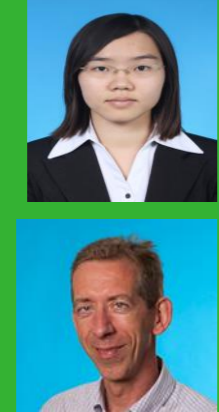




# Farm development, differences between and within dairy farming systems



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## Background and objectives

China has a large variety in farming systems, with especially differences in scale. The goal of the project was to get more insight in the differences in performance between these systems, but also the differences within the systems and to get insight in investment and loan strategies and and expectations for the near future.

### 背景和目标

中国的农业系统存在很大多样性，尤其在规模上有很大差异。本项目目标是为了更好地了解这些系统之间的性能差异，以及系统内部差异，从而了解投资和贷款策略，以及对未来的展望。

## Activities

- A survey was designed and conducted in July – October 2015
- Data analyzed by CAU and by Wageningen UR.

### 行动

2015年7月-10月进行一项调查，数据分析由中国农业大学和瓦赫宁根大学负责。

## Results performance

### Choice of indicators:

- Ideally look at triple P bottom line performance for People (e.g. food safety, animal welfare), Planet (environment e.g nitrate leaching, GHG emission), Profit (economics)
- Limited by availability

Survey: provinces Hebei, Tianjin, Beijing. n =126, most results based on 90-100 farms, costs and margin on 55 farms

### 结果

指标选择: (我不了解具体指标的准确的英文表达, 请刘凯老师翻译这部分)

