Where to for winter milk herds in the post-quota environment?

Modelling potential changes in scale, system, and efficiency

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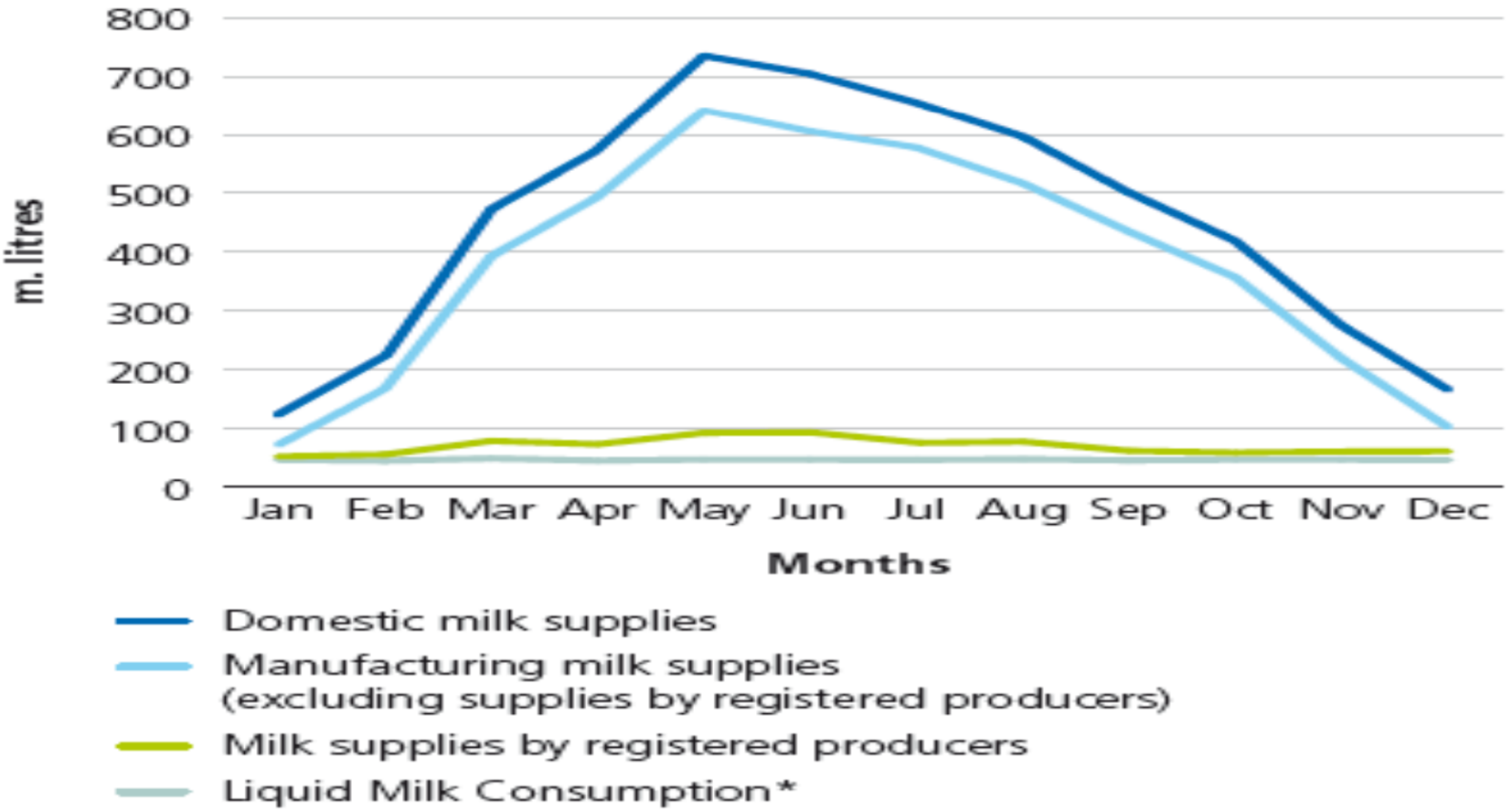
