

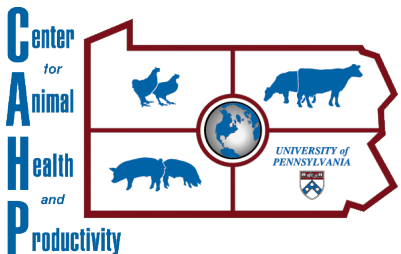
# Evaluating A Ration for a Group Using UPenn Dairy Ration Analyzer

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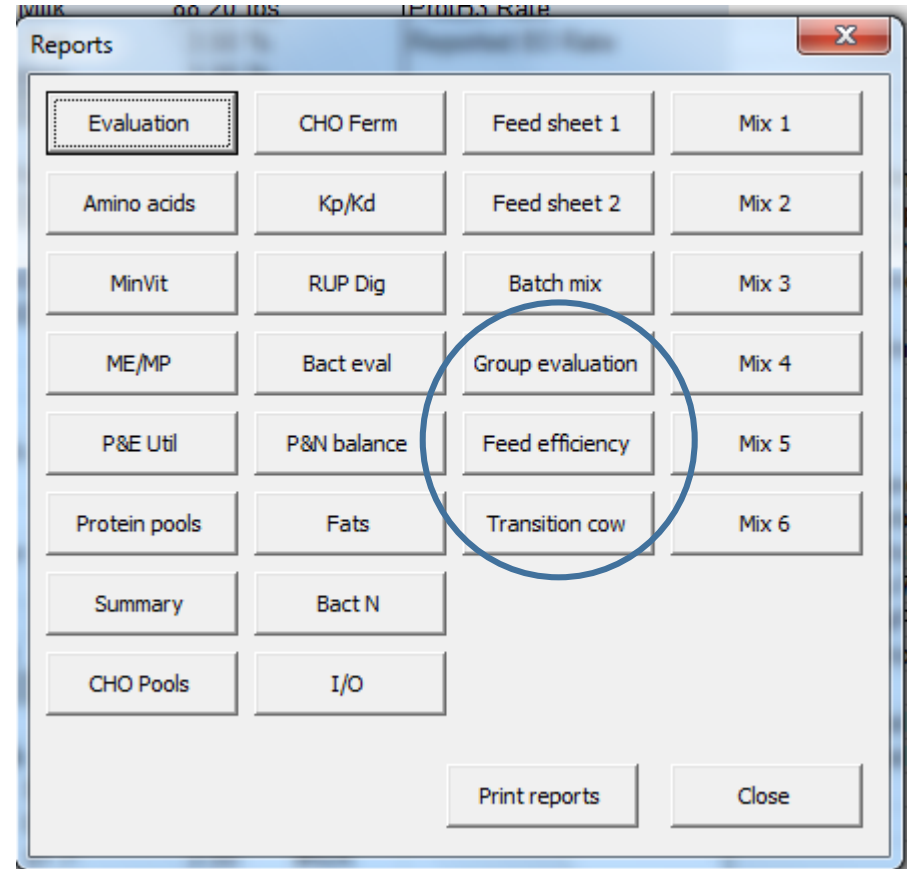


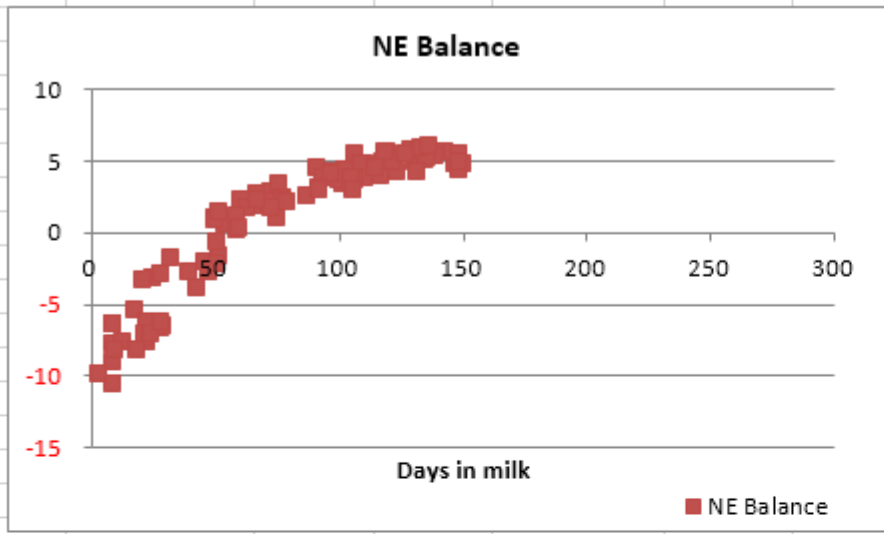
**UPenn Dairy Ration Analyzer**  
**University of Pennsylvania**



