Seasonal variation in venison drip and tenderness

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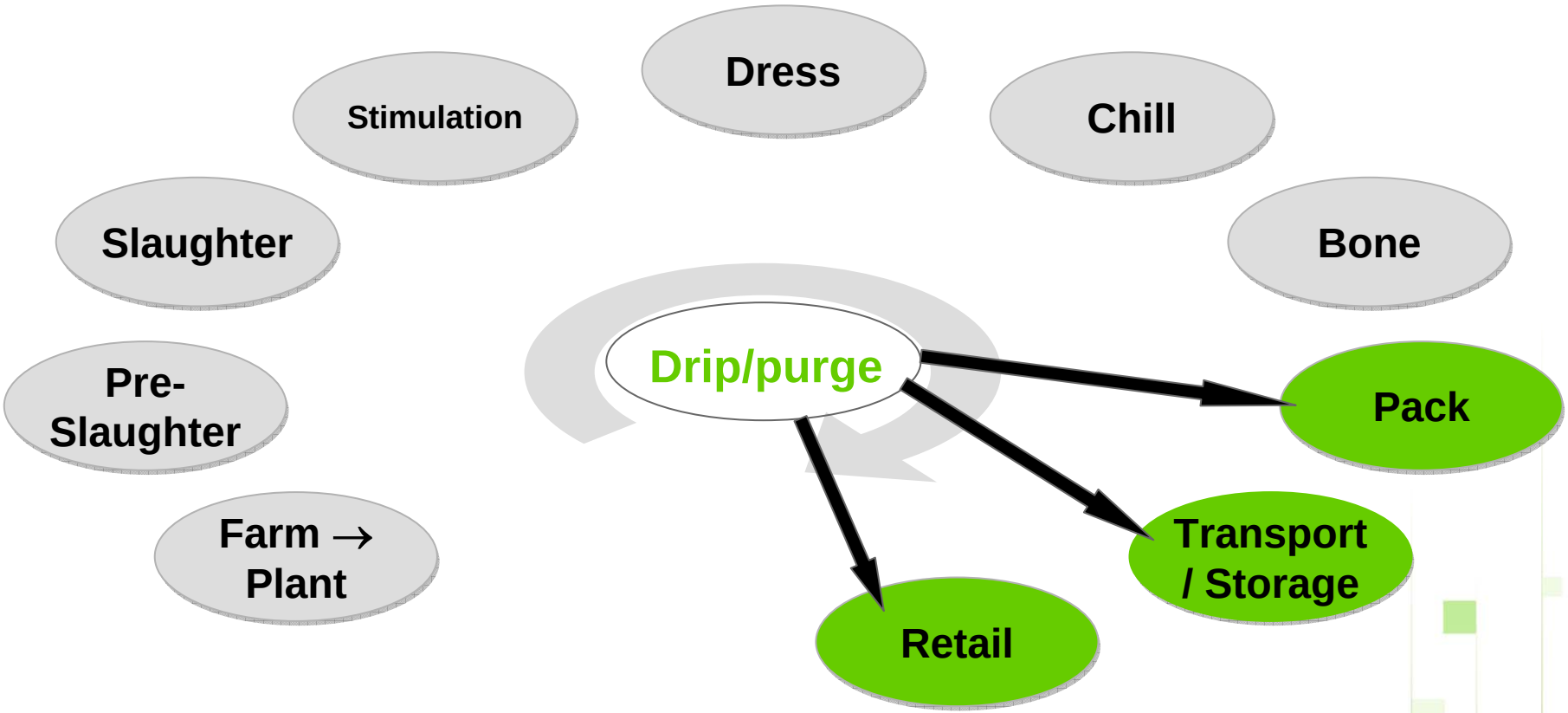
Fit with process



Venison vs. other meats

Venison

Tenderness +

Drip -

Beef

Tenderness -

Drip +

Does tender meat always produce more drip?

