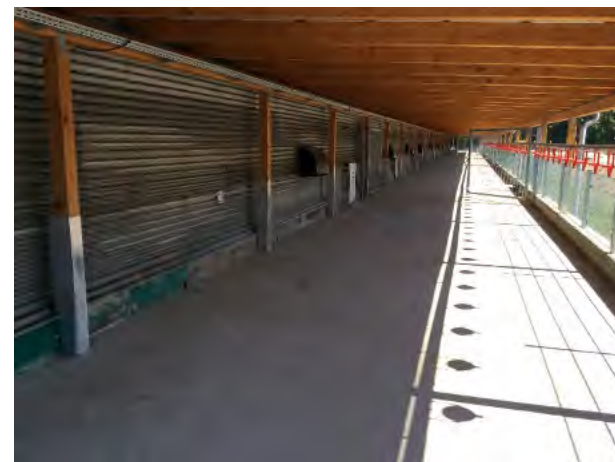


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Hybrid breeding program – 4 Way cross

Am x Af



Am

Bm x Bf



Bf

Cm x cf



Cm

Dm x D

Elites



Df

Grand Parents



ABm



CDf

PARENTS



ABCD Commercial Hybrids



Gressingham Foods – Brooding Geese



What you need

Housing to provide shelter, thermal comfort, brooding, adequate ventilation, feed and water.

Stocking rate max. 6 birds m².

Feed space >7mm/gosling. Drinker space 150 birds/bell or 8mm/gosling

At DO supplementary Feed trays (4/1000) & apple trays used (4/1000) – remove 24hrs+

Fresh bedding and environmental enrichment (Straw & wood shavings)

Brooding regime 31°C down to ambient outside temp. at 21 days. Whole house v Canopy

Litter daily as required

TALK TO STOCK SO THAT THEY IMPRINT

Access to range area from 14 – 17 days onwards – pop holes/doors

Ability to segregate birds – sexed or smalls

Windows of 3% of floor

Bio-secure access areas, handwashing, changing area etc

Feed silo. Duck Starter 1 Kg, Duck Grower 2 Kg – lasts circa 21 days

Gressingham Foods – Goose rearing



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Gressingham Foods - Fattening



What you need

Light land, free draining soil types

Good grass sward. Top as required for young geese.

Plan field pen layout. Each pen 100m x 50 m for 500 geese @ 10m²/goose

Pens in double rows separated in middle by a 6+m strip of Maize (10.6m²/goose)

Remember loose 25% of field area for roadways, water lines etc

Stock proof fencing. Line with Chicken wire for young stock.

Fence stakes @ circa 2 m intervals

Feeders and drinkers at 7mm and 8 mm space /bird respectively

Feeders with lids, raised on bricks, and troughs - sheep or horse type

Shelters/straw bales per pen

If using housing – 1.5 birds/m² at kill age (12 kg/m² max)