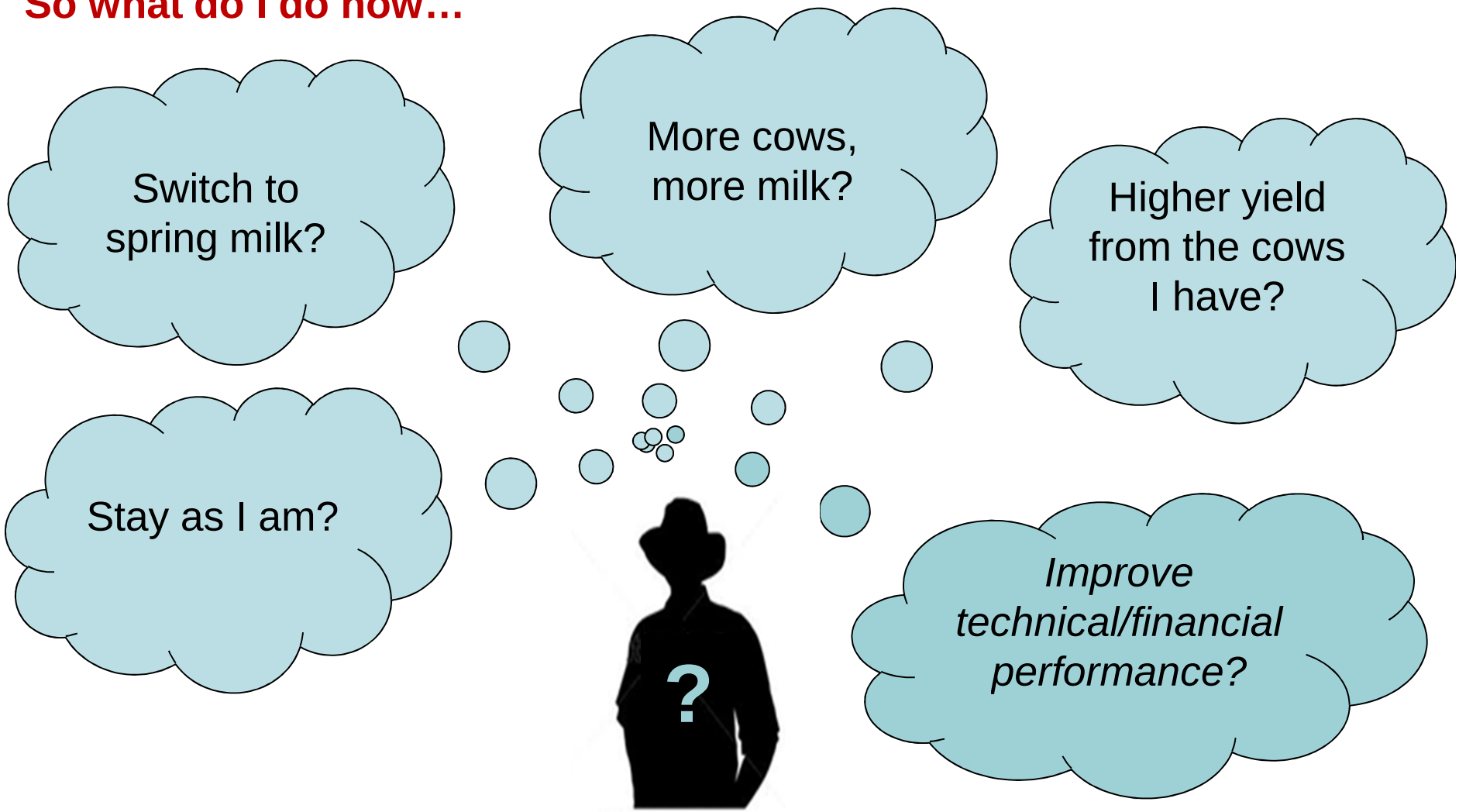
FIG. 1.2 DOMESTIC SUPPLIES, MANUFACTURING MILK SUPPLIES, SUPPLIES BY REGISTERED PRODUCERS AND LIQUID MILK CONSUMPTION (MONTHLY) 2013



