

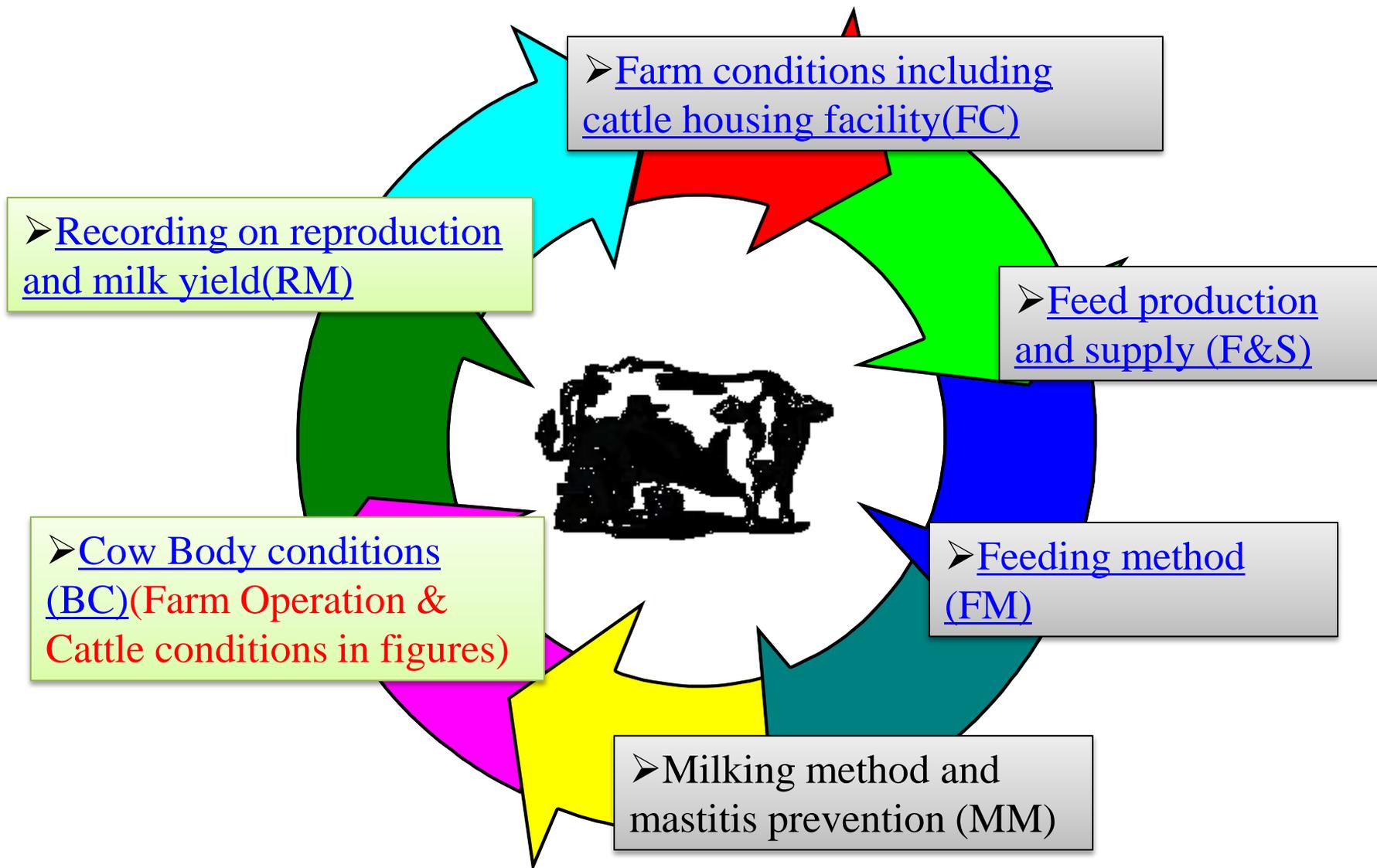
Records Analysis & generation of “Know-How” for effective technical extension activities

Learning from “Technical Evaluation and
Extension Activities on 20 model farms in the
project target areas ”