Equipment, spares and tool kit – **ARE VERY DESTRUCTIVE**

Gressingham Foods – Goose Fattening



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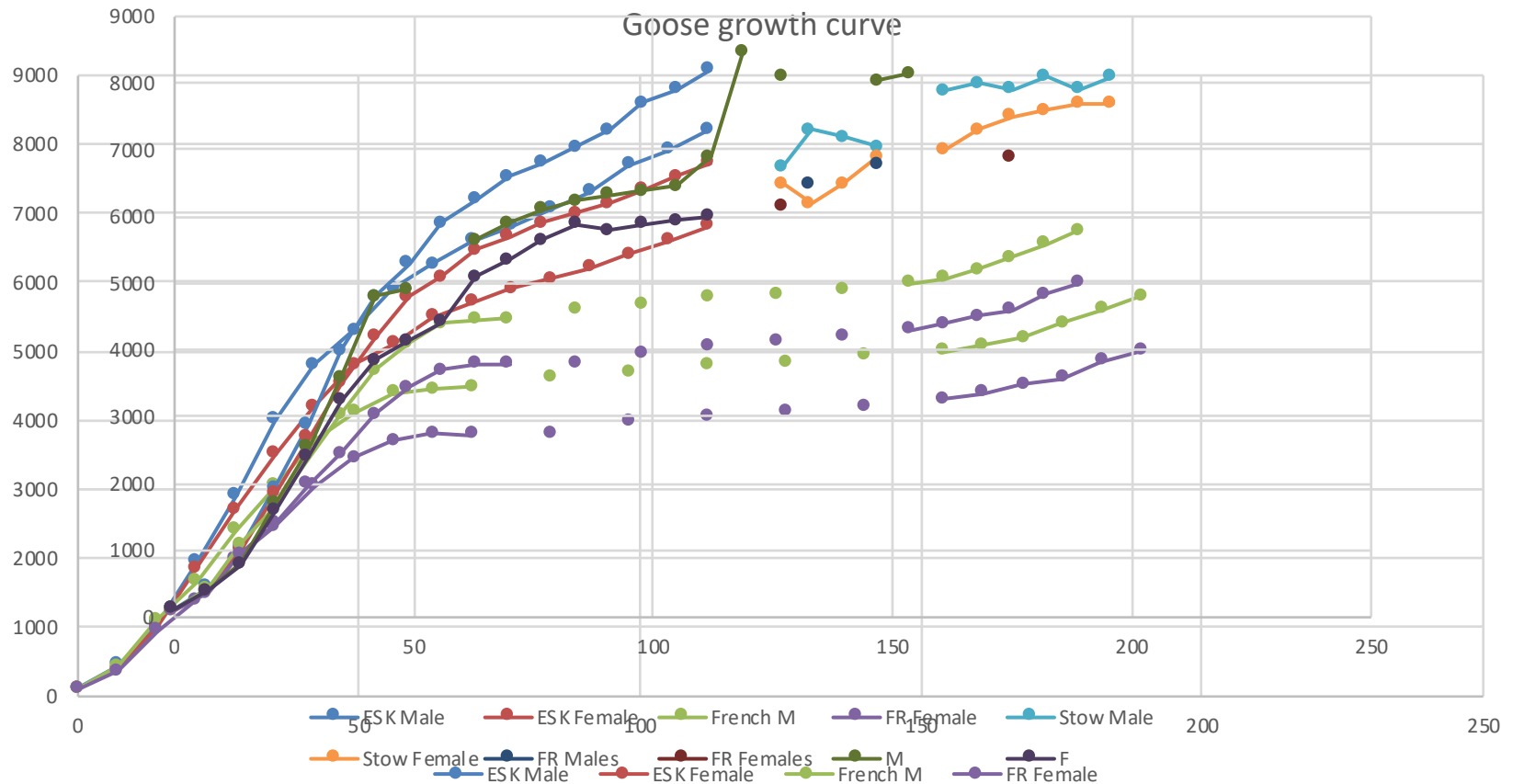
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Goose production summary

Year	Nos placed	Mortality (%)	Mean Kill LWT (kg)	Weighted Kill Age (Days)	Mean Carcase Weight (Kg)
2012	95000	8.49	6.72		
2014	74116	5.43	6.92		4.844
2015	86782	7.05	7.26	176.65	5.082
2016	85000	6.37	7.512	180.8	5.26
2017	66973	5.87	7.776	194.74	5.44
2018	71357	6.17	7.49	183.8	5.25

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Live weights of different goose strains