# Overview

- Ration has been formulated
- You can evaluate
  - Group performance
  - Shaker box suggestion
  - If dry cow – risk of MF





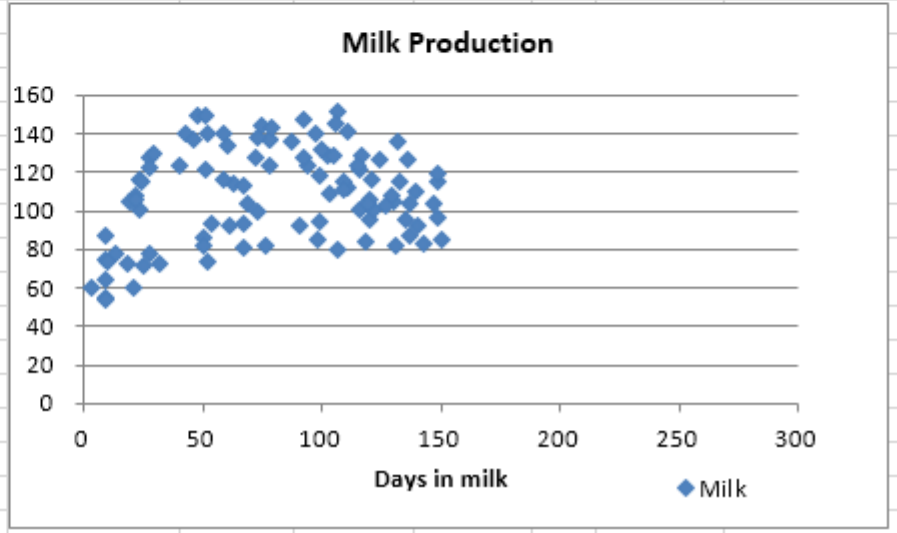
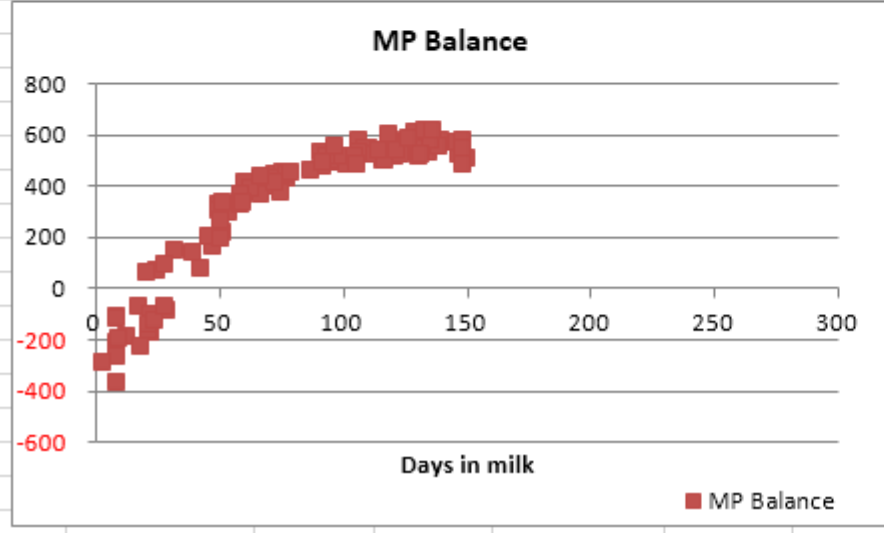
Inputs			
Breed	Holstein	Group	1
RHA	26000	11 DIM Min	1
Lactation	2: Mix	2 DIM Max	150
	B.Wt, lb	B.Wt, kg	percent
Lact 1	1200	544.2	30
Lact 2	1350	612.2	32
Lact 3	1400	634.9	19
Lact 4	1450	657.6	19
mean wt	1333.5	604.8	604.9
press F9 to recalculate			
Scaler		means	all cows
DMI	1	56.9420	
MILK	1	108.3903	92.1318
FAT, %	1	3.4753	
PROT, %	1	2.8136	
Milk Variance	0.1	0.2254	CV target 25 to 30%