So what do I do now…



System and Efficiency Factors

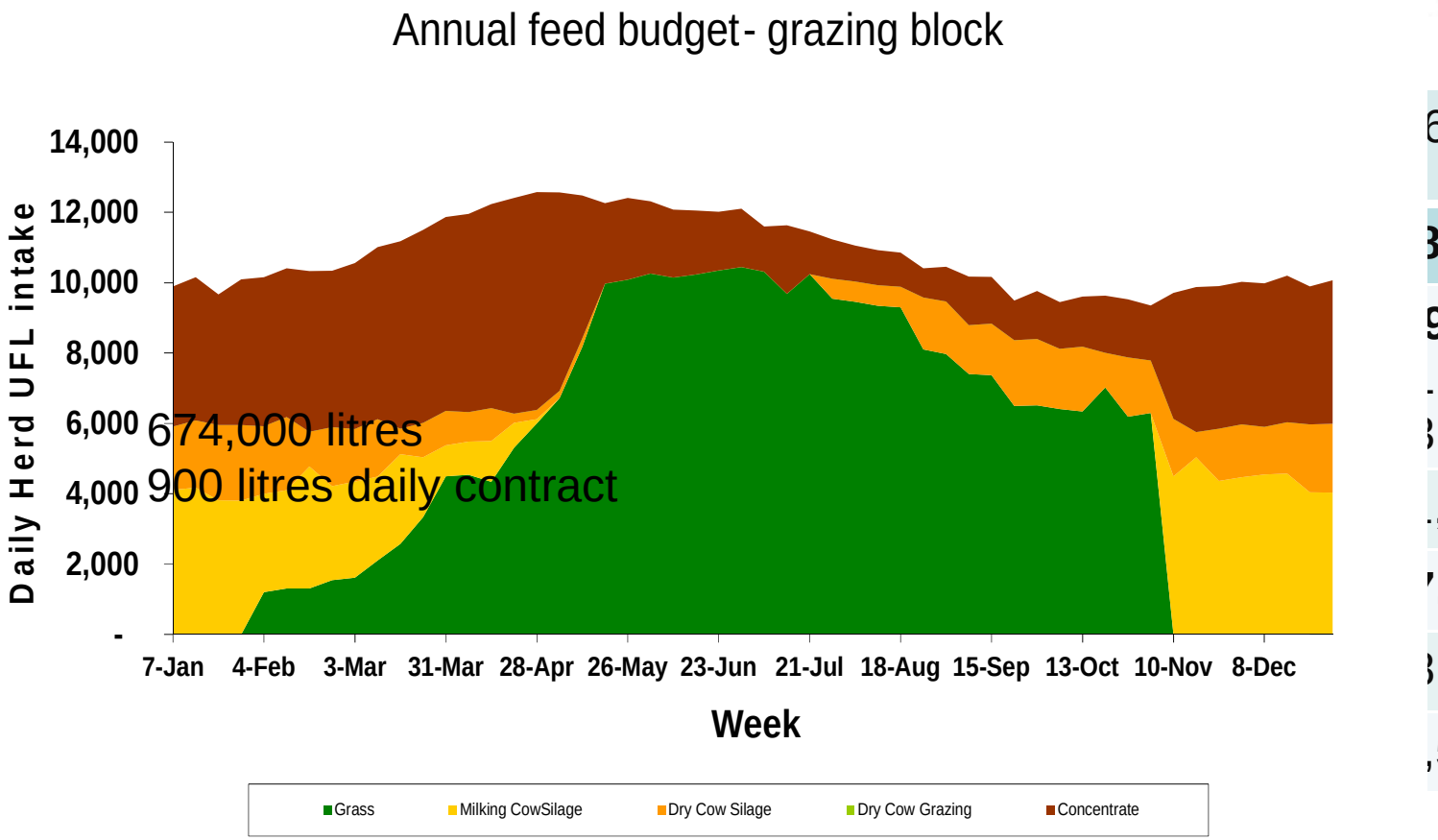
System	Efficiency
Calving Pattern	Calving Interval
Stocking Rate	Forage Grown/Utilised
Milk payment structure	Milk solids content
Forage : Concentrate	Forage/Diet quality
Herd milk yield	Feed budget cost

Differences due to system and differences due to efficiency are often confused

Objective-

‘To quantify the physical and financial effects of changes to system, scale and efficiency for a typical winter milk herd’