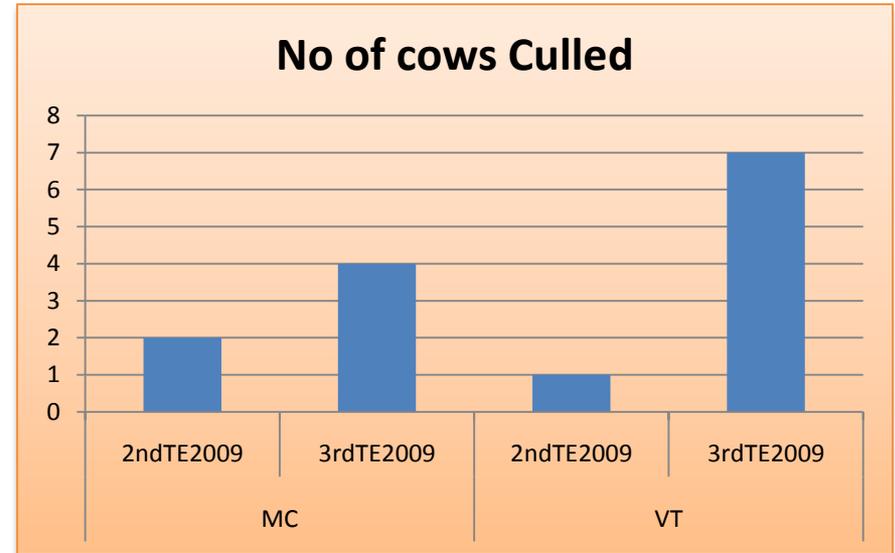
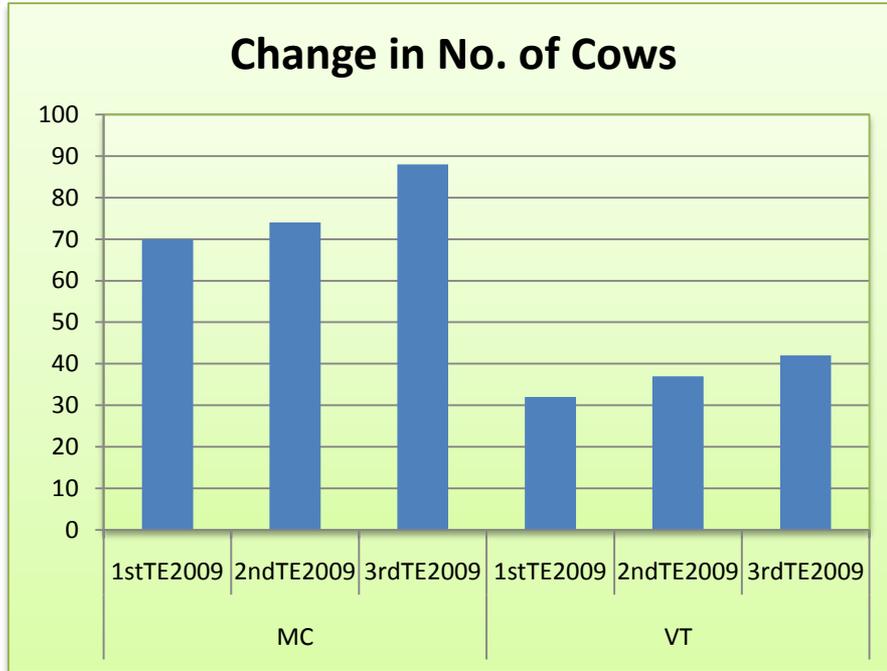
25th February 2010

STED BAVI, Hanoi

The Six (6) technical aspects chosen to evaluate and improve for dairy farm management under the technical evaluation (TE) activity



Change in numbers of cattle



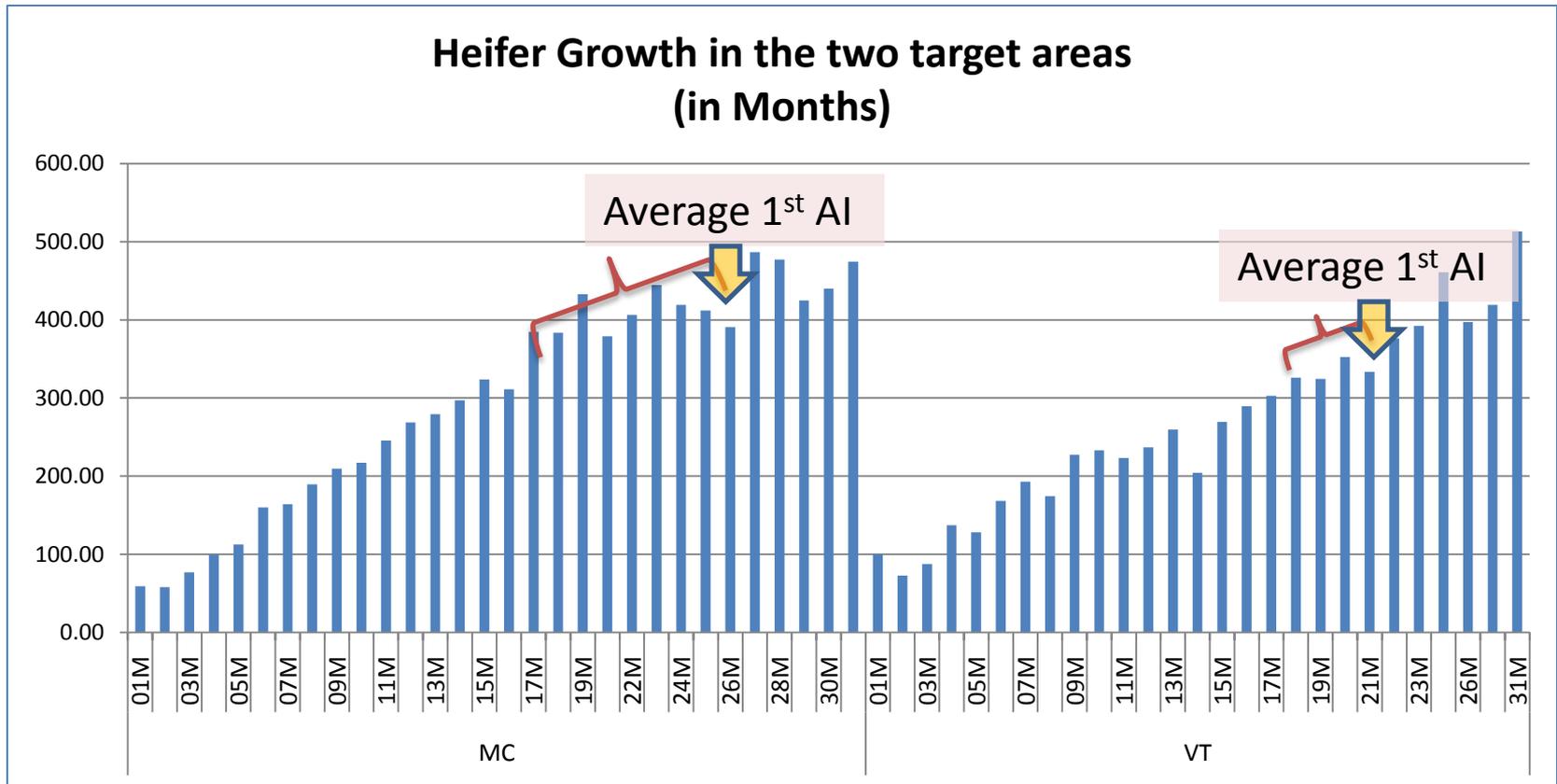
Area	TimesOfTE	Total	Heifers	Cows	No of Cows culled	Culling Rate(%/cows)
MC	1stTE2009	120	50	70	0	0 %
	2ndTE2009	127	53	74	2	2,7 %
	3rdTE2009	139	51	88	4	4,5 %
VT	1stTE2009	53	21	32	0	0 %
	2ndTE2009	60	23	37	1	2,7 %
	3rdTE2009	71	29	42	7	16,7 %