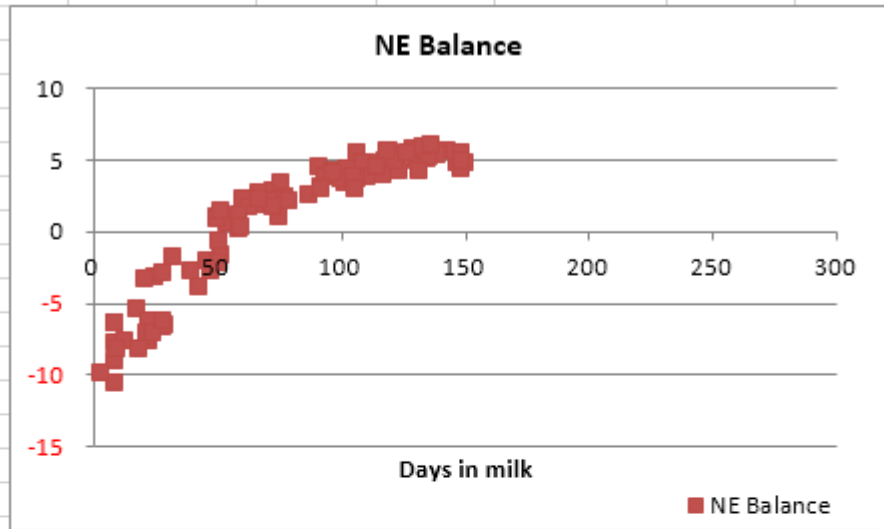
Group Evaluation  
 Breed DIM  
 RHA milk Min  
 Parity of group Max

