

Future Farm update



Welcome and enjoy this newsletter giving you an update of Future Farm!

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A brief summary of the UK industry events and top news stories for February 2024

Updates from all Sector Managers

A personalized message from all Sector Managers, giving a run down of all things that happened in February

An insight into the performance of the farm animals

A visual representation of the performance of our animals and how our farm compares

Forage analysis details from harvest 2023

A detailed list of our harvested forage from 2023 and the forage analysis results produced from Wynnstay Forage 4 Profit

Future Farm staff organization chart

A recently updated chart, containing all Future Farm staff members and their job title

Did you know...

Our monthly section containing general farming facts.

Staff vacancies

A list of current staff vacancies on Future Farm

Thank you and Feedback

A brief thank you to our readers and details on where you can give feedback

Don't forget to check out our website for more information on the farm at <https://futurefarm.zone/>

Industry events and news

February was the month that hosted Dairy Tech at Stoneleigh Park but also hosted the Prime Minister at the NFU conference on the 20th of February.

The Prime Minister declared several funding announcements at the conference for productivity and slurry, to animal health and welfare and R&D grants. It is expected to total £427m which forms part of the £2.4 billion budget that has been promised by the current government. The Prime Minister also stated that the government would be doubling the management payment for SFI (Sustainable Farming Incentive) to £2000 for applications made by March 2025 (NFU).

For more information on the grant opportunities available and the increased SFI payment, please [click here](#) to take you to the NFU website.

February was also the month where hundreds of East Anglia farmers joined the [2024 Farming Conference](#) in Ipswich to talk about current issues. A panel of experts shared their advice and the conference focused on three key topics; how to successfully manage your business in times of rapid change in the global economy, how to provide the best working conditions for your employees, and how to introduce innovation on your farm. The conference was a success with several participants voicing the opinions and asking questions to the experts.

If you would like to read more about the conference, please [click here](#).

Message from Chris Ruffley

Sector Manager for Farm Operations



“The wet weather we have continued to have, has caused several difficulties with cultivating land for the upcoming drilling of spring barley. Which we will likely see affecting us in March as well, but we are on stand-by to work the ground whenever we get a dry spell (hopefully in the near future)!

In the meantime, we have been hard at work keeping the farm tidy and safe for visitors. This includes regularly changing the disinfecting solution at the boot wash stations and cleaning mud and debris from the farm track. And spreading as some slurry on the lighter soils where the ground conditions are suitable.

With the continuous rain, we are having a constant battle with keeping the slurry levels in our stores down, but as the months progress into warmer (hopefully dryer) months and with more interest in optimizing slurry management, we hope to reduce the amount in stores before the closed season comes around again.

Also, we continue to work with the other farm sectors to provide the feeding and bedding of the ruminant sector, and help whenever needed to assist with daily tasks.”

Message from David Hughes

Sector Manager for Crops and Environment



“Field Operations: Due to the persistent cold temperatures and heavy rainfall experienced throughout

March, we have been unable to proceed with sowing any spring crops in our field trial plots. The saturated soil conditions and low temperatures make it unfavourable for seed germination and early crop establishment. We will continue to monitor the weather closely and seize the first opportunity when conditions improve to initiate our spring planting operations.

Moving Forward: As we transition into April, our primary focus will be on preparing for field operations as soon as the weather permits. We will closely monitor soil temperatures and moisture levels, ensuring that conditions are suitable for seed germination and crop establishment.

In the meantime, our greenhouse trials and preparation for spring drilling will continue to receive dedicated attention, with ongoing monitoring, data collection, and maintenance activities.

We appreciate your understanding and support as we navigate these challenging weather conditions. Our team remains committed to conducting high-quality trials and delivering valuable research outcomes.”

Message from Matthew Swaine

Sector Manager for Monogastrics



“It has been a quieter month in regards to the sow influenza. We now have fewer signs of influenza on the unit which is reassuring and also fewer cases of secondary infections. However, we treated one finisher room for haemophilus paraseis. The mortality has also decreased which is another positive sign.