Change in numbers of cattle

- **The No. of cattle during the time has been in increase, a more steady increase is observed with MC,**
- **Hampering the increase with VT is the high rate (16.7%) of culling cattle during summer and following seasons,**
- **An advanced heat stress management is in urgent need !**

(Farm Operation & Cattle conditions in figures)

Heifer Growth by 1st AI & Body Weight



Area	Age in Months (Av.)	Age in Months(STD)	BWkg (Av.)	BWkg(STD)
MC	26 ±	11	411 ±	66
VT	21 ±	7	363 ±	64
Grand Total	24 ±	17	387 ±	65

Heifer Growth in the two target areas (in Months)

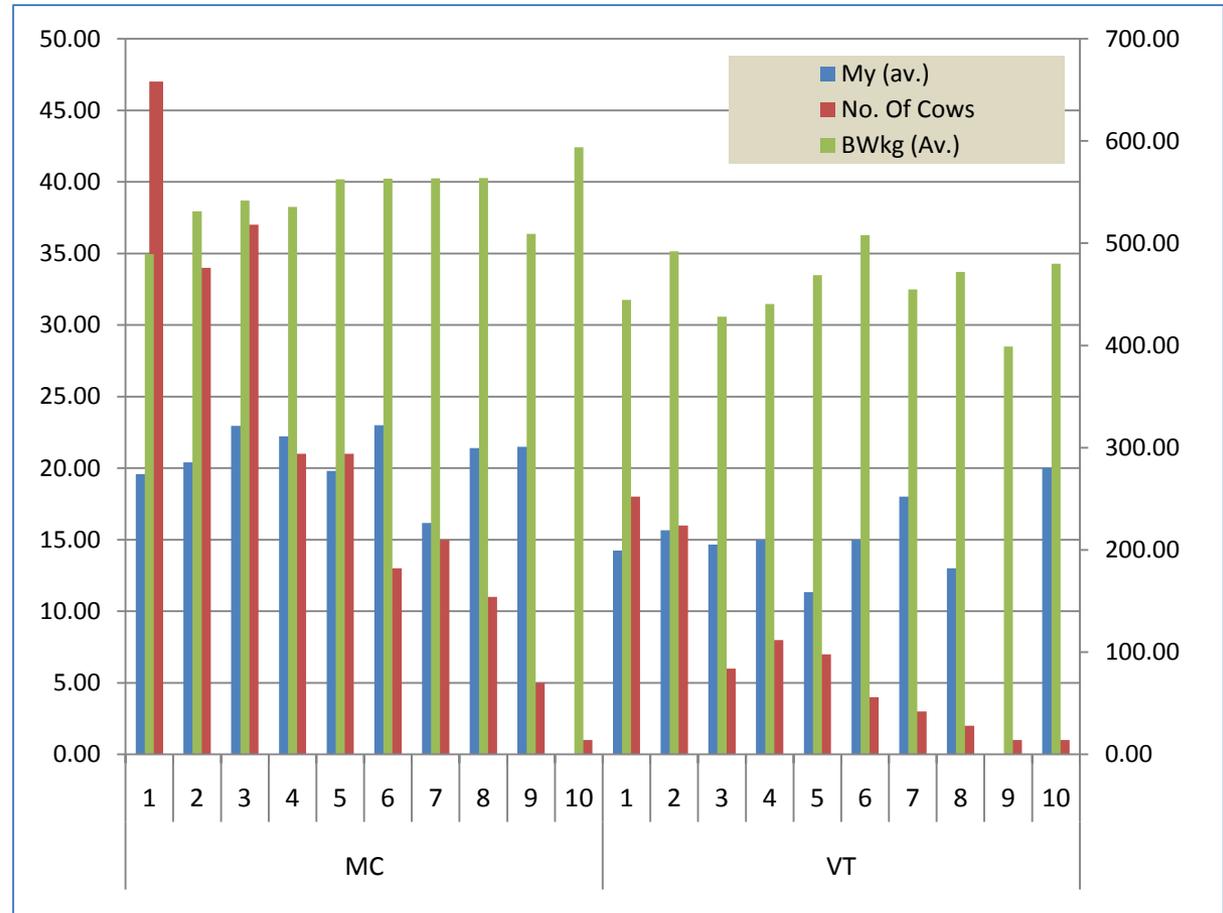
- Pure Holstein Breed-based MC cattle shows a larger size (kg) in the growth stage than VT,**
- However, an average 1st insemination timing shows a possibility of improving an efficiency in reproduction in order to achieve an earlier 1st calving, for both MC and VT.**

(Farm Operation & Cattle conditions in figures)

Milk Yield, Lactation No. and Body weight

TimesOFTE	(All)
MY	(All)
BWkg	(All)

		Data		
Area	LacNo	My (av.)	No. Of Cows	BWkg (Av.)
MC	1	19.58	47	489.13
	2	20.41	34	531.29
	3	22.94	37	541.84
	4	22.22	21	535.48
	5	19.80	21	562.38
	6	23.00	13	563.15
	7	16.17	15	563.47
	8	21.40	11	563.73
	9	21.50	5	509.20
	10			1
MC Total		20.85	205	533.02
VT	1	14.25	18	444.56
	2	15.67	16	492.06
	3	14.67	6	428.17
	4	15.00	8	440.63
	5	11.33	7	468.86
	6	15.00	4	508.00
	7	18.00	3	454.67
	8	13.00	2	472.00
	9		1	399.00
	10	20.00	1	480.00
VT Total		14.69	66	461.67
Grand Total		19.61	271	515.65