Proportion of herd  
 Body weights

Scalers for DMI, milk,  
 Fat, protein and variance

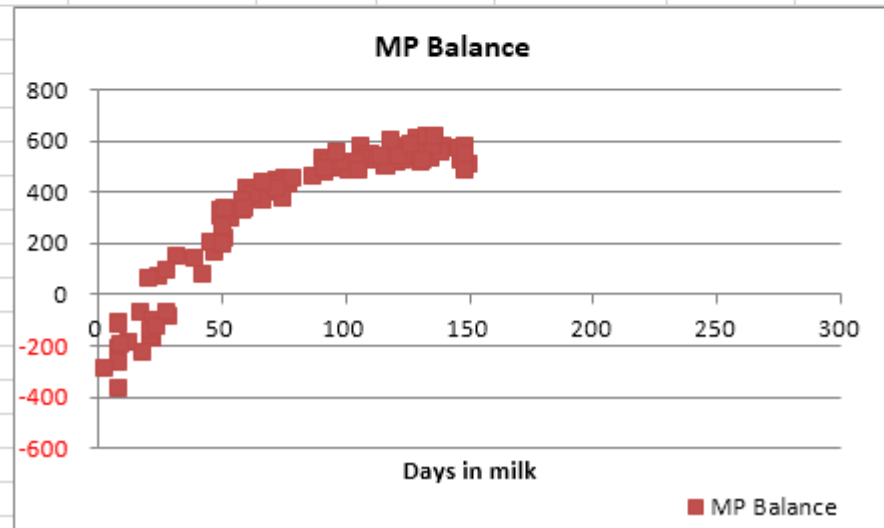
Model creates plots of





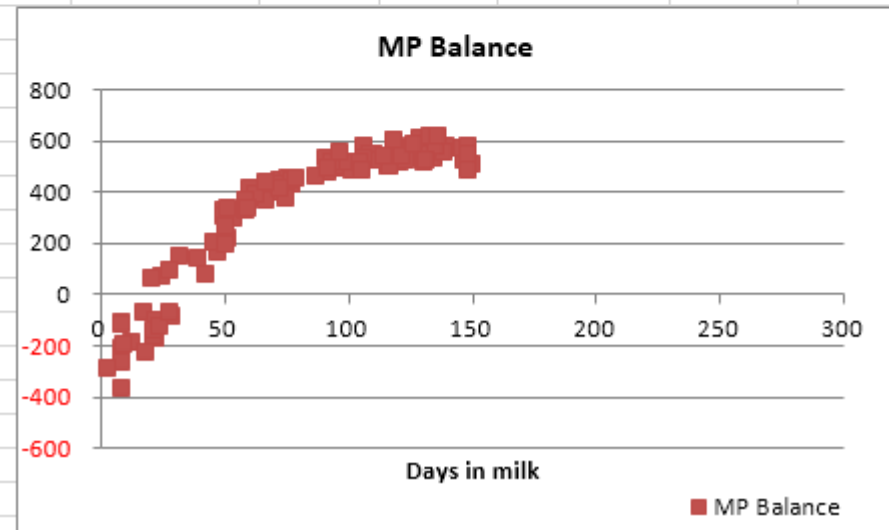
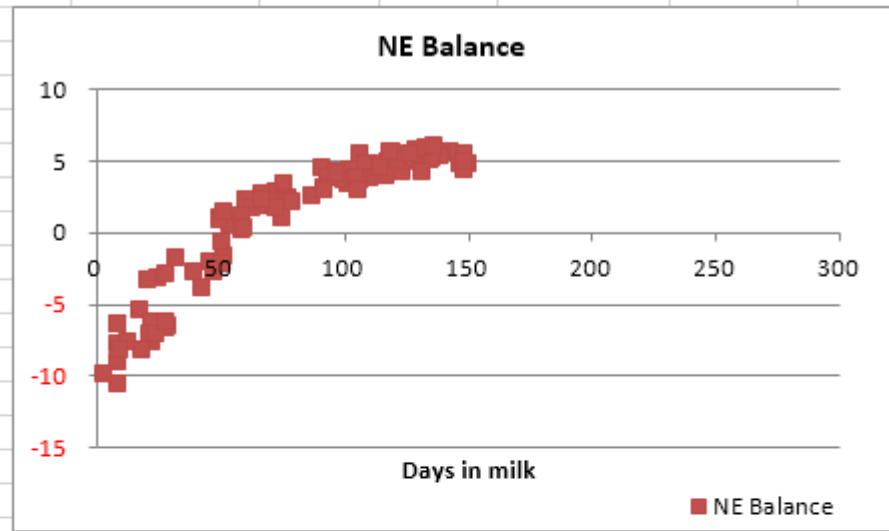
ME and MP balance based on expected milk for the group of cows  
 Milk is predicted from the RHA from lactation curves generated for PA cows

The majority of cows should not go below a NE balance of -10 MCAL  
 And should asymptote around 5 mcal  
 ME should go positive by 50 DIM



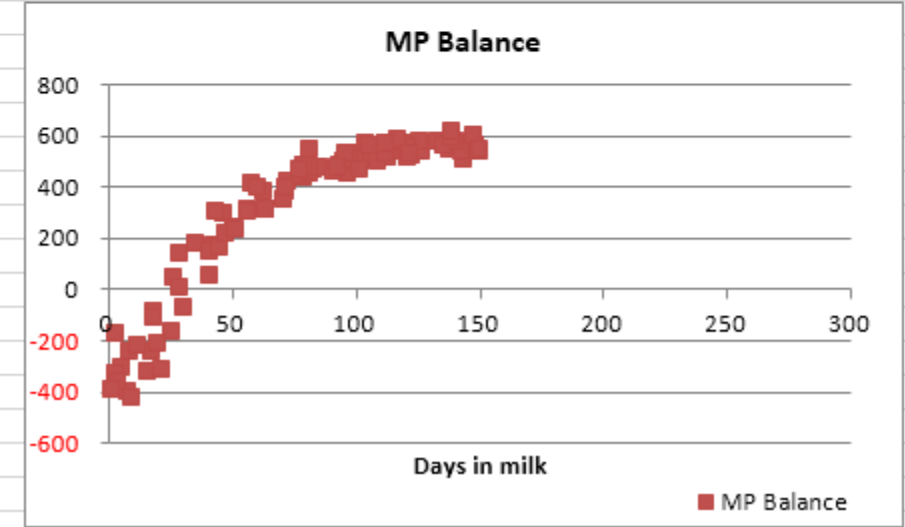
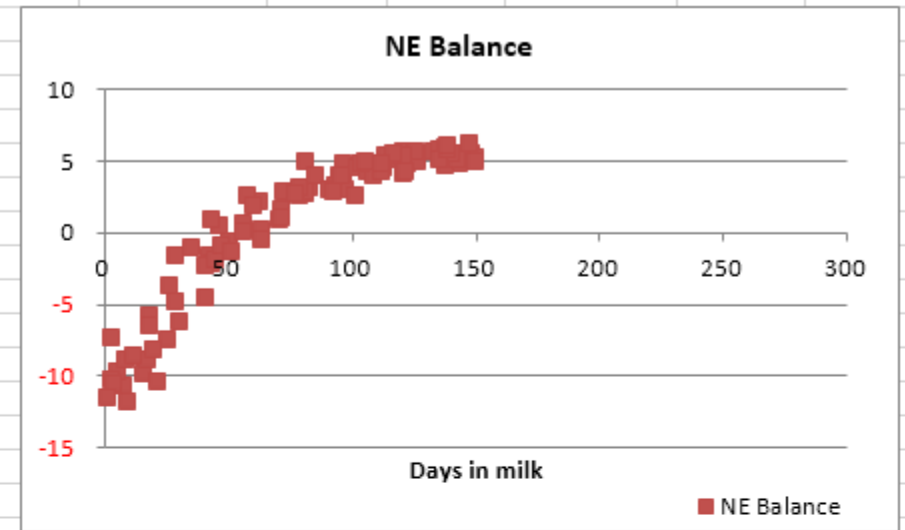
Very few cows should go below a MP balance of -400 g/day  
 MP should go positive around 30 DIM  
 Positive balances will be 400 to 600 g/day