The born live on the unit remains good, average born live 16.25 per sow. The sows are still working very hard for us. Weaning numbers also remain good, average 14.34 per sow with an average weaning weight of 8.3kg per piglet. We had one sow weaned in February; her litter weight was 172.79kg. She weaned 16 piglets, average weight per piglet was 10.79kg.

Sow conception still remains good at 94.44%, which we are pleased with.

Work has started on building a new shed to house the new milk-line for the top farrowing house. This is due to be completed at the beginning of April. The new milk line is from AB-NEO and it is called a Pump ‘n’ Grow Fresh System. This system will mix milk on demand, so fresh milk is always available to the piglets. The team are looking forward to this being installed.

We appointed a new TSO for the pig unit and the team are looking forward to welcoming him on the 18th March 2024.”

Message from Kate Robinson

Sector Manager for Ruminants



“Main dairy

The cows are currently averaging 37 litres on twice a day milking with 33% first lactation animals. The main dairy has seen the installation of 4 HVLS fans going into the main shed this month, it will be interesting to see the health and welfare benefits during the warm months which can be drawn from data from Cow Manager and feed intakes.

There has also been an installation of an automated footbath through Northern dairies (ES group funding 2023) we hope to see the benefits of this helping to keep cows' feet healthy. There has been a slight increase in digital dermatitis recently whilst we waited for the installation to be finished. We have opted to use Hoof Count Extra F in the footbaths.

The parlour has had a new backflush system installed to assist with udder health and help maintain the excellent results the dairy produce week on week for udder health. The backing gate has also undertaken a major refurbishment, which should extend its lifetime to match that of the milking parlour.

Fertility has taken a slight hit this last month with a larger than normal returns and negative pregnancies being observed. Cows have not been showing return oestrus in the 30 days before PD which indicated they may have lost very early pregnancies, EED (early embryonic death). Much to the disappointment of dairy staff it is something we are investigating alongside the higher than normal incidence of cystic cows. On the upside the last two weeks PD session have been very good with more than 50% eligible cows PD +ve.

There are currently three dairy [TSO vacancies](#) unfilled, which adds pressure to the team being severely understaffed. We are interviewing over the next few weeks. Harriet leaves us this week to start her new career in teacher training, we would like to wish her all the best for the future.

Smart Dairy

Yields have dropped recently to 30 litres per cow on 2.5 visits. There have been a number of possible reasons discussed; TMR intakes have increased therefore reducing the cows desire to visit the VMS (Voluntary Milking System) for additional feed, persistent VMS breakdowns and down time, DIM increasing and cows post peak lactation.

Fertility has remained good with a target of 1 PD +ve per week and no signs of cystic cows.

A Cow Care automated footbath has been installed to help with maintaining foot health. Discussions are still taking place with JOZ to have the existing equipment repaired and re-routed to maximise its use on both dairies, this is for both silage pushers and the robotic slurry pusher. All are currently out of action due to major repairs needed and re-routing the pathways with new transponders.

(Cont.)

Sheep

The first group of 200 ewes lambed very successfully in less than 10 days in February, a higher number of triplets were born compared to 2023. Some were adopted onto singles but left 15 Cade lambs on an automatic feeding system. There were 4 cases of SBV (Schmallenberg Virus) with the vet having to attend to one difficult lambing with a deformed lamb. Students who attended the lambing sessions have all given great feedback to the lambing team and had a good hand on experience, with a few quieter sessions at the start of March.

It has been a juggling game to find suitable pasture for pregnant ewes and then ewes and lambs with the persistent rain leaving all fields as swamps. The pickup and trailer have been stuck a few times when taking stock out to Bayley Hills. The continued wet weather has led to a few mortalities due to hyperthermia and some lambs being brought back indoors.

The remaining hoggets from last year were sold through ABP, averaging £149 a head.

Please let students know that if they are remaining on campus over Easter we will continue to offer lambing sessions throughout the Easter break, alongside milking and calf rearing sessions for valuable work experience. Please ask them to contact me to arrange times and days (krobinson@harper-adams.ac.uk).