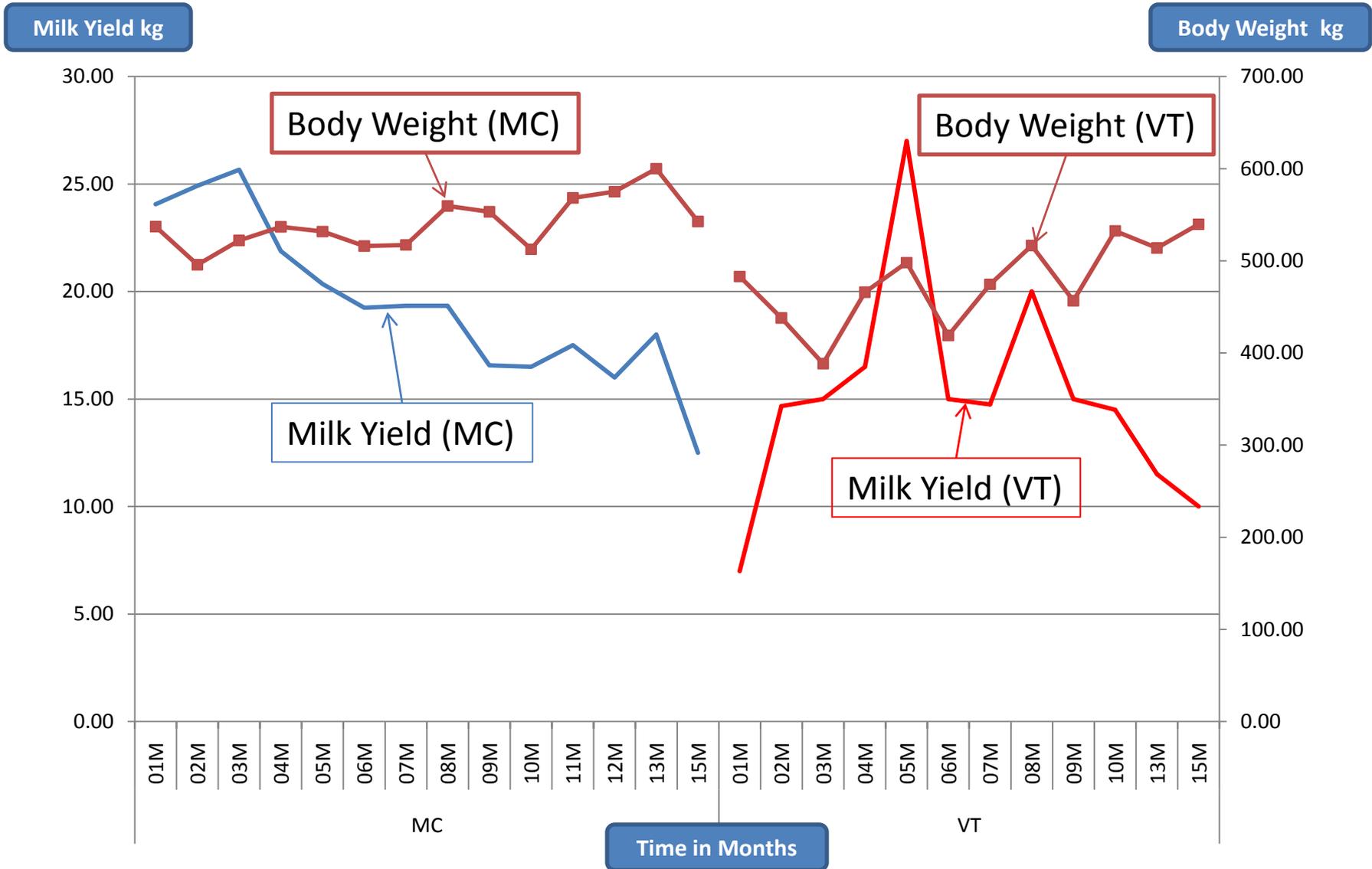


Milk Yield, Lactation No. and Body weight

- Theoretically, the higher in lactation no, like up to 5th lactation., the higher in Milk Yield, however, that is only true with MC, but not with VT. ,**
- How to achieve this kind of stable conditions as MC is a grate challenge for VT.,**

(Farm Operation & Cattle conditions in figures)