Hitting F9 will resample the herd randomly so you can examine how  
 The herd might look with repetitive sampling



F9 sampling

Profiles are very consistent



Scaler		means	all cows
DMI	1	56.1310	
MILK	1	106.7574	90.7437
FAT, %	1	3.4840	
PROT, %	1	2.8186	
Milk Variance	0.1	0.2248	CV target 25 to 30%

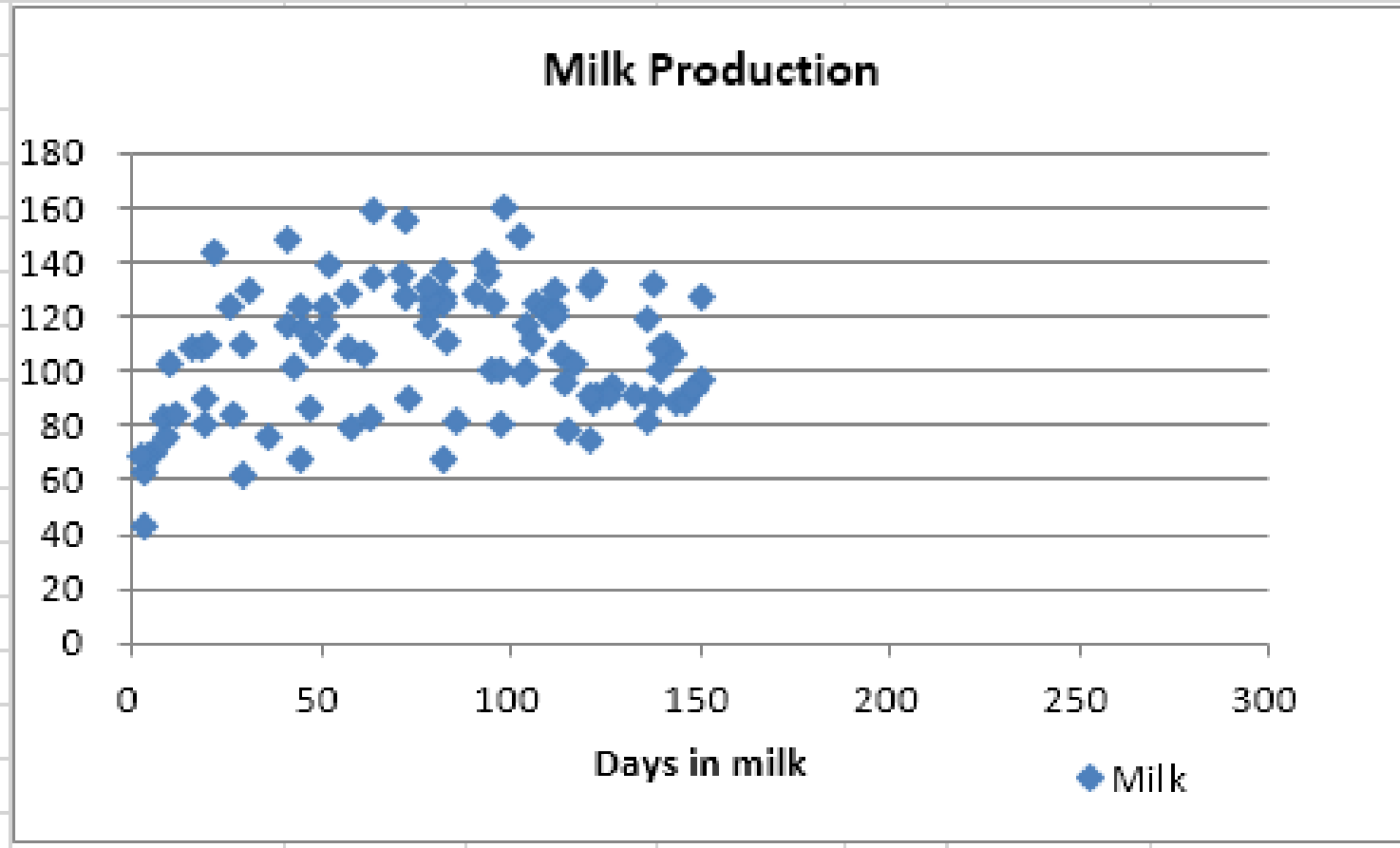
DMI, Milk, Fat and Protein can be Scaled by changed from numbers above or below 1