Beef

The beef enterprise continues to perform to amazing levels of production for dairy x British Blue bred cattle, with 74 BBx (British Blue cross) cattle and 7 AAX (Aberdeen Angus cross) cattle. There are 20 AAX calves waiting to join the beef herd from young stock sheds. The Angus cross cattle will be the starting herd for beef grazing, with cattle grazed outdoors all year round and maybe coming in for the final 6 weeks to finish on TMR (space dependent and Morrisons contract). The diet is based on a 65% forage mix with barley and small amount of protein blend to give a 1.7kg DLWG. Credit must go to the beef team for the continued performance of these cattle, always a great place to take visitors to see beef on dairy cattle reaching maximum potential as finishing beef.

Young Stock

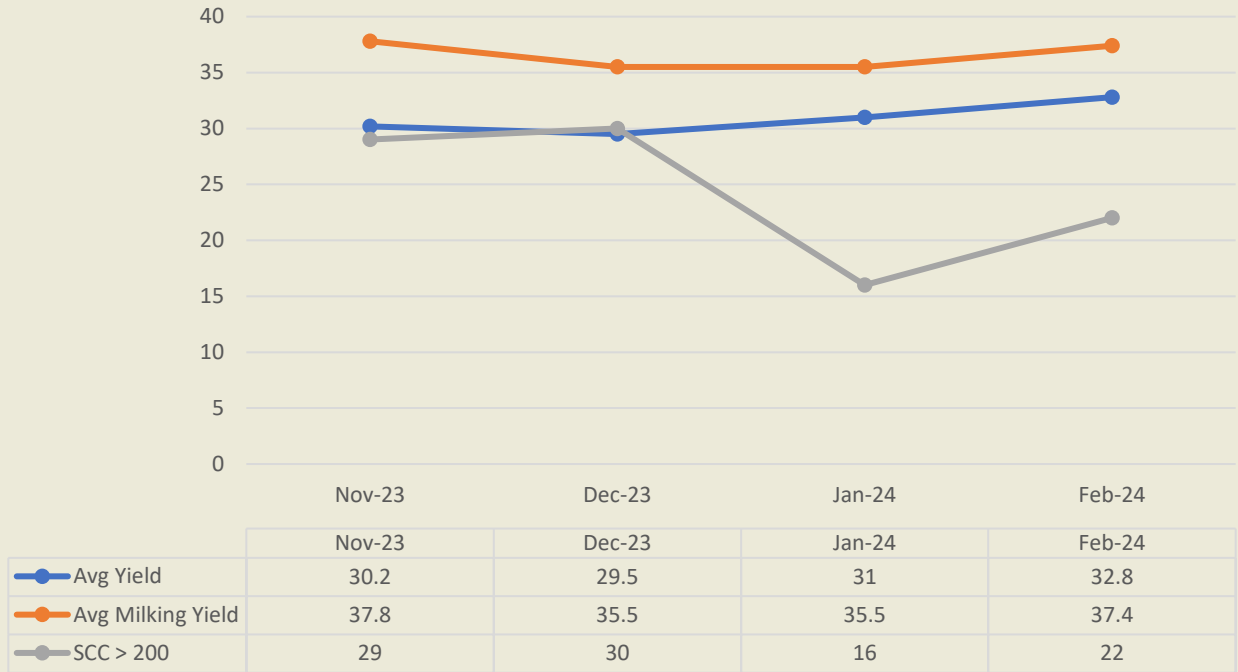
The busy season has finally reached an end for the young stock and dairy team. The never-ending cycle of cleaning and disinfecting hutches has slowed down but still continues all year. There has been an unusually high mortality rate of 5 calves dying the last 12 rolling months compared to just 2 in the previous 12 months. There have been two losses due to E-Coli infection in 24-hour old calves, picking up infections from dirty/ contaminated straw, one heart defect and two unknowns (infectious diseases). This is still undoubtedly low losses in a commercially viable system and again credit to the vigilance and hard work from the farm team. Anyone wishing to take a look at young stock data can contact Carrie for read only access to Smart Bell/ Well calf tag system, this system is new and still investigating ways to maximise its potential as a management tool on farm.