Lactation & Body Weight Change

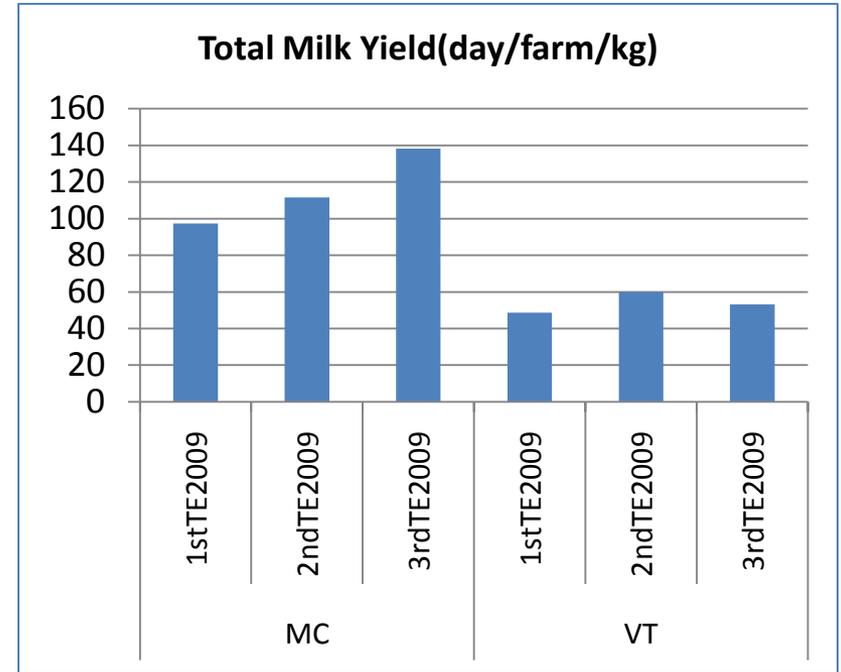
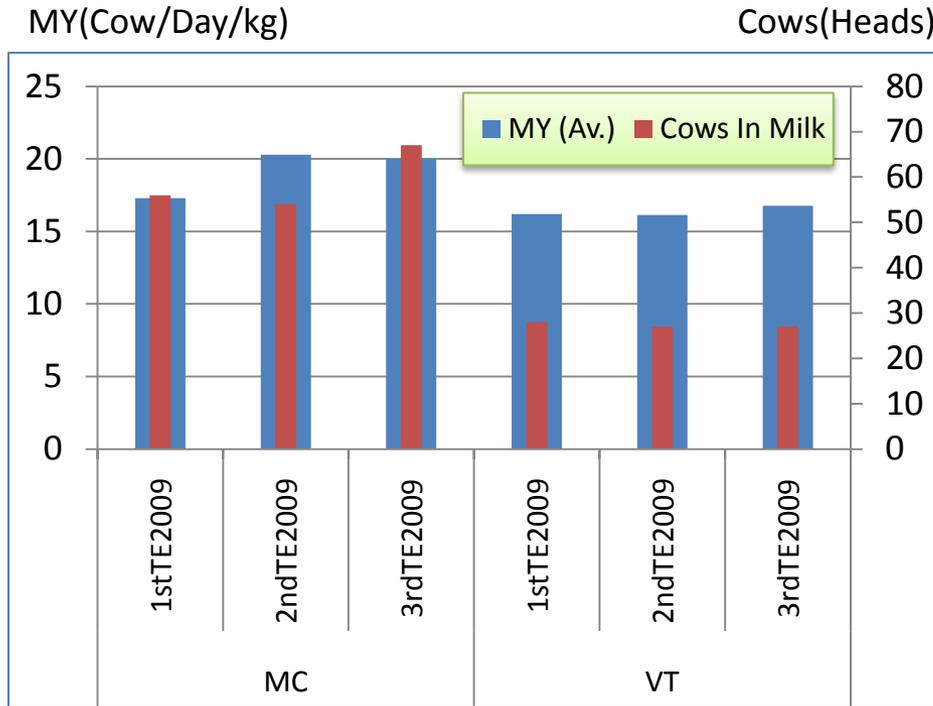


Lactation & Body Weight Change

- ❑ **A far stable productive state in terms of lactation level and body weight change is observed with MC, while, obvious Ups and Downs are observed with VT (partially caused by fewer number of sample records though) ,**
- ❑ **This difference could tell us there were poorer nutritious conditions of cattle in VT during before and after calving as the gap of falling level of body weight during the time was much larger with VT than that of MC,**
- ❑ **A more careful feeding practice for the cows during before and after calving is necessary !**

(Farm Operation & Cattle conditions in figures)

Milk Yield by Area & Time



Area	TimesTE	MY (Cow/Day)	MY (Total/day/farm)	Cows In Milk
MC	1stTE2009	17.3	97.4	56
	2ndTE2009	20.3	111.6	54
	3rdTE2009	20	138.2	67
MC Total		19.2	115.7	177
VT	1stTE2009	16.2	48.7	28
	2ndTE2009	16.1	59.9	27
	3rdTE2009	16.8	53.2	27
VT Total		16.4	53.5	82
Grand Total		17.9	86.3	259