The CV should be around .20 to .30  
The variance is varied by the multiplier, which in this case is 0.1

The group should average 106.7 lbs of milk  
And eat 56 lbs of DM with 3.48 and 2.82 fat and protein

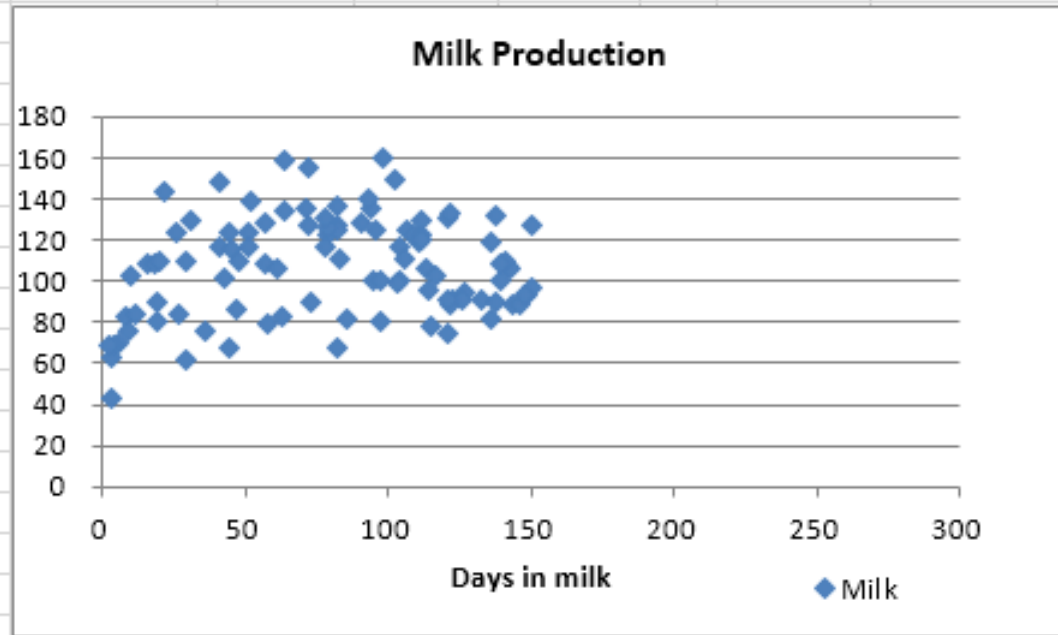
This is a mixed group with first and older parity cows. Production should range from 60 to 160 lbs