There was a long period where we were not getting sufficient volume or quality colostrum from fresh calved cows, this was investigated but no conclusion drawn. During this period, we used powdered colostrum mixed with the under-value colostrum, the weekly total proteins did vary during this period but have since returned to a good standard."

Future Farm Animal Performance in February 2024:

The Main Dairy milk yield and KPI's in comparison to all NMR recorded herds of a similar herd size (Please note. The data in the graph and screenshot of the KPI table are from Herd Companion)

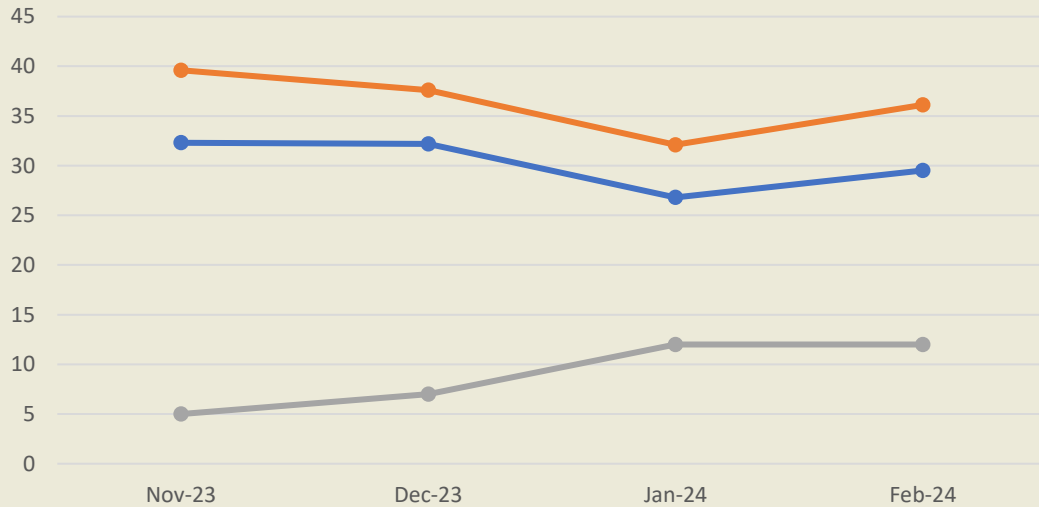
Herd Production Summary - Main Dairy



Benchmark		New	Export		
NMR14: Holstein herds > 300 cows		Benchmarks	Export		
Drag a column header here to group by that column					
KPIs	'Worst' <-----> 'Best'	Worst	You	Best	Mean
Milk/Cow/Year of life		4,068	7,048	8,995	6,022
Milk/Cow/Year		6,124	11,023	13,579	9,791
Lactation Yield		6,136	11,401	12,571	9,648
305 Day yield		5,845	9,820	11,889	8,888
Protein/Cow/Year		214	354	447	332
Fat/Cow/Year		243	417	620	414
Ave. Protein %		3.13	3.21	3.78	3.40
Ave. Fat %		3.64	3.78	5.23	4.24
Mean Parity		2.09	2.64	3.58	2.74
Calv. Interval < 385 %		30.61	51.95	78.63	56.87
Ave. Lactation length		377	348	248	311
Ave. SCC		329	102	86	166
% Cows in Parity 1		46.12	28.89	9.16	29.45
Age 1st Calving		945	734	672	774
Ave. Calving interval		467	396	364	392
Ave. Dry days		72	48	42	55
Culling + Death %		48	26	17	31
Ave. No. Cows		307	370	1,229	497

The Smart Dairy milk yield and KPI's in comparison to all NMR recorded herds of a similar herd size (Please note. The data in the graph and screenshot of the KPI table are from Herd Companion)

Herd Production Summary - Smart Dairy



	Nov-23	Dec-23	Jan-24	Feb-24
Avg Yield	32.3	32.2	26.8	29.5
Avg Milking Yield	39.6	37.6	32.1	36.1
SCC > 200	5	7	12	12