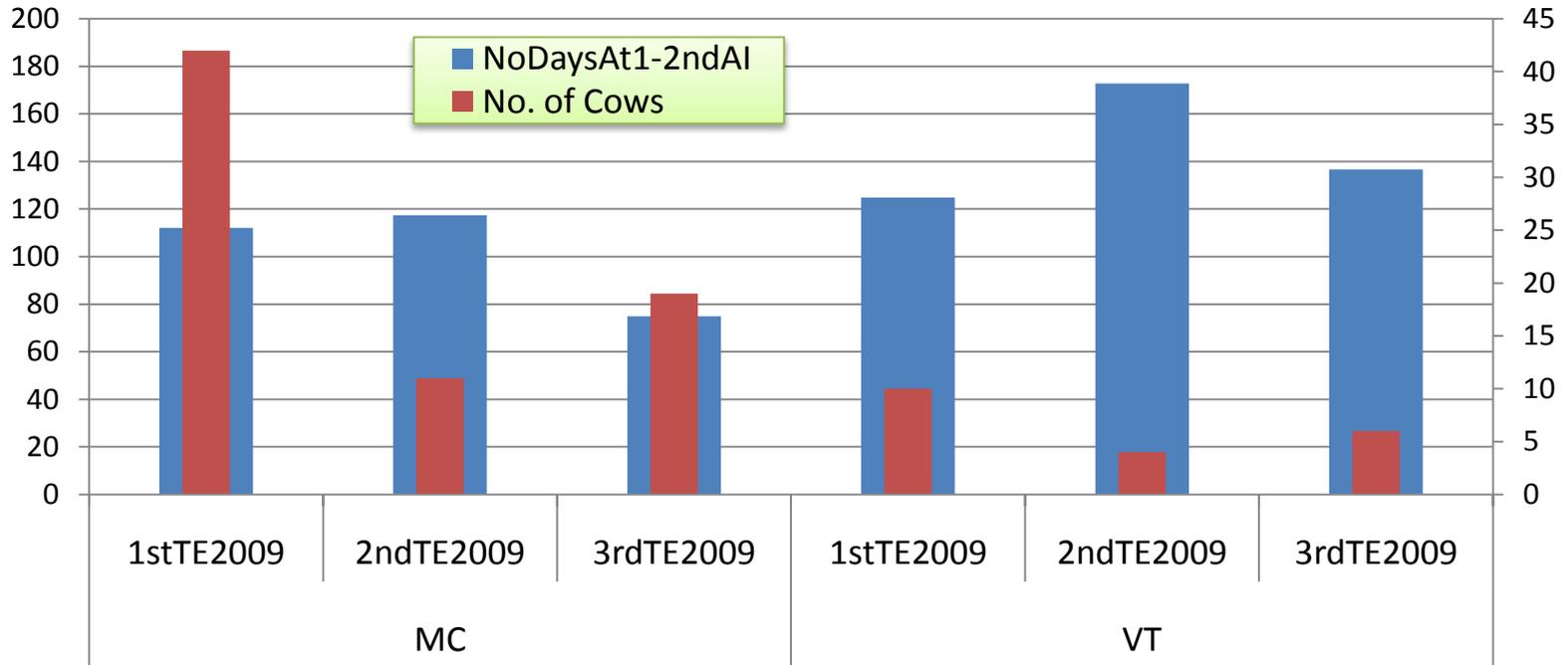
Milk Yield by Area & Time

- A stable increase of milk yield per cow level was well reflected in total milk production in MC, while a slight increase in the average of milk yield with VT would not contribute to the increase in the Total Milk Production as the number of cows declined in the third Technical Evaluation period.,**
- This fact as well shows that achieving both increase in milk yield per cow levels for all the cattle herd is inevitable in successful farm operation!**

No. of days at 1st -2nd AI

No. of days at 1-2 times of AI

No. of Cows



Area	TimesTE	No Days At1st-2 nd AI	No. of Cows
MC	1stTE2009	112	42
	2ndTE2009	117	11
	3rdTE2009	75	19
MC Total		103	72
VT	1stTE2009	125	10
	2ndTE2009	173	4
	3rdTE2009	137	6
VT Total		138	20
Grand Total		111	92



No. of days at 1st -2nd AI

- In order to achieve successful reproduction management, 1st insemination should be possible within 60 days after last calving, while an obvious improvement has been observed with MC, the prolonged no. of days during summer season is also a key issue to tackle for VT.,**
- Therefore, Managing Heat stress in VT is again the No. 1 problem !**

Recording on reproduction and milk yield(RM):

(2 items /10 points)

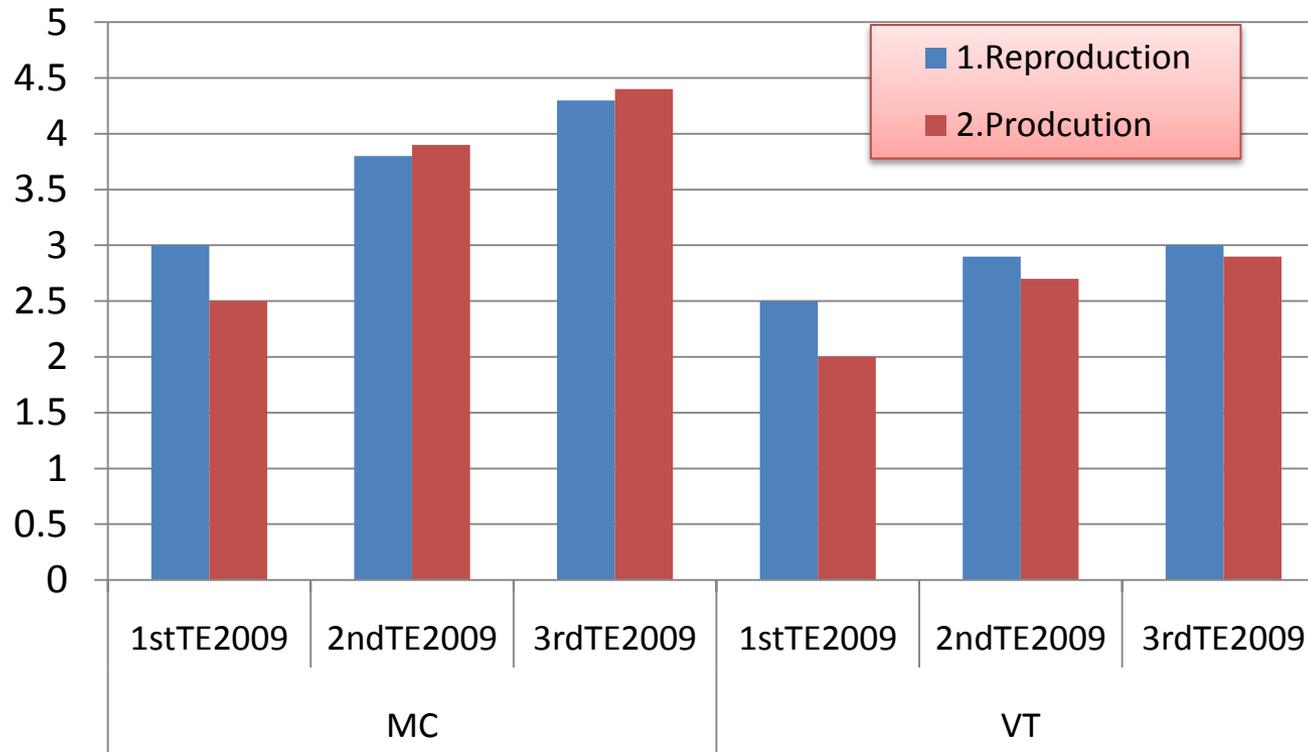
- Some purposes to achieve by this aspect:
 - ✓ Manage reproduction efficiently
 - ✓ Observe and manage cows' productive state
 - ✓ Decide Nutrition requirements
 - ✓ Farm economy management
 - ✓ Evaluate & improve farm management level as a whole