Compare this to actual farm records  
Scale data to farm data

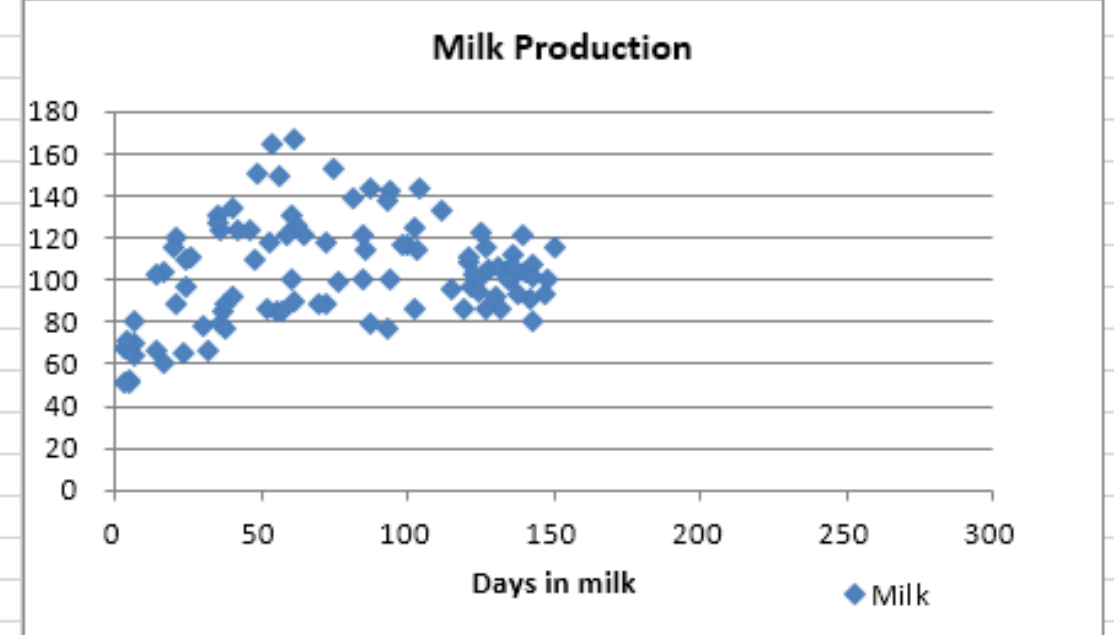


## F9 and milk production re-sampling

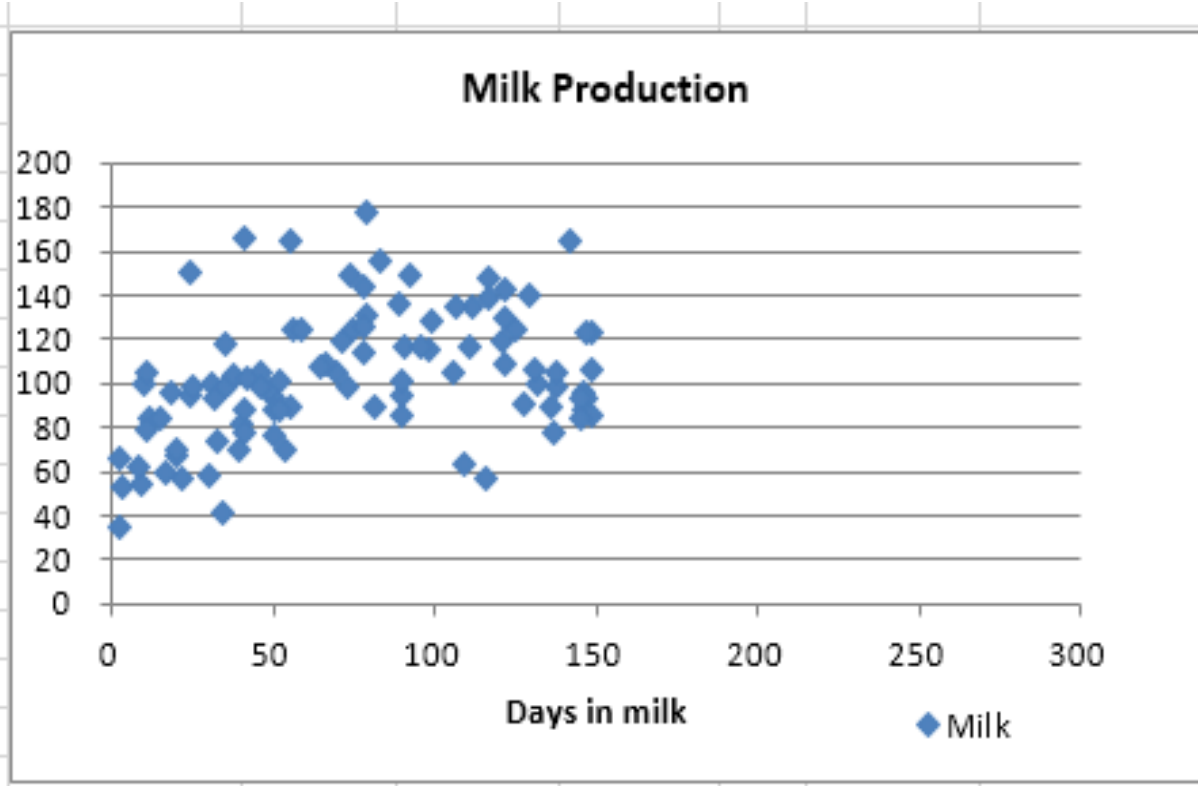
Scaler		means	all cows
DMI	1	56.1310	
MILK	1	106.7574	90.7437
FAT, %	1	3.4840	
PROT, %	1	2.8186	
Milk Variance	0.1	0.2248	CV target 25 to 30%