样本: 京津冀地区; n=126; 大多数结果分析基于90-100个农场, 成本和利润分析基于55个农场

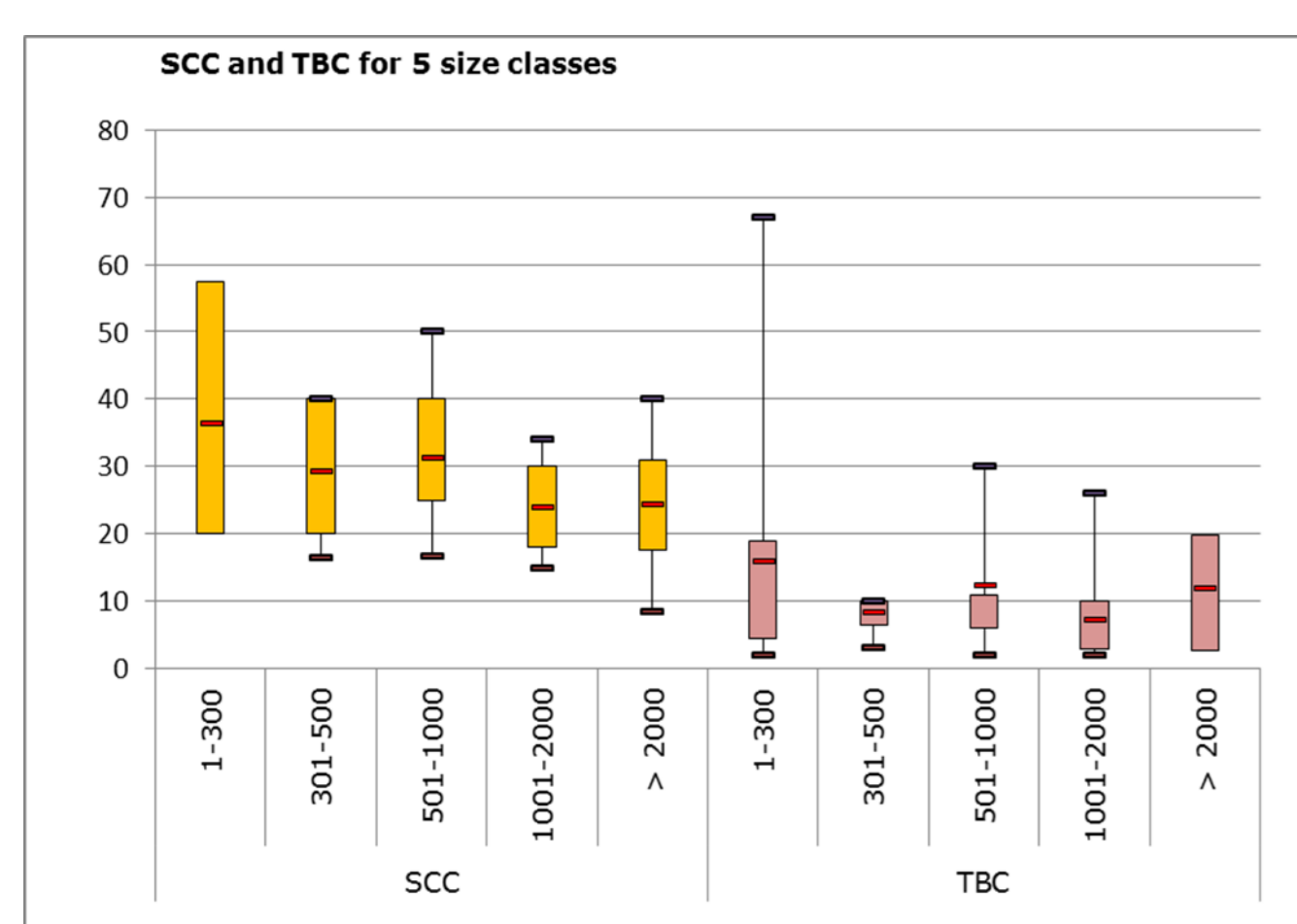


Figure 1. SCC (\*10000/ml) and TBC (\*10000/ml) for 5 size classes of dairy farms (total heads).

- Bigger farms tend to have lower SCC, no clear pattern for TBC.
- Smaller farms tend to have more quality outliers
- Levels Western Europe: SCC 100-200.000, TBC < 10.000