‘Typical’ liquid milk farm…



6,582

3, 250

9,672

.,900

3,484

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3,293

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Post-quota scenarios modelled

	Current Winter	Spring Calving	High Yield	Expand Current	Efficient Winter Expand	Efficient Spring Expand
Farm ha	77 (45 grazing block)					
Herd Size	109	109	109	140	150	150
Calving Pattern	**Split**	**Spring**	**Split**	**Split**	**Split**	**Spring**
Milk yield per cow	6185	5932	7908	6185	6142	5927
Efficiency	**Std**	**Std**	**Std**	**Std**	**High**	**High**
Finishing culls	Yes	Yes	Yes	No	No	No
Winter milk bonus value	12367	0	12367	12367	12367	0

Efficiency Change Definitions

	Standard	High
Grass tonnes grown	10.5	13.5
Silage DMD equivalent	70	75
Pasture Utilisation	0.79	0.88
Forage substitution rate	variable	fixed
Milk fat and protein %	3.96 , 3.34	4.20, 3.48
Heifer units	42%	29%
Calving Interval	412	380

Description	Herd Size Change?	System Change?	Efficiency Change?
Current Winter milk	-	-	-
Spring Calving	No	Yes	No
Higher Yield per cow	No	Yes	No
Expand current herd	Yes	No	No
Efficient winter milk Expand	Yes	No	Yes
Efficient spring milk Expand	Yes	Yes	Yes

Methodology- Milk output and feed budget

- **Teagasc calving pattern and feed cost model**
  - Herd size
  - Calving pattern (meeting winter contract volumes where required)
  - Base milk yield
  - Body weight and maintenance energy costs
  - Replacement and other stock numbers
  - Annual grass growth pattern
  - Forage quality and grazing efficiency

- **For each scenario:**
  - Milk volume and solids output
  - Forage budget – grown and purchased for whole farm
  - Concentrate inputs
- Cull cow and youngstock sales also calculated