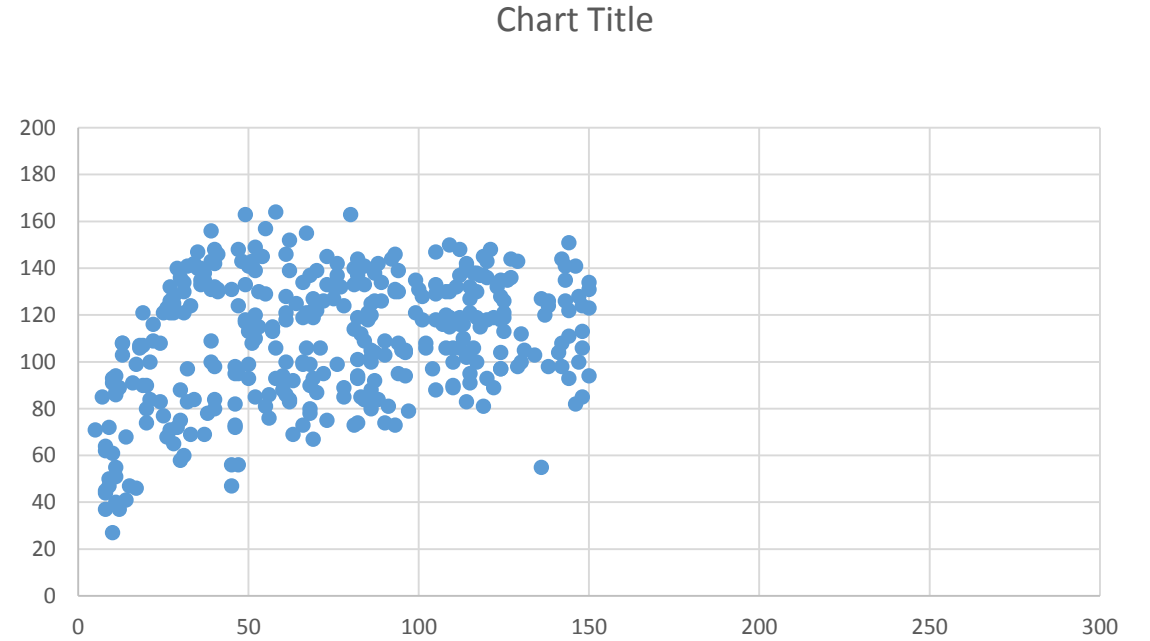
Scaler		means	all cows
DMI	1	54.6729	
MILK	1	103.2865	87.7935
FAT, %	1	3.5077	
PROT, %	1	2.8252	
Milk Variance	0.1	0.2401	CV target 25 to 30%



### Model



### 30,000 lb herd mixed group



Scaler		means	all cows
DMI	1	54.4864	
MILK	1	102.8966	87.4621
FAT, %	1	3.5298	
PROT, %	1	2.8376	
Milk Variance	0.17	0.2815CV target 25 to 30%	

**0.248349 CV**

**27.10908 SD**

Milk		
<b>109.1573</b>	<b>3.244382</b>	<b>2.892978</b>



# Milk Production Group Evaluation

- Set Breed, RHA for herd, the parity for the group, range in DIM
- Exam the “scalers” box for DMI, mean milk, fat, protein and CV
  - CV is usually 20% to 30% for a group of cows
- MP balance <20% of cows < -400 g, positive balance by 30 DIM
- ME balance <205 of cows < -10 mcal, positive balance by 50 DIM and asymptote at 5 mcal/day
- If actual production in group in the herd is different then change target milk production for formulation