




Milk sample carry over in the field

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Reducing carryover in the field

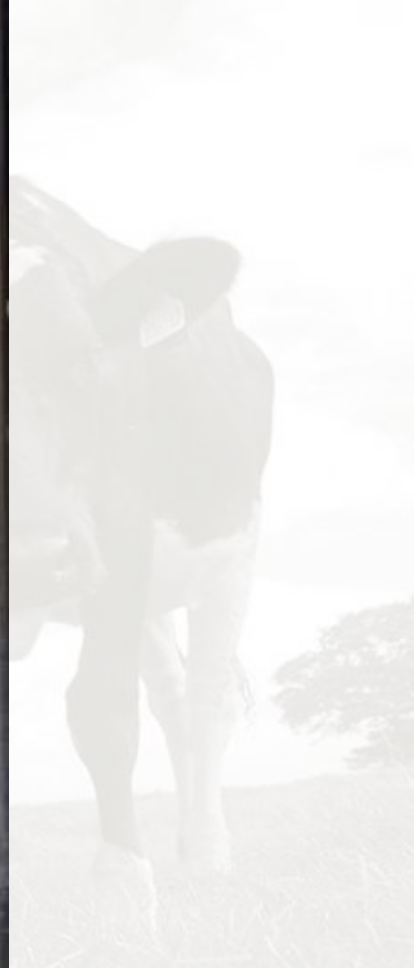
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Agenda/plan

- Carryover – what is it?
- Carryover – Why it matters
- Who is responsible?
- What can one do to reduce it
- Practical example

What it's all
about:
reflecting
individual
animal's
performance
accurately.



Carryover – What is it?

- Defined by the Cambridge Business English Dictionary as: something that comes from an earlier period.
- In this case – part of a milk sample from an earlier animal in the milking parlour.

Why is carryover important to us?

- Testing milk samples differentiates us from a computer program.
- As we test for more items, more revenue is generated.
- Our service is of more value to the customer, building a long term relationship.
- However, as higher value tests are reported, the reputational damage if things go wrong, is also much larger.
- Put simply, incorrect animal health diagnostics, have life and death consequences for the animal (not the MRO).

Why is carryover important to the farmer?

- Possible effects of false positive tests
 - Unnecessary culling
 - Unneeded medical intervention
 - Increased management time
 - Over (or under) reporting of disease prevalence
- All the above equate to additional costs
- A question for us - do we tell the farmer that carryover is a risk to their business?



Obtaining an accurate milk sample at a recording session depends on:

- Milking parlour components and design
- Milking operative
- MRO technician – need to be consistent for the whole recording session.
- Milking parlour maintenance – how often does servicing and meter checking occur?

Milking Parlour component issues

- Type of recording devices effect sampling procedure on the day
- Components – Milking Cluster, Hoses, Meter, flask, sampler. Small mismatches can lead to bigger issues.
- If approved, are they still accurate?
- Carryover is affected by all, and the interrelationship between them.



Example of
a meter not
emptying
completely
between
animals.

ICAR Recording and Sampling Devices Sub Committee.

- The RSD-SC is looking at carryover estimation procedures at the test lab level.
- These procedures will be shared and could be duplicated by manufacturers if desired.
- It needs to be team effort to manage and minimize carryover.

MRO's responsibilities

- We need to ensure that the equipment we hire out is accurate and maintained correctly.
- We must communicate to our customers, the limitations of the test results if they are using a certain meter, and or sampling combination.
- Ensure the equipment on farm, is suitable to meet the accuracy needs of the tests required.
- Have we given the farmer the best working practices to achieve the desired results?

Milking parlour operatives

- Key component in reducing carryover.
- They want minimal disruption, we want an accurate sample; pressure on time and routines
- Need to show benefit of recording data, – **the Why is always more important than the How.**
- Less of a problem for owner milkers than on units with employed staff
- Are best practice's being adhered to, if DIY sampling.

The most important people in our business, apart from our customers.



MRO recording technician.

- Should be straightforward to train and monitor.
- In practice, we all have off days
- Do they have the soft skills to enable enough time to be negotiated in the parlour to get it right?
- Have they been shown the value of getting it right?

Milking parlour compromises

- Speed is king
- Accurate ICAR approved devices cost more
- Ongoing servicing costs
- SOP's are different on recording day
- Factoring option, not as good as full recording

Milk sample components and the effect on carryover and credibility

Component	Service affected	Carryover risk	Negative Credibility effect
Protein	Core milk recording	Low	Low
Butterfat	Core milk recording	Medium	Low
SCC	Cell Count services	Medium	Medium
Johne's	Johne's services	Medium	Medium
BVD	BVD services	Medium	High
PAG	Pregnancy services	High	High

Our Job as MRO's

- To evaluate the carryover risk on each farm.
 - Depends on tests required.
 - Is the farm factored?
- Ensure we have the protocols in place to react the situations as they arise.
- Must not be complacent.

A real example of carryover

- Sept 2013, 244 samples tested for PAG from a herd in Somerset, SW England.
- Seasonal calving herd, being tested at late lactation – average yield 17kg, factored.
- Results show no PD-ve results, and 5% recheck.
- Something was wrong, would expect 10% empty.



Additional facts

- ICAR approved Waikato milk meters set to constantly agitate
- 2.5 meter long milk tube
- No ACR's.
- 10/20 swing over parlour
- Factoring sampling and yield option used.

So what happened next?

- Customer queries the results
- Farm visit carried out by local senior manager at milking time.
- Observed herdsman cutting vacuum at claw to remove unit.
- Milk line not being purged, before putting unit on the opposite animal. The answer to the problem.

The maths behind the carryover

- 15mm diameter milk tube giving 1.75 cm^2 cross section. Approx 2.5 meters between meter and claw giving a maximum carry over of 0.45 litres of milk.
- In terms of this herd, average on the day was factored at 17kg giving an average morning yield of 9kg so up to 5% carryover.
- Hence any cow with a test result of 2 would have been enough to cause an inconclusive result (>0.1) in the following animal.

What we did next

- Had to retest the herd the following month at a cost to ourselves.
- Issue advice to all our milk recording teams nationally to be extra vigilant when farmers want PAG testing.
- Don't now assume that ICAR approved equipment mitigates the need for eyeballing



Going forward

- New tests are being developed all the time; carryover, whatever the cause on farm, needs to be recognised and checks and balances put in place, at all levels, to mitigate the cost and risks to farmer and MRO.

Conclusions

- Communication at all levels need to be really clear and simple. We can over complicate.
- Do not assume ICAR approved devices are being used, maintained or interrelating correctly.
- Always explain the Why first, and then the How.
- Ensure we have the right people on farm, they are our eyes and ears (not mouth).



Thank you
for
listening



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