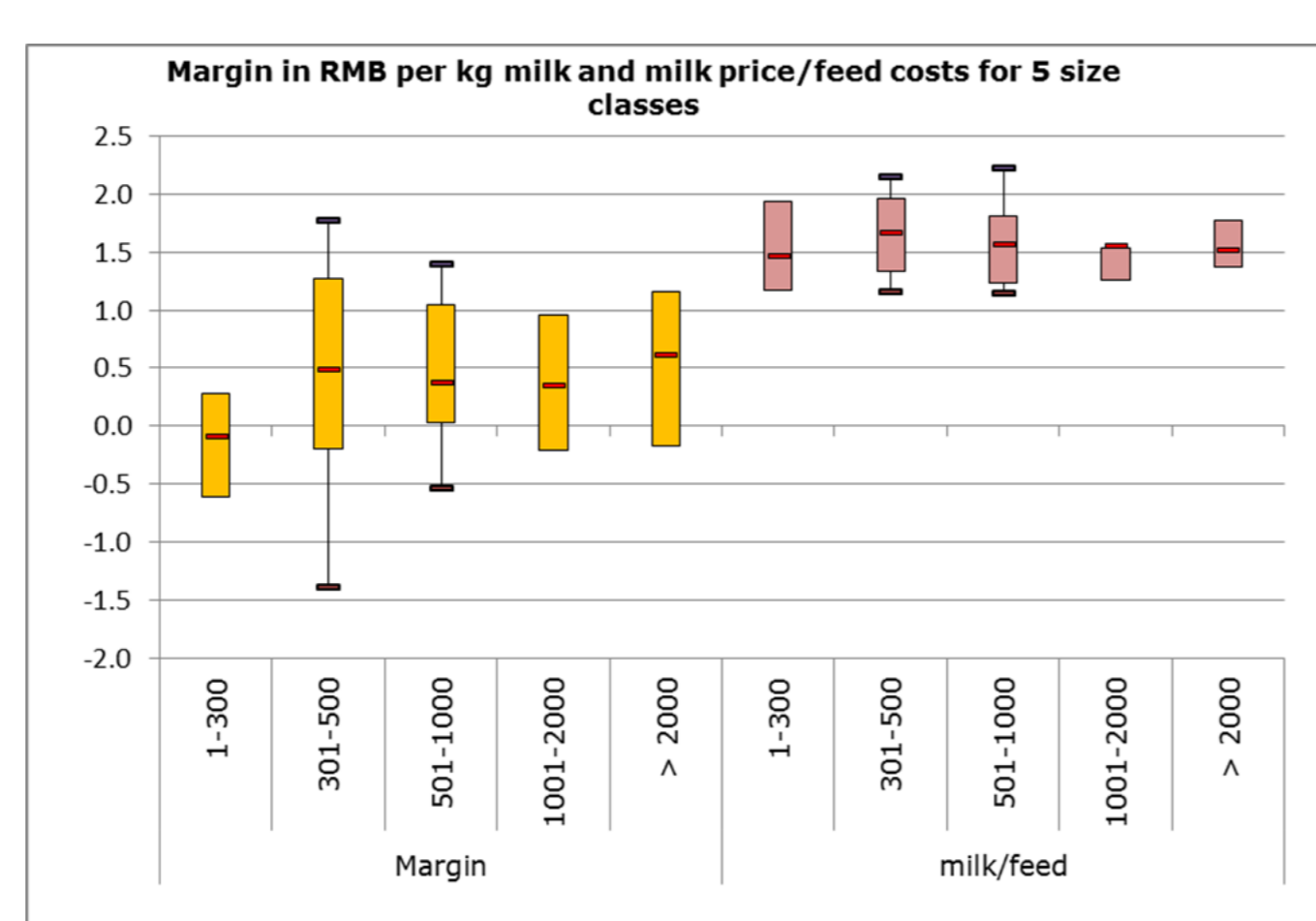


Figure 2. Margin (RMB/kg milk) and ratio milk price/feed costs for 5 size classes of dairy farms (total heads).

- Bigger farms tend to lightly higher margin.
- High variation within each group.
- 农场规模越大, 利润率轻微提高
- 组内差异较大

## Results performance

- Milkprice (nearly 4 RMB) not enough to cover all costs.
- Larger farms have higher milk price
- Ration milk price/feed costs is 1.5 → highly sensitive to volatile feed prices
- Differences within farm types are big for almost all indicators → room for improvement.
- Feeding cost, production efficiency, milk safety, and other production indicators, are all benefited from the fast growth of cow farm size.

### 结果

牛奶价格(约4元)不足以覆盖所有成本;

农场规模越大, 牛奶价格越高;

Ration milk price/feed costs是1.5, 对饲料价格波动高度敏感;

农场类型之间几乎所有指标的差异都很大→有改善空间;