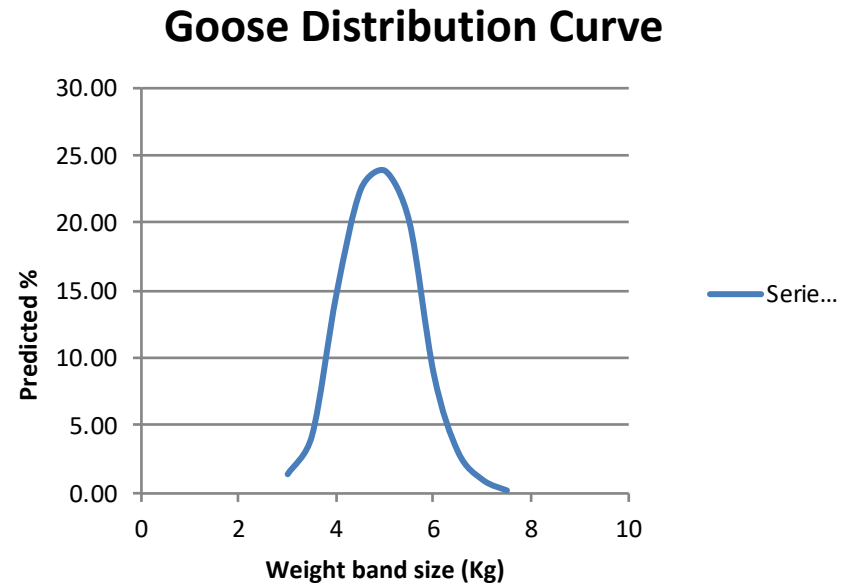
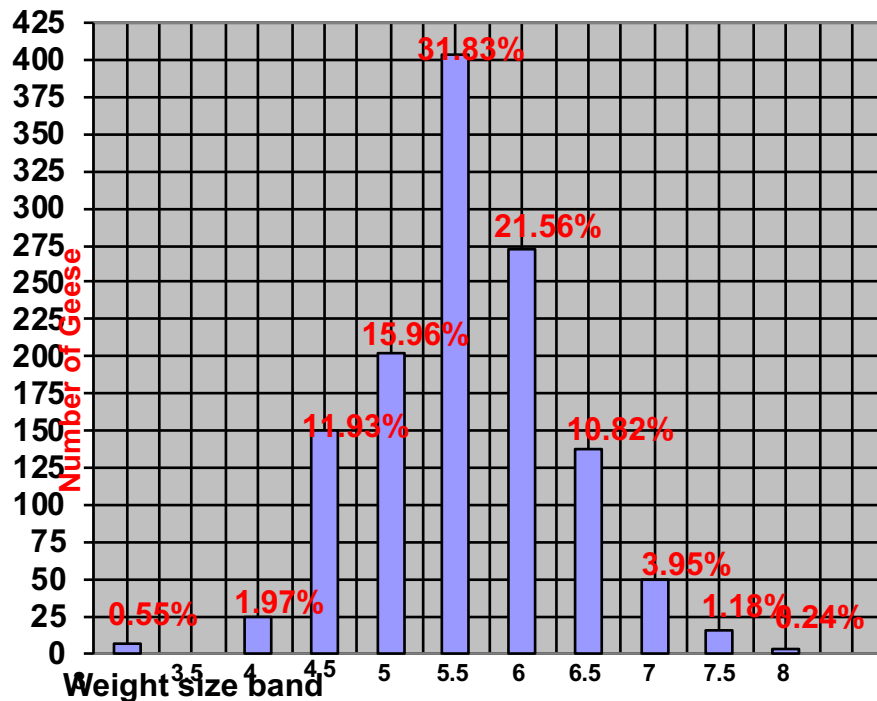


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Can generate an algorithm based on liveweight to forecast saleable sizes.

i.e. $(Lwt - 350g) * 0.70\% = \text{mean carcass weight} \pm \text{SD}$

1 SD = 68%

2SD = 95%

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GENERAL CARCASS COMPOSITION														
Factory weight for pen A (2400 birds = 16060 kg) mean 6.69kg														
Date of sampling 22 SEPT` 1999														
Comments/ instructions for trial														
Physical composition														
BIRD No	Liveweight (g)	SEX	Dead/bled weight (g)	% Change	Plucked weight (g)	% Change	Edible Offal Giblet Weight (g)	Plus head Eviscerated weight (g)	Feet wt. (g)	Neck Weight (g)	Evis/Minus feet wt. (g)	% Change	Saleable wt. Carcass+gibs (g)	% Change
ANALYSIS BY SEX														
FLOCK SALEABLE AVERAGE WEIGHT = 5.052 kg														
MALES														
1	6000	M	5920	1.33	5552	7.47	512	4738	152	242	4086	31.90	4598	23.37
2	8200	M	7748	5.51	7280	11.22	562	6296	202	248	5558	32.22	6120	25.37
3	6600	M	6300	4.55	5932	10.12	528	5088	188	236	4404	33.27	4932	25.27
10	8000	M	7846	1.93	7378	7.78	610	6144	214	270	5302	33.73	5912	26.10
Mean	7200		6953.50	3.33	6535.50	9.15	553.00	5566.50	189.00	249.00	4837.50	32.78	5390.50	25.03
SD	1070.83		987.08	2.02	930.16	1.82	43.34	770.51	26.86	14.83	704.17	0.86	739.91	1.17
CoEV	14.87		14.20	60.58	14.23	19.91	7.84	13.84	14.21	5.96	14.56	2.63	13.73	4.66
FEMALES														
4	5600	F	5482	2.11	5078	9.32	398	4270	140	162	3752	33.00	4150	25.89
5	5600	F	5608	-0.14	5168	7.71	384	4442	158	174	3914	30.11	4298	23.25
6	5800	F	5864	-1.10	5058	12.79	388	4524	160	162	3854	33.55	4242	26.86
7	7000	F	6750	3.57	6354	9.23	530	5520	240	180	4736	32.34	5266	24.77
8	5800	F	5680	2.07	5520	4.83	466	4734	144	220	4036	30.41	4502	22.38
9	5000	F	5050	-1.00	4746	5.08	326	4054	120	158	3592	28.16	3918	21.64
Mean	5800		5739.00	0.92	5320.67	8.16	415.33	4590.67	160.33	176.00	3980.67	31.26	4396.00	24.13
SD	657.27		565.54	1.93	563.73	2.99	71.73	510.21	41.62	23.12	399.36	2.05	467.00	2.05
CoEV	11.33		9.85	210.75	10.60	36.66	17.27	11.11	25.96	13.13	10.03	6.57	10.62	8.50