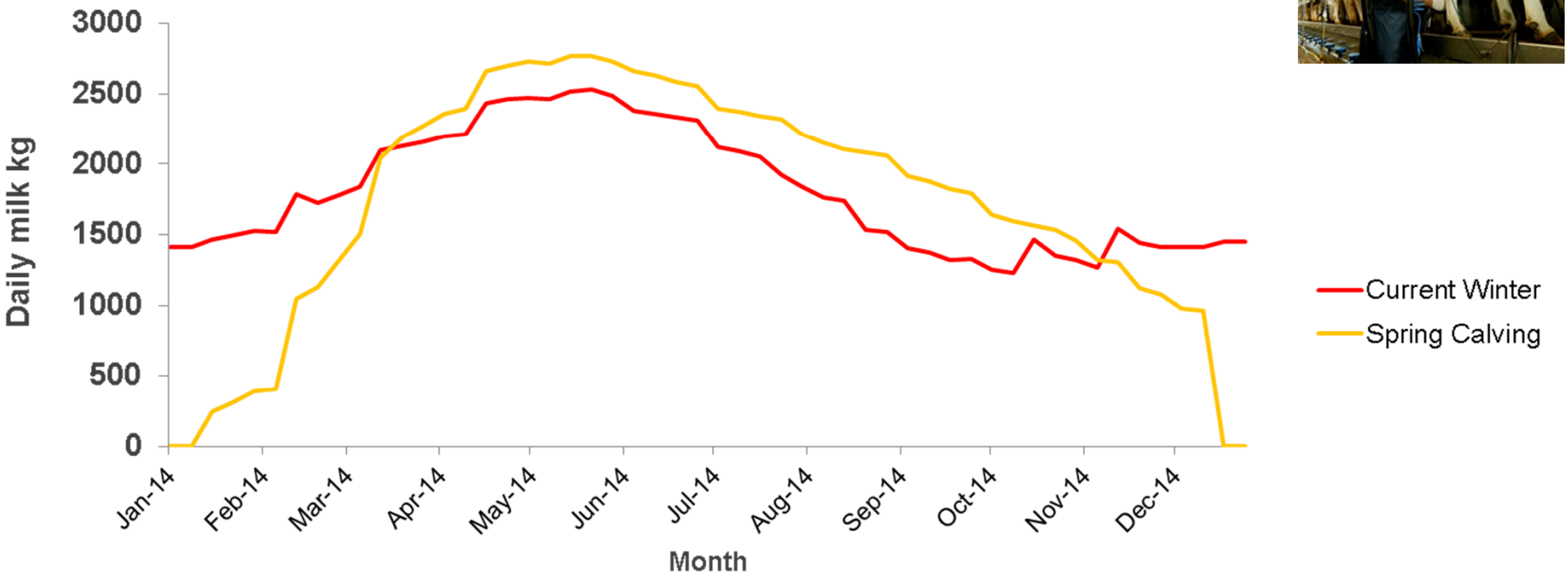
Methodology- Summary of Other Costs

- **Fertilizer**
  - ***Standard:*** 200kg N ; maintenance levels P&K
  - ***High:*** 240kg N ; maintenance plus build-up P&K lime
- **Vet, AI and Sundry Costs**
  - Scaled to ePM values per cow
- **Machinery, Contractor, Repairs and Sundry Overheads**
  - Scaled to ePM values per cow or per ha
- **Labour**
  - Scaled to ePM values per litre for current system
  - Labour cost adjusted for system inputs differences at FRS unit rates
- **Debt and Depreciation**
  - Assumption year 5 of existing €155k loan @ 5% interest
  - Depreciation scaled to ePM
  - Debt associated with expansion €2500 per cow 10 years @ 5% interest

All scenarios modelled in FinPack

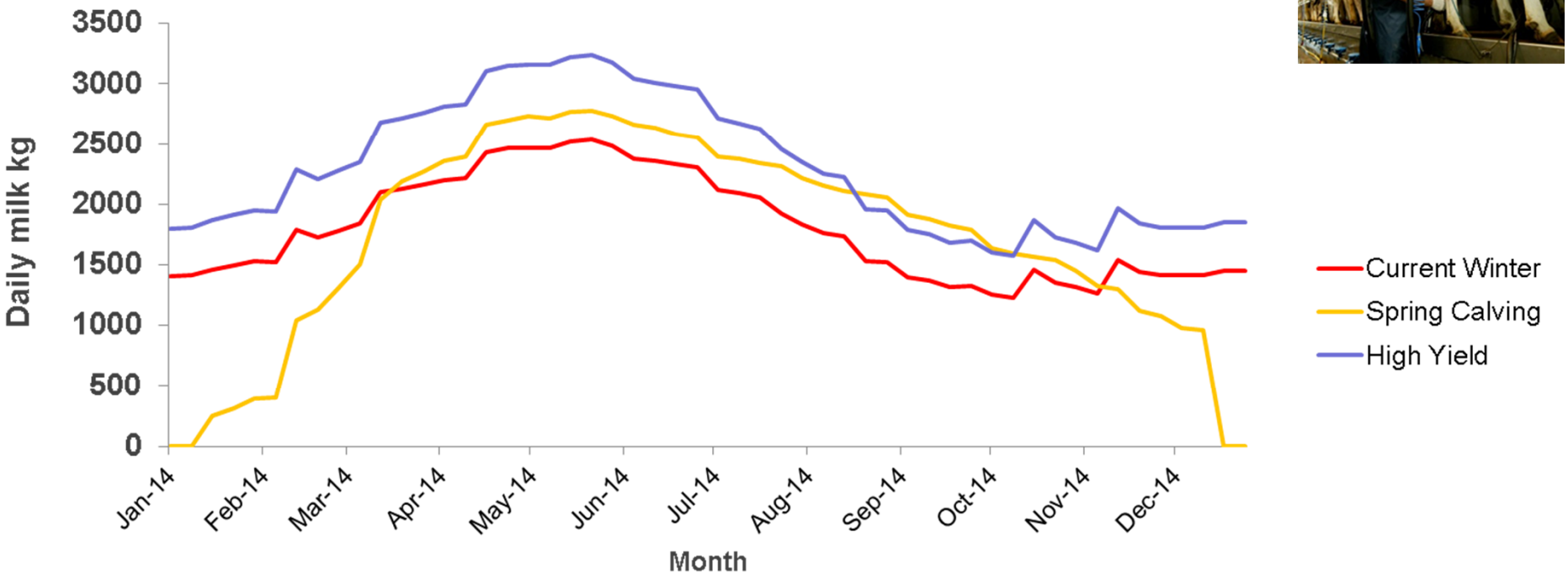
Results- Physical Performance

Milk Output



	Current Winter	Spring Calving	High Yield	Expand Current	Efficient Winter Expand	Efficient Spring Expand
Milk kg	674,128	646,552	861,889	865,906	922,801	889,084
Milk Solids	47,891	45,674	61,234	61,533	69,081	66,114