Project Inputs as activities:

- Farmer seminars on recording and reproductive management
- Model farm workshop
- Supply of the recording materials
- Leaflets, Reproduction calendar



The Results: “Recording Method”



Technical Aspect: Recording method and practice (10 Points)				
Area	TimesOfTE	1.Reproduction	2.Prodcution	Grand Total
MC	1stTE2009	3	2.5	5.5
	2ndTE2009	3.8	3.9	7.7
	3rdTE2009	4.3	4.4	8.7
VT	1stTE2009	2.5	2	4.5
	2ndTE2009	2.9	2.7	5.6
	3rdTE2009	3	2.9	5.9



The Results: “Recording”

- Especially, in MC, now, it is a common practice for many farmers to keep milk yield records with an individual cow,**
- This recording practice will lead to a higher level of farm operation where farmer can manage their cows more precisely and successfully.**
- Through last three times of technical evaluation periods, the level of recording practice among the model farms had improved greatly, for both MC & VT,**

Farm conditions including cattle housing facility(FC): (4 items/20 points)

➤ Some purposes to achieve by this aspect:

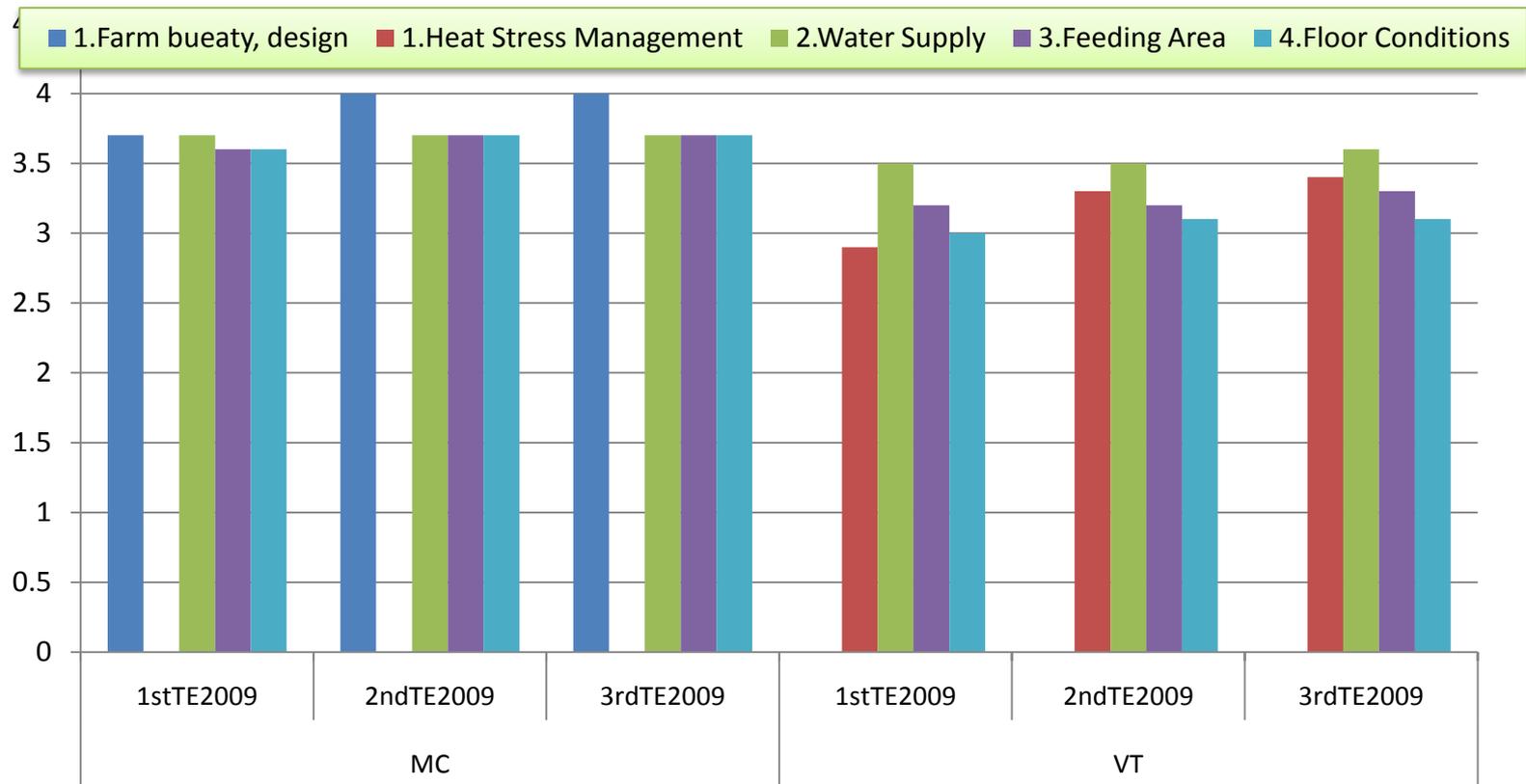
- ✓ Provide comfortable housing conditions for cows to improve production
- ✓ Maximize farm productivity and minimize accidents and risks

Project Inputs as activities:

- Farmer seminars on Heat Stress Management
- Leaflets
- Model farm workshop
- Demonstrations at the model farms
 - Use of ceiling fans
 - Shading for heat prevention



The Results: “Farm Conditions”