饲养成本、生产效率、牛奶安全和其他生产指标均受益于养殖规模的快速增长。

## Results loans and expectations

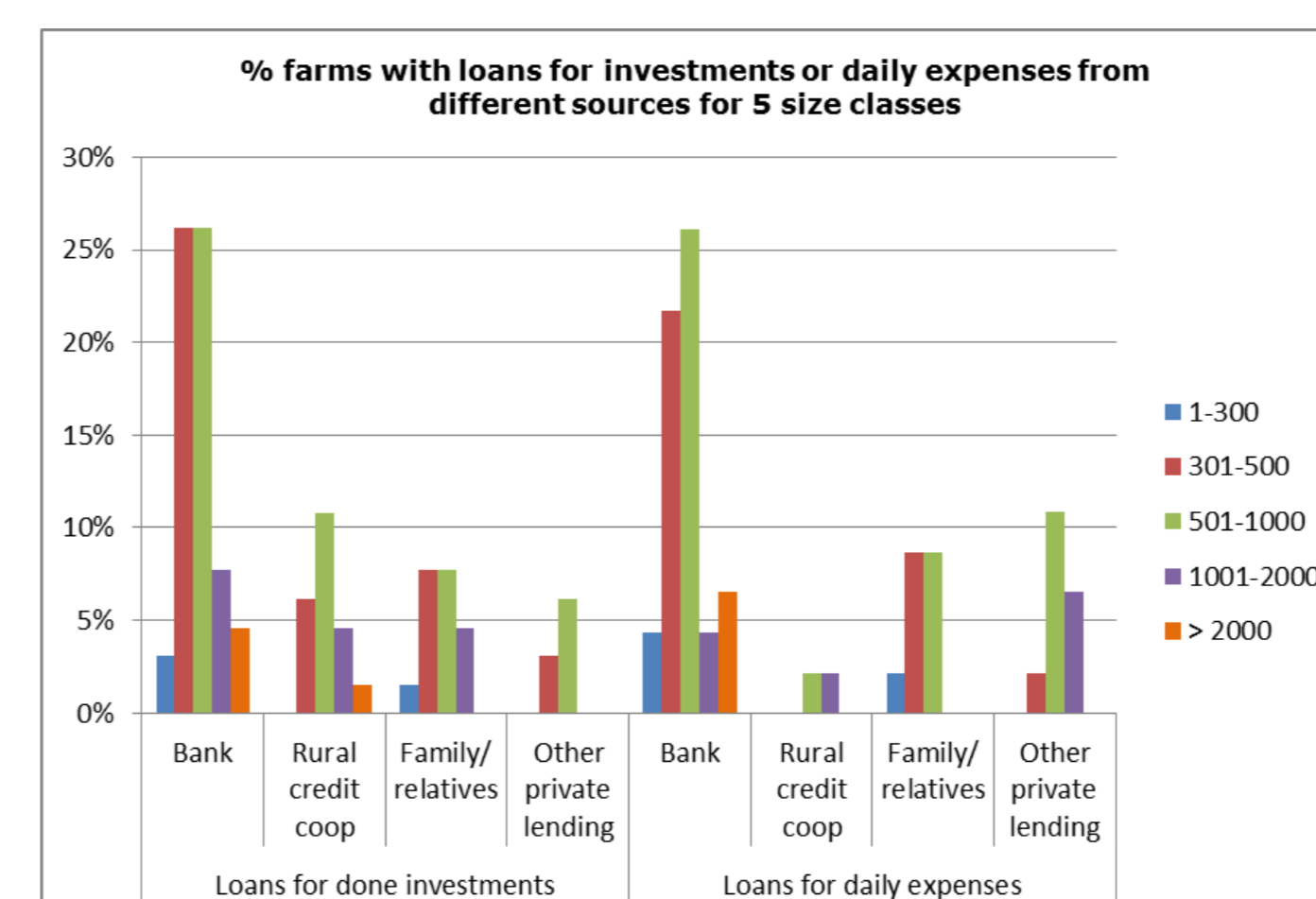


Figure 3. Percentage of farms with loans for investments or daily expenses for 5 size classes (total heads)

- Farms between 300 and 1000 heads are main borrowers
- Banks main lenders, but considerable number from other sources
- Main problems to be solved: (1) milk price, (2) independent testing in the chain and (3) downturn consumer market.

### 贷款和预期结果

- 300-1000头的农场是主要借款人
- 银行是主要借款来源, 但从其他渠道获得的借款数量相当可观
- 要解决的主要问题:(1)牛奶价格, (2)独立检测(3)低迷的消费市场