Milk Output



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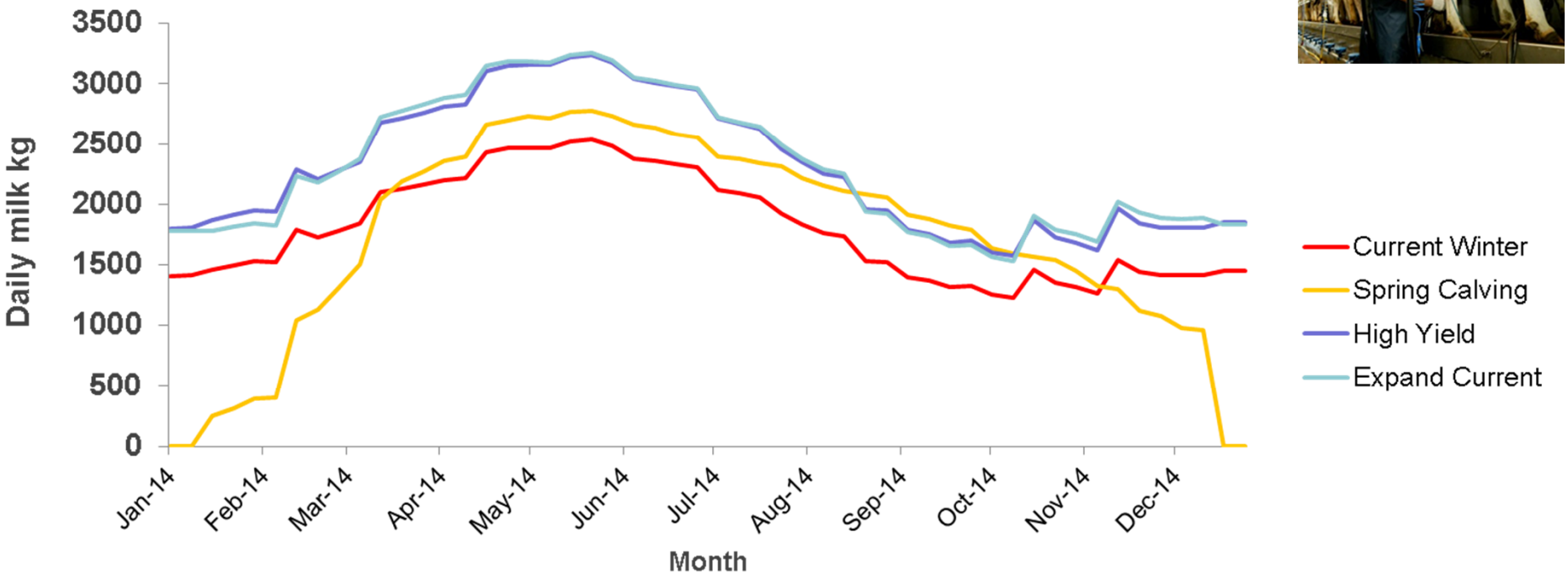