Benchmark	New	Export
NMR11: Holstein herds <= 100 cows	Benchmarks	Export

Drag a column header here to group by that column

KPIs	'Worst' <-----> 'Best'	Worst	You	Best	Mean
Milk/Cow/Year of life		2,185	9,604	6,301	4,540
Milk/Cow/Year		3,427	9,976	10,976	7,150
Lactation Yield		3,411	12,750	11,620	7,787
305 Day yield		3,078	9,987	10,004	6,790
Protein/Cow/Year		119	327	374	241
Fat/Cow/Year		147	352	469	300
Ave. Protein %		3.13	3.28	3.71	3.37
Ave. Fat %		3.26	3.53	5.29	4.20
Mean Parity		1.96	3.49	4.59	3.06
Calv. Interval <385 %		7.14	44.44	67.19	47.79
Ave. Lactation length		575	345	204	340
Ave. SCC		886	476	53	205
% Cows in Parity 1		49.35	2.70	7.55	26.63
Age 1st Calving		1,351	701	737	891
Ave. Calving interval		701	419	379	416
Ave. Dry days		113	63	36	58
Culling + Death %		90	25	7	26
Ave. No. Cows		30	44	113	75

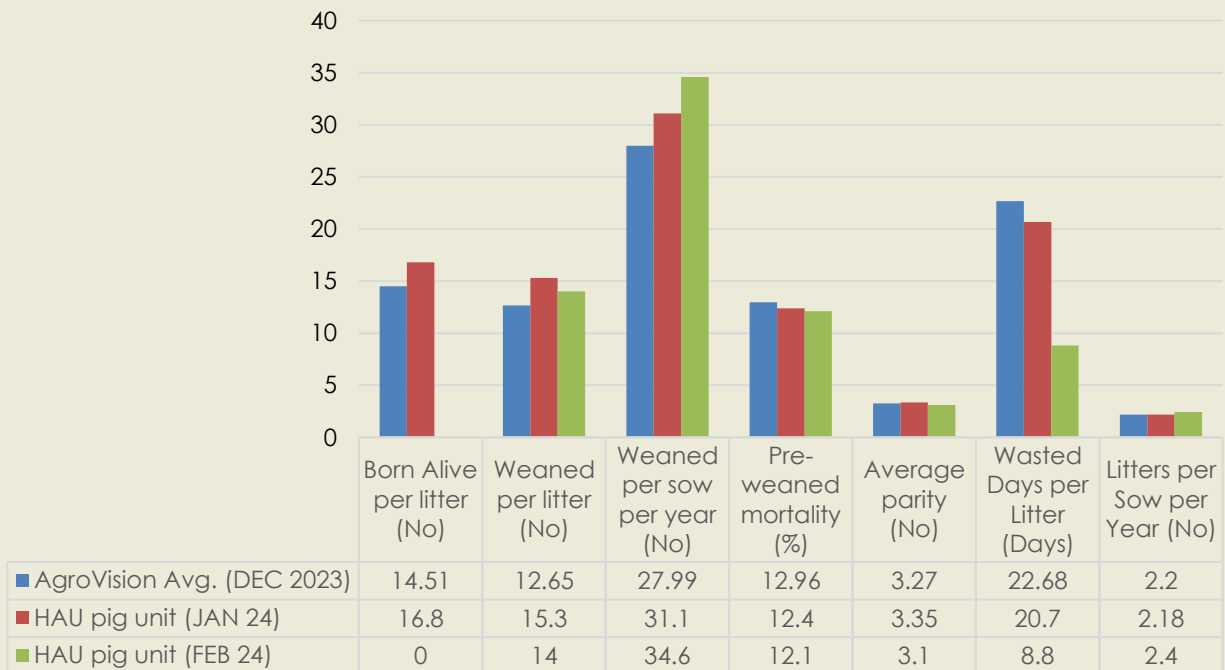
The Main dairy and Smart dairy milk quality components in comparison to the Benchmark Muller average

February 2024

	Main Dairy	Smart Dairy	Muller Average
Avg Bfat (%)	4.18	4.27	4.21
Avg Protein (%)	3.2	3.19	3.33
Avg SCC ('000/ml)	92	154	135.39
Avg BAC ('000/ml)	17	21	19.68
Therms (cfu/ml)	40	420	517.7
FPD (m*C)	528	526	

The Pig unit production performance in comparison to the AgroVision Benchmark average (Please note. The AgroVision Benchmark figures are produced on a quarterly basis, for this performance comparison the December 2023 report has been used).