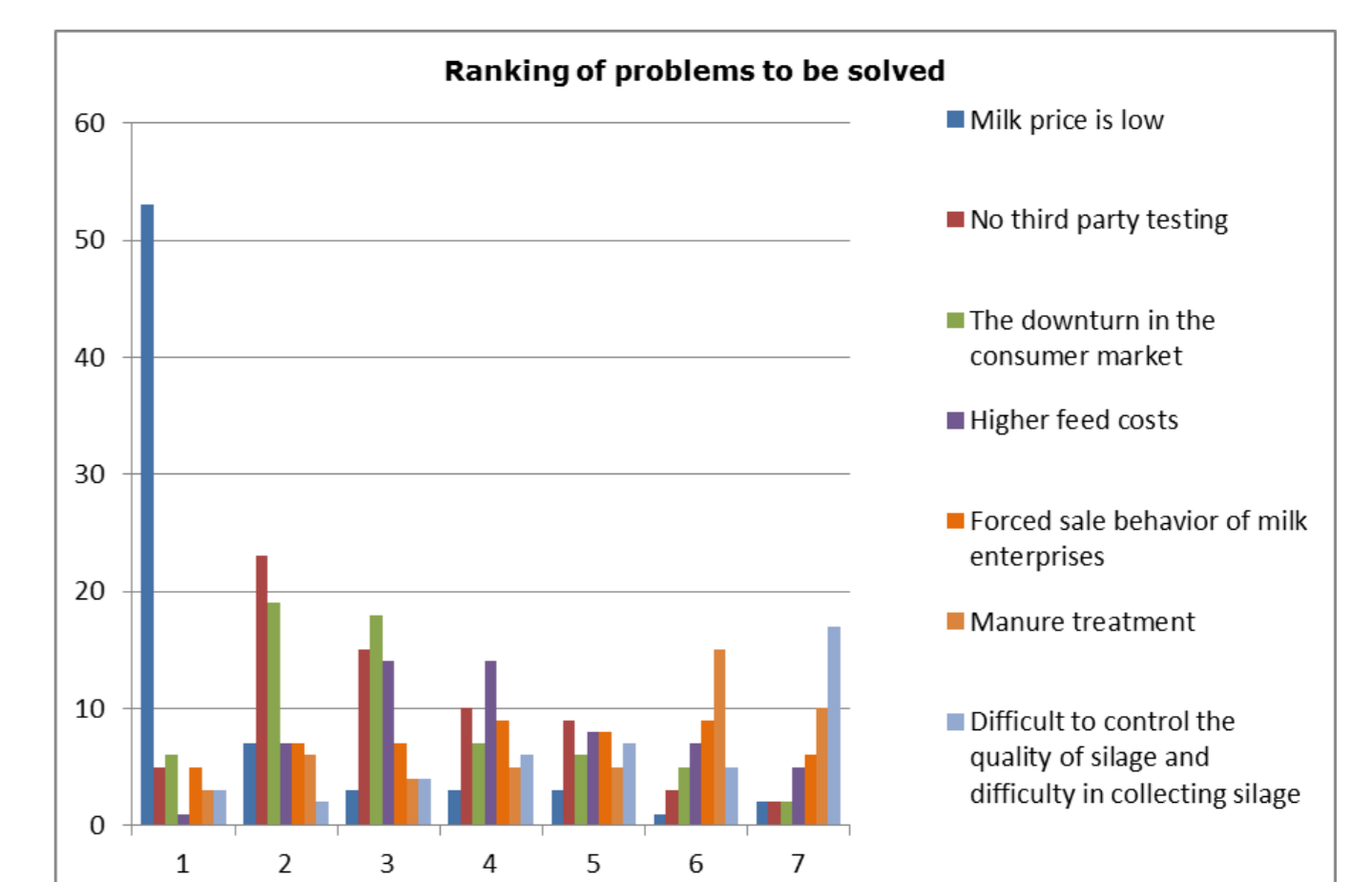


Figure 4. Ranking of problems to be solved for a successful future

## Conclusions

- Big differences within farming systems → room for improvement
- All farm types vulnerable for volatile feed costs
- Milk price is seen as biggest threat, smallest and largest farms expect difficulties in getting required loans
- A more balanced picture of performance is possible with additional data collection (total costs, N, P and GHG efficiency and longevity)
- Most indicators stagnated for farms with 300 heads or above, suggesting low marginal benefit or even waste in terms of economic sense.
- 农业系统内部存在巨大差异→改善空间
- 所有农场类型都容易受到不稳定的饲料成本的影响
- 牛奶价格被认为是最大的威胁, 最小和最大的农场获得贷款困难
- 更全面的性能分析(总成本、N、P和GHG效率)有赖于额外的数据收集
- 在经济意义上, 农场规模并不是越大越好

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