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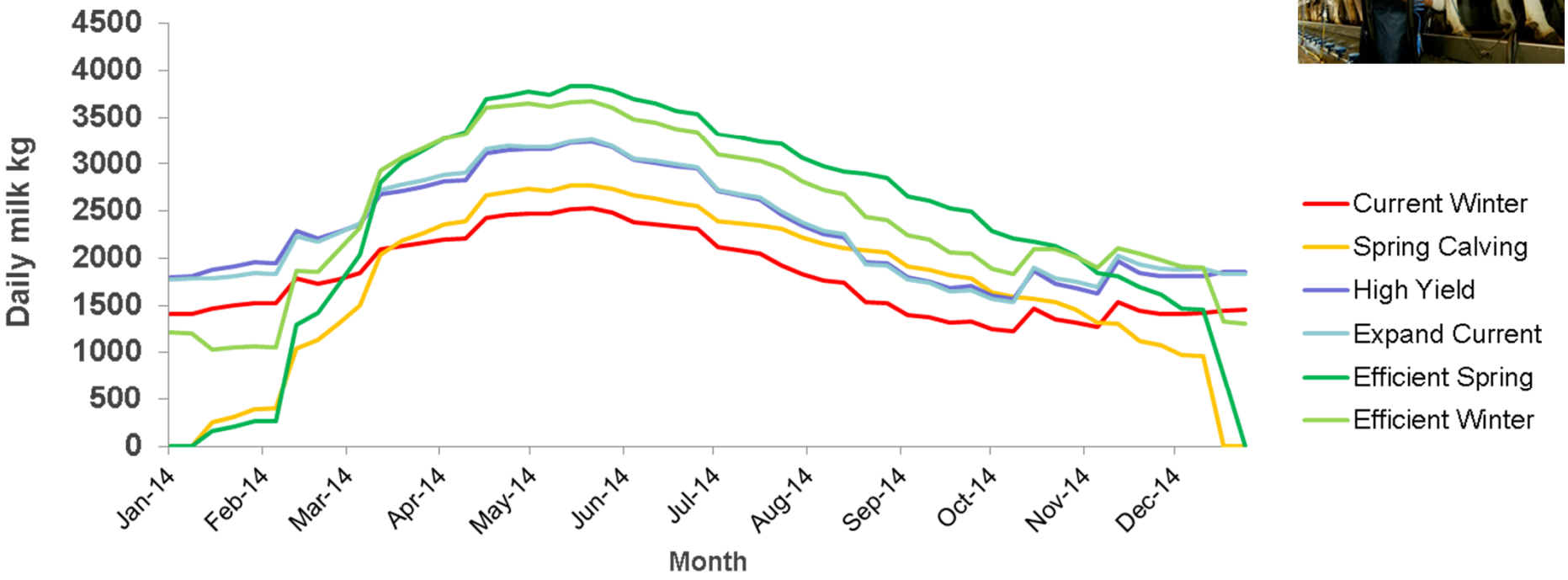

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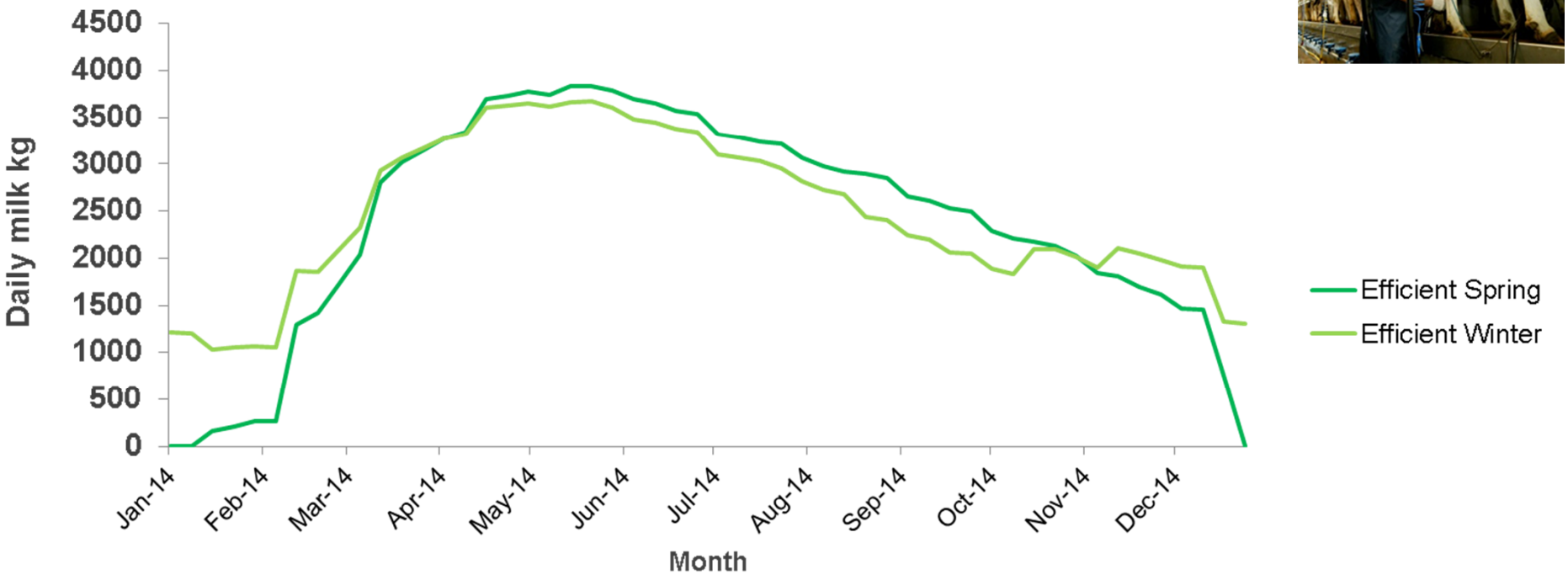