Pig Unit Performance vs AgroVision Benchmark



Future Farm Forage Analysis from Harvest 2023:

Please note. The forage was analysed by Wynnstay Group P.L.C under Wynnstay Forage 4 Profit, and is scaled against the value of their 'control' sample. To access the original reports on the Future Farm website please [click here](#).

Material type: Lucerne Silage (06/07/23)			Wynnstay Scale		
<i>Analysis</i>	<i>Unit</i>	<i>Result</i>	<i>Low</i>	<i>Good</i>	<i>High</i>
Dry matter	%	30.63	< 35	35 - 55	> 55
Crude Protein	%	18.4	< 15	15 - 20	> 20
ME	MJ/kg	9.3	< 8.5	8.5 - 9.5	> 9.5
NDF	%	38.7	< 40	40 - 50	> 50
Oil A	%	2.6	< 2	2 - 3	> 3
Ash	%	10.4	< 8	8 - 10	> 10
pH		4.41	< 4.5	4.5 - 5.5	> 5.5
NH3-N of total N	% N	9.8	< 3	3 - 6	> 6

<i>Analysis</i>	<i>Material type:</i>	<i>Maize Silage (16/11/23)</i>	<i>Maize Silage (20/10/23)</i>	Wynnstay Scale		
<i>Unit</i>	<i>Unit</i>	<i>Result</i>	<i>Result</i>	<i>Low</i>	<i>Good</i>	<i>High</i>
Dry Matter	%	31.7	32.6	< 26	26 - 32	> 32
Protein	%	8	7.8	< 7	7 - 9	> 9
D Value	%	74.7	73.4	< 68	68 - 72	> 72
ME	MJ/kg	11.7	11.5	< 10.6	10.6 - 11.2	> 11.2
pH		3.6	3.7	< 3.9	3.9 - 4.2	> 4.2
Ammonia	%	4.1	3.4	< 4	4 - 8	> 8
Ash	%	3.3	3.2	< 4	4 - 5	> 5
Starch	%	29.5	29.7	< 25	25 - 35	> 35
Starch Degradability	%	82.4	81.9	< 70	70 - 80	> 80
NDF	%	40.9	39.1	< 35	35 - 45	> 45
ADF	%	25.9	22.7	< 20	20 - 28	> 28
FiM Metabolisable Protein	<i>Unit</i>	<i>Result</i>		<i>Low</i>	<i>Good</i>	<i>High</i>
MPB	g/kg	30.5	39.8	< 15	15 - 25	> 25
MPN	g/kg	55.5	56.8	< 40	40 - 60	> 60
MPE	g/kg	92.2	101.7	< 75	75 - 90	> 90
Fermentation Characteristics	<i>Unit</i>	<i>Result</i>		<i>Low</i>	<i>Good</i>	<i>High</i>
Lactic Acid	g/kg	59	41.7	< 25	25 - 50	> 50
Intake	g/kg	106.9	107	< 90	90 - 110	> 110
Rumen Stability Value		229.3	221	< 260	260 - 320	> 320
FiMPAL	Meq/kd	959.7	938.6	< 700	700 - 1000	> 1000