AJB 22/9/99

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Disease control- vaccination and

Responsible Use of Antibiotics

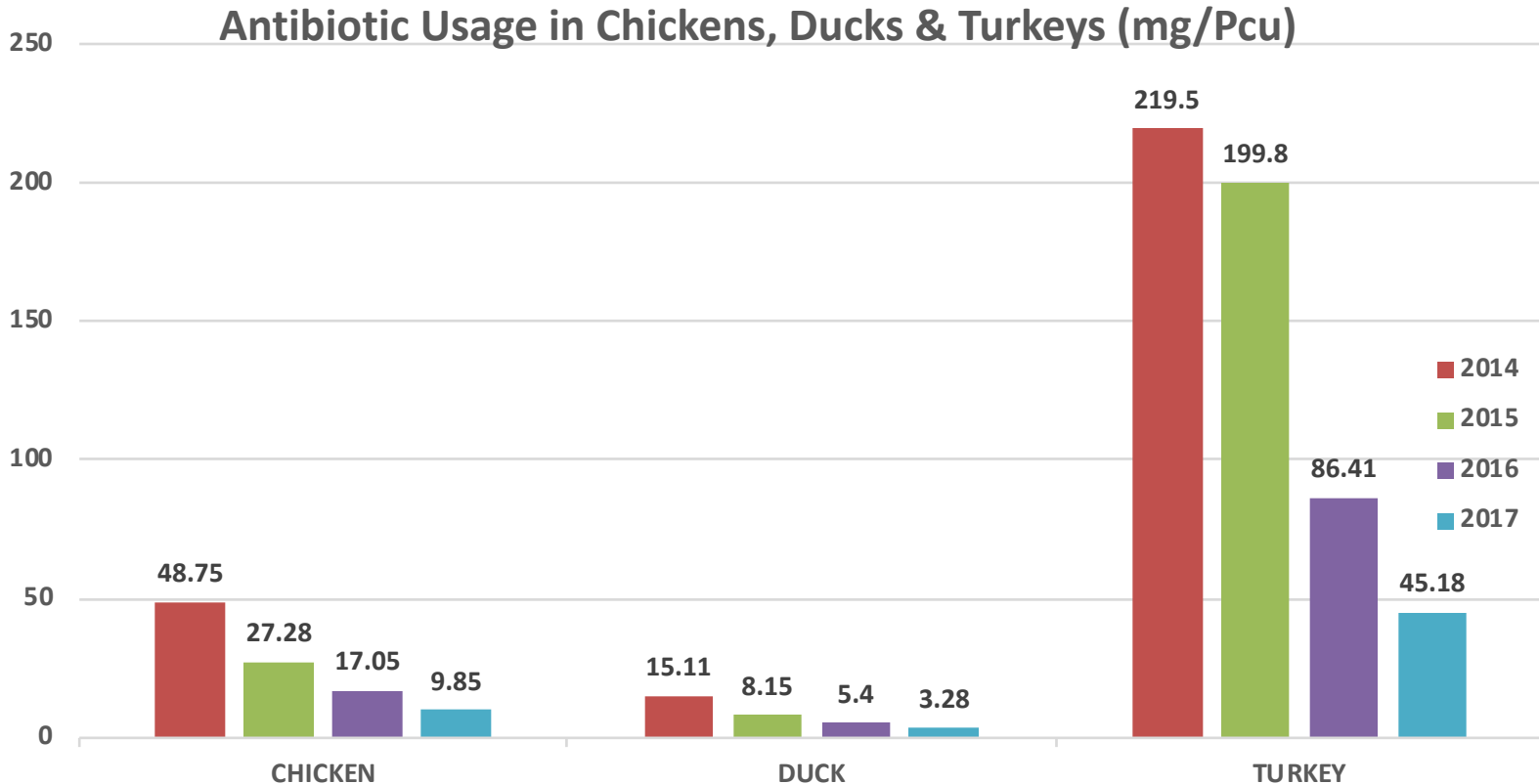


CIWF – Took Anna to Brussels – to discuss overuse of antibiotics within factory farming