- A central quality aspect, especially for chilled venison

- Drip in venison studied over the season and related to tenderness and activity of tenderizing enzymes

- Deer growth is very seasonal. The same enzymes that tenderize meat are also active in the living animals

Results 1

Drip/purge (%) in loin samples

	1 day	3 weeks	9 weeks	14 weeks
Dec	3.3	3.8	5.1	4.9
March	0.9	2.3	3.9	4.8
July	3.2	2.7	3.8	4.2
Sept	2.3	2.7	-	-

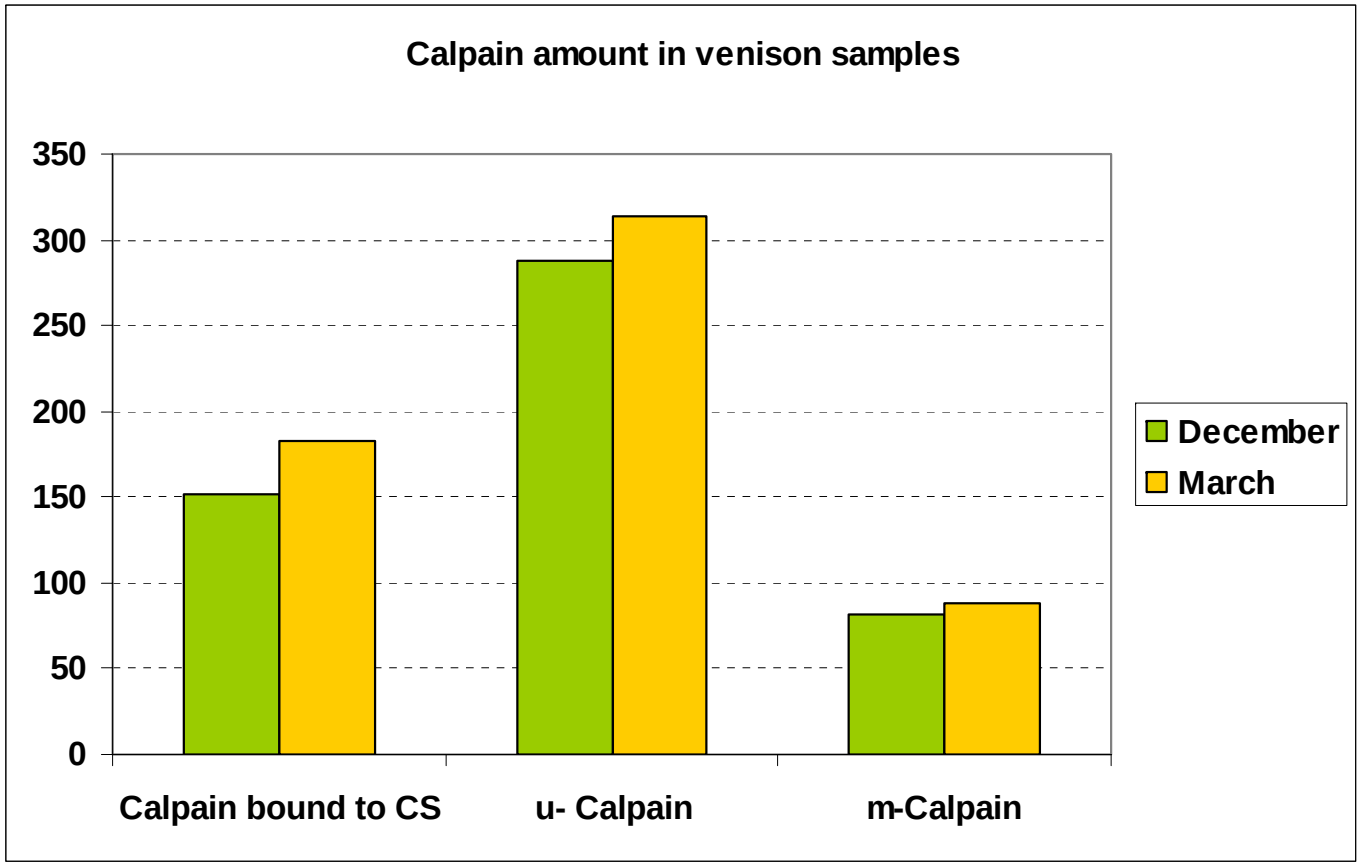
Results 2

Tenderness (shear force) in loin samples

	1 day	3 weeks	9 weeks	14 weeks
Dec	6.3	4.0	3.2	3.3
March	12.0	5.4	4.2	4.4
July	9.4	3.9	4.1	3.9
Sept	9.6	4.9	-	-

Results 3

Calpains and calpastatin (CS) in loin samples



Summary

- **Drip loss / purge**

Most drip in meat from December-slaughtered deer up to 9 weeks after slaughter. No difference in drip at 14 weeks of storage.