Material type:	Grass Silage (16/11/23)	Third Cut Silage (23/10/23)	Third Cut Silage (06/10/23)	Wynnstay Scale		
				Low	Good	High
Analysis	Unit	Result		Low	Good	High
Dry Matter	%	40.1	27.7	27.3	< 25	25 - 35 > 35
Protein	%	17.5	11.4	11.6	< 11	11 - 15 > 15
D Value	%	73.2	66.6	63.8	< 64	64 - 72 > 72
ME	MJ/kg	11.7	10.7	10.2	< 10.3	10.3 - 11.6 > 11.6
pH		4.4	3.6	3.9	< 3.8	3.8 - 4.2 > 4.2
Ammonia	%	2.2	4.4	4.5	< 3	3 - 6 > 6
Ash	%	2.2	0.2	0.2	< 2	2 - 4 > 4
Starch	%	8.8	7.8	7.5	< 5	5 - 10 > 10
Starch	%	40.7	50	52.6	< 45	45 - 55 > 55
Degradability						
NDF	%	27.8	32	33.2	< 30	30 - 40 > 40
ADF	%	4.5	3.1	3.1	< 3.0	3 - 4.5 > 4.5
FiM	Unit	Result		Low	Good	High
Metabolisable Protein						
MPB	g/kg	30.3	26.1	26.7	< 20	20 - 35 > 35
MPN	g/kg	118.4	78.1	79.8	< 85	85 - 110 > 110
MPE	g/kg	84.4	62.2	66.6	< 70	70 - 80 > 80
Fermentation Characteristics	Unit	Result		Low	Good	High
VFA's		32.6	20.4	16.8	< 20	20 - 40 > 40
Lactic Acid	g/kg	67	119.3	89.1	< 50	50 - 100 > 100
Intake	g/kg	120.9	97.3	91.1	< 90	90 - 110 > 110
Rumen		263.2	307.9	318	< 260	260 - 320 > 320
Stability Value						
FIMPAL	Meq/kd	608.7	721.8	773.3	< 700	700 - 1000 > 1000

	Material type:	Big Bale Haylage (16/11/23)	Wynnstay Scale		
<i>Analysis</i>	<i>Unit</i>	Result	<i>Low</i>	<i>Good</i>	<i>High</i>
Dry Matter	%	51.3	< 30	30 - 40	> 40
Protein	%	9.1	< 10	10 - 15	> 15
D Value	%	58	< 62	62 - 69	> 69
ME	MJ/kg	9.3	< 10	10 - 11	> 11
pH		4.8	< 4.4	4.4 - 5.4	> 5.4
Ammonia	%	1.7	< 4	4 - 8	> 8
Ash	%	5.5	< 2	2 - 4	> 4
Starch	%	5.8	< 5	5 - 10	> 15
Starch Degradability	%	51.3	< 45	45 - 55	> 55
NDF	%	34	< 30	30 - 40	> 40
ADF	%	4.9	< 3.0	3 - 4.5	> 4.5
<i>FiM Metabolisable Protein</i>	<i>Unit</i>	Result	<i>Low</i>	<i>Good</i>	<i>High</i>
MPB	g/kg	20.3	< 20	20 - 30	> 30
MPN	g/kg	62	< 60	60 - 95	> 95
MPE	g/kg	87.8	< 60	60 - 95	> 95
<i>Fermentation Characteristics</i>	<i>Unit</i>	Result	<i>Low</i>	<i>Good</i>	<i>High</i>
VFA's		16.7	< 15	15 - 30	> 30
Lactic Acid	g/kg	14.9	< 50	50 - 100	> 100
Intake	g/kg	94.5	< 90	90 - 110	> 110
Rumen Stability Value		327.8	< 260	260 - 320	> 320
FiMPAL	Meq/kd	600	< 600	600 - 900	> 900