BIOSECURITY – Culture & Compliance

- Gated locked compound/site
- Concrete access driveways
- Log book for **ALL** entering (identify bird access)
- Complete clothing change on farm. Bespoke PPE. **Showers**
- Restriction of personal items
- Only authorized/essential persons allowed entry
- Disinfect ALL equipment, vehicles etc entering/leaving site
- Require foot dip and boot changes
- Use hand sanitizers and or gloves in each shed
- Vehicles require C & D on entry/exit from site
- Multisite visitors controlled – fitters/electricians
- AI Contingency plan on site
- Clean & tidy sites – carcasses stored/disposed of away from sheds
- **AUDIT & REVIEW REGULARLY**

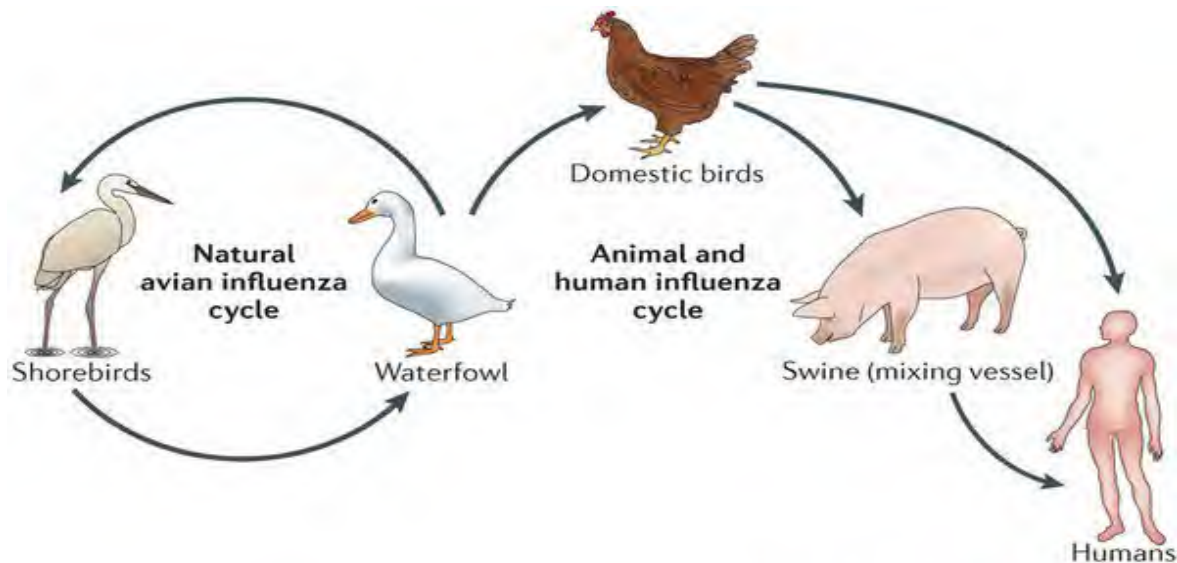
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Basics on Influenza

Wild birds can be carriers & not show illness Shore birds & waterfowl (geese & ducks)

AI is a global threat due to bird migration
Reassortment of viruses is a real risk



Redgrave Park Issues 2007

Lake – Wild birds
Staff movements between sites
PPE – Non site specific

Multispecies
Shared Equipment

Fallen stock disposal
Staff Accommodation

BIOSECURITY WEAKNESSES



11 Nov 2007 H5N1 AI Redgrave Redgrave Poultry Costs



Secondary C&D = £250k
plus approx. £225k + £210k
**Plus loss of reputation
excludes cost of Dirty water
disposal & Muck storage**