- **Tenderness**

December samples overall most tender, even after 14 weeks of storage.

- **Enzymes**

More inhibitor in March samples possibly stopping tenderising effect of calpains.

Tender venison produces more drip

<u>Challenge:</u> Improve venison processing to minimize drip without negative impact on tenderness

Acknowledgement

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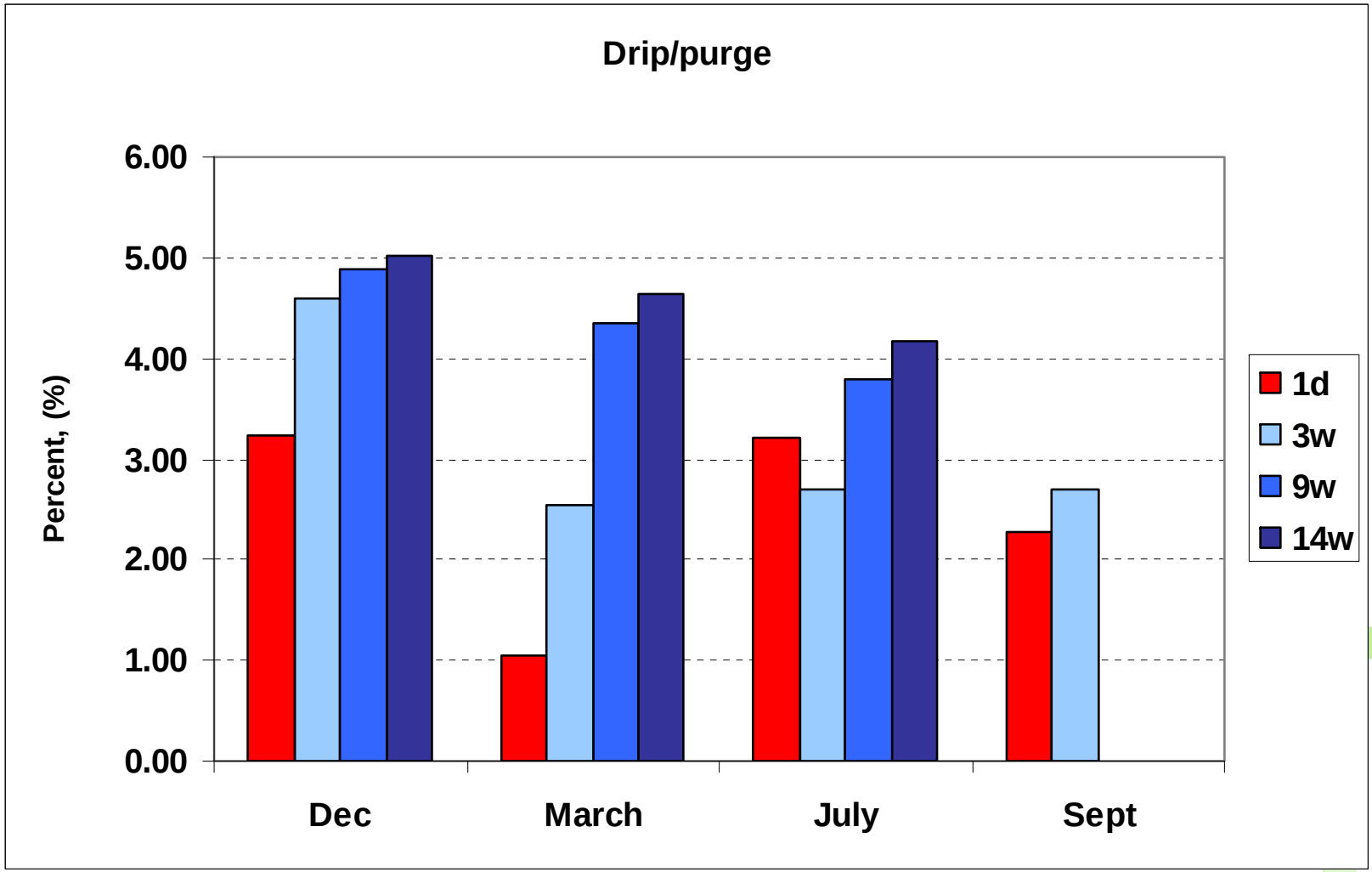
Venison drip summary



Venison tenderness summary