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Feed Budgets

Scenario	Concentrate Fed per cow	Concentrate Farm Total	Purchased Forage tDM
Current Winter milk	1.32	175	12
Spring Calving	1.11	160	6
Higher Yield per cow	2.41	293	9
Expand current herd	1.45	225	47
Efficient winter milk expand	1.20	191	-
Efficient spring milk expand	1.02	183	-

Results- Financial

€€€	Current Winter	Spring Calving	High Yield	Expand Current	Efficient Winter Expand	Efficient Spring Expand
Gross Farm Income -of which milk sales	**278,250** 216,582	**257,551** 195,883	**335,498** 273,830	**342,056** 296,192	**378,809** 330,794	**351,683** 303,667
Farm Working Expenses	**219,672**	**196,446**	**263,810**	**258,824**	**257,835**	**232,857**
Dairy cow feed	51,900	44,117	88,524	73,497	58,409	49,673
Fertilizer	23,484	23,484	23,484	23,484	33,333	33,333
Hired Labour	18,000	7000	19,200	21,500	21,500	12,000
Bank interest	4246	4246	5934	7712	8155	8155
Depreciation	11,053	11,053	20,053	21,553	21,553	21,553
Net Margin	**47,525**	**50,052**	**51,635**	**61,679**	**99,421**	**97,273**
Total Bank Repayments	18,293	18,293	23,980	31,462	29,970	31,462
Drawings	35,000					
Net Cash Before Tax	**9,531**	**12,057**	**12,736**	**18,568**	**55,261**	**53,112**

Summary..

- Efficient expanded spring or winter systems returned similar cash margin
  - Bonus diluted but surplus winter milk minimized by shifting calving pattern
  - Winter system - worth the extra risk and management input?
  - Will more complexity delay technical efficiency gains?
  - Must have clarity on the value of non-liquid winter milk supply

- Moving to spring calving alone will not significantly improve margins
  - **Must** deliver efficiency gains (not a catchphrase)
  - Improving scale and efficiency together has a transformative effect

- Increasing yield per cow through higher concentrate feeding alone-
  - Good for input sales and milk intake but not for farm net margin

- A huge difference in net margin and residual cash

And for our ‘typical’ winter milk farmer…

- Time to get serious on driving efficiency gains:
  - The right type of cow- fertile with high solids
  - Take control of your calving pattern
  - Minimize the number of non-milking stock (heifer sale price mostly irrelevant)
  - Grow more and better grass and silage
  - Get better at grazing- make mistakes but make progress!
  - Develop a better understanding of nutrition basics- informed decisions
  - Cost control and budgeting

- Misleading information will delay your progress to profit though:
  - Usually based on driving yield per cow- doesn’t deliver
  - Usually a ‘magic bullet’ for a systemic problem- doesn’t work
  - Usually based on prejudice not fact – doesn’t stand to scrutiny
  - Almost always involves you spending your margin- doesn’t add up

Questions?

Teagasc
Agriculture and Food Development Authority

The Irish Agriculture and Food Development Authority