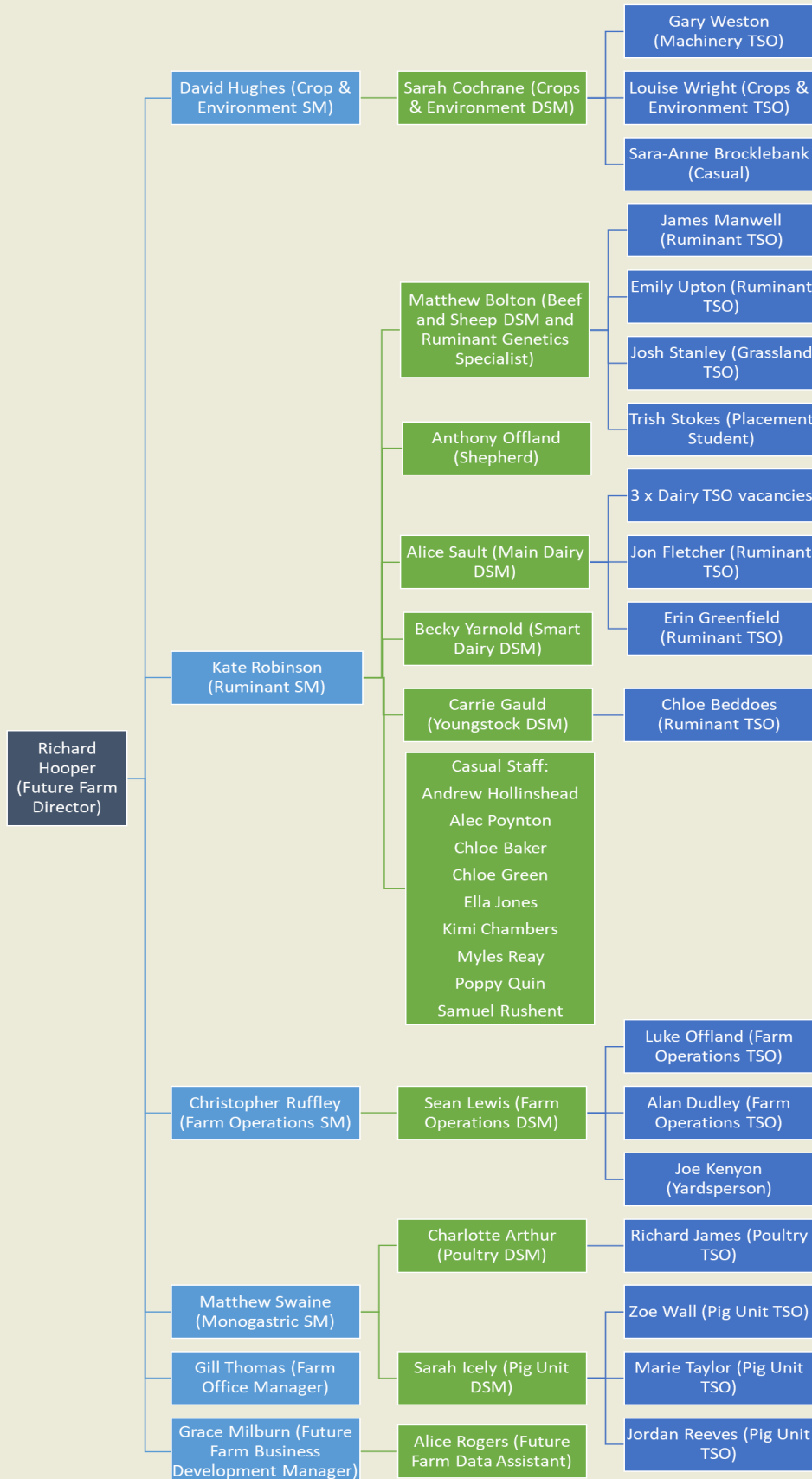
Future Farm Staff Organisation chart:

Terminology:

SM – Sector Manager

DSM – Deputy Sector Manager

TSO – Technical Science Officer



Did you know...

- The UK food and farming industry is worth more than £120 Billion to the national economy ([NFU](#)).
- Over 75% of the UK land mass is looked after by farmers ([NFU](#))
- If you put all the UK's hedges together, they'd circle the Earth **20 times!** ([Bayer](#))
- Pigs don't sweat and they love fuss! They also have an excellent memory and are very intelligent. So word to the wise, don't upset a pig!



Staff Vacancies

Ruminant sector:

3 x Dairy Technical Science Officer positions – for more information [click here](#)

Thank you for reading the Future Farm monthly update newsletter, if you have any feedback or would like to see something in upcoming updates, please send your request to futurefarmenquiries@harper-adams.ac.uk.

We apologise for anyone who made a suggestion for the newsletter and the content you requested was not included. We are doing our best to gather this information for future issues. In the meantime, if you or someone else would like to know more about the farm and our practices, check out our newly updated website <https://futurefarm.zone/>.