www.alamy.com - D4DGA1



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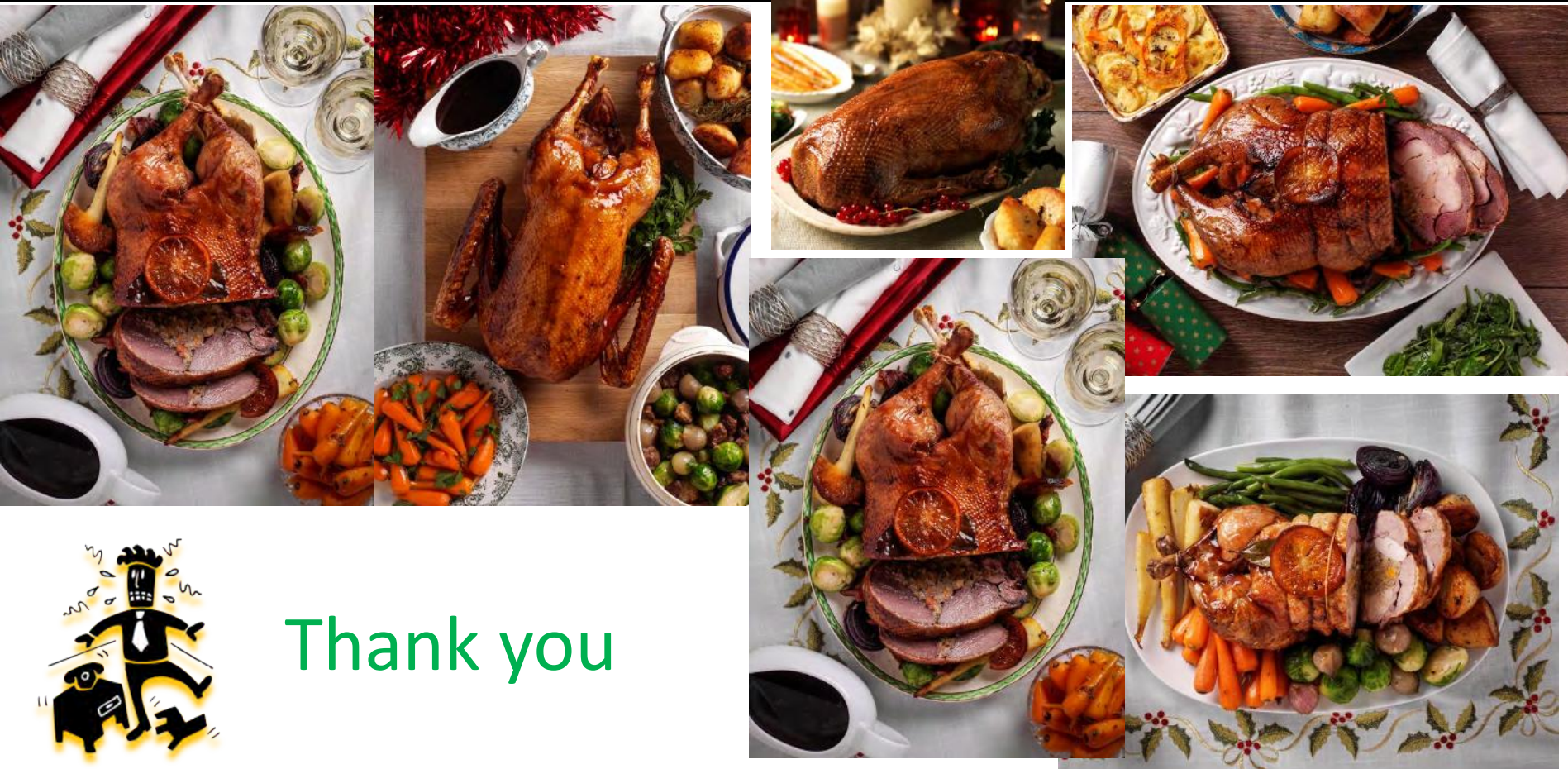
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THE CHALLENGE -Avoid Complacency



- AI is a global threat & challenge
- Multiple routes of disease entry
people, equipment, rodents, wild birds, dust etc
- Biosecurity has to be part of everyday farming
Cannot be 'policed' 24/7, but **MUST** be audited regularly
MUST be understood by ALL & reviewed regularly
- Prevention, early detection & rapid response times appear to be the most critical factors for controlling AI
- Livetec BPC support for company to provide technical/equipment
- C & D Insurance/funding to provide for Industry wide clean up
- **THIS IS A REAL THREAT TO OUR INDUSTRY AND WE MUST BE PROACTIVE TO SURVIVE**

Gressingham Goose – Order now to avoid disappointment



Thank you

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