Area	TimesOfTE	Farm beauty, design	Heat Stress Management	Water Supply	Feeding Area	Floor Conditions	Grand Total
MC	1stTE2009	3.7		3.7	3.6	3.6	14.6
	2ndTE2009	4		3.7	3.7	3.7	15.1
	3rdTE2009	4		3.7	3.7	3.7	15.1
VT	1stTE2009		2.9	3.5	3.2	3	12.6
	2ndTE2009		3.3	3.5	3.2	3.1	13.1
	3rdTE2009		3.4	3.6	3.3	3.1	13.4

The Results: “Farm Conditions”

- ❑ **This technical aspect is not so easy to get practiced as most of the cases, the work necessitates some expenses. So, only when farmers understand the importance in its real meaning, they could invest and improve their farm conditions. ,**
- ❑ **How ever, if once it is done nicely, the positive and continued effect could last to maintain preferred farm conditions not only for cows but also for farmers.,**
- ❑ **Example; AUTOMATIC WATER FEEDER, Removal of wall for better ventilation, Improvement of feeding area, Use of paddock and so on,,,,**

Feed production and supply (F&S):

(1 item/15 points)

- Some purposes to achieve by this aspect:
 - ✓ Adequate supply of high quality roughage feed throughout a year is a lifeline of dairy farming,
 - ✓ Improve roughage feed supply by utilizing available techniques,
 - ✓ Increase an efficient use of local feed materials,
 - ✓ Contribute overall stabilization of farm operation through improved cow conditions .

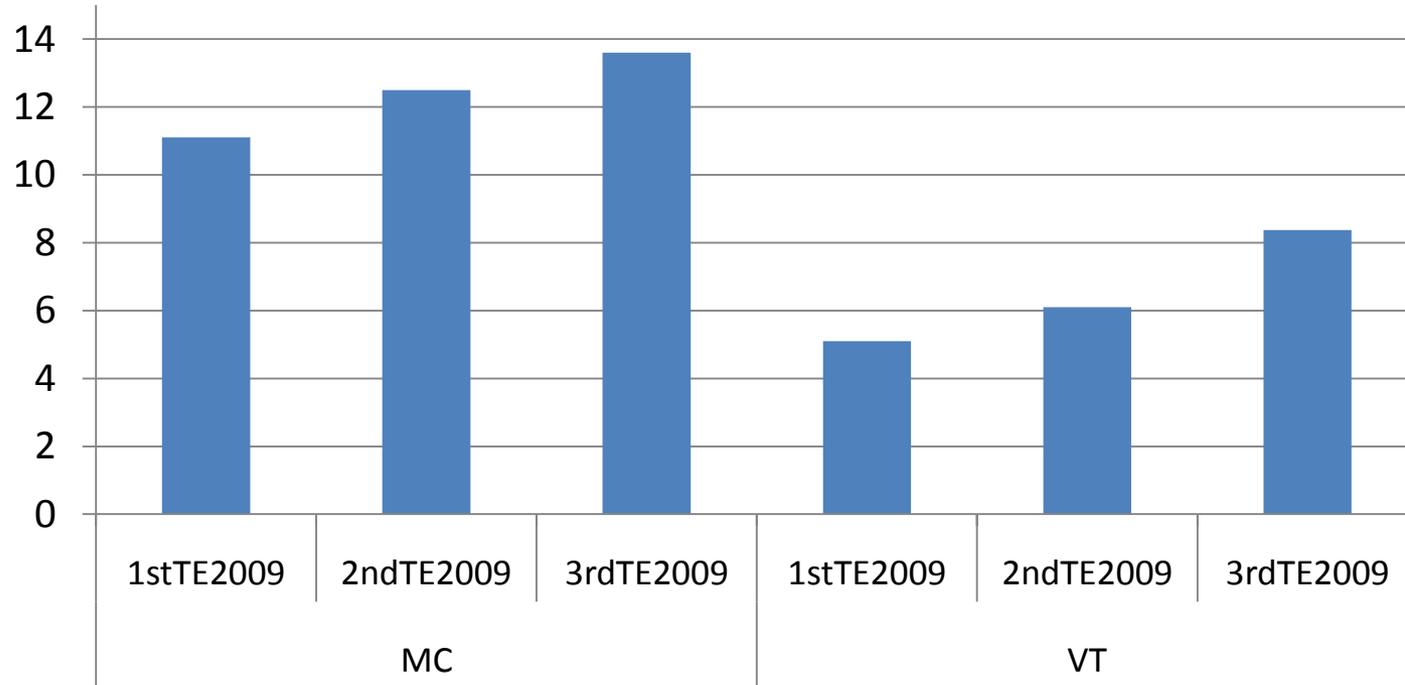
Project Inputs as activities:

- Farmer seminars on Corn Silage making Making and Urea-treated Rice Straw,
- Model farm workshop,
- Demonstration on Rice Straw Urea-treatment, Silage making and use of Silo.



The Results: Roughage Feed Supply

1.Roughage



FeedSupply

Area	TimesOfTE	1.Roughage	Grand Total
MC	1stTE2009	11.1	11.1
	2ndTE2009	12.5	12.5
	3rdTE2009	13.6	13.6
VT	1stTE2009	5.1	5.1
	2ndTE2009	6.1	6.1
	3rdTE2009	8.375	8.375



The Results: Roughage Feed Supply

- ❑ In MC, increasing supply of roughage especially in winter season was a one of the serious headaches for many years though, in recent years, the situation has been in change. Last year alone, the use of several kinds of forage grasses are now getting common, and more over, use of foreign imported alfalfa hay is getting popularity (the cost of using the hay should be carefully checked though..).
- ❑ In addition to above, practice of making corn silage is very common increasingly to almost all the farmers in MC, solving the problem of lacking feed during winter season, and even enjoying maintained high milk production during the period.
- ❑ In case of VT, use of local farm residues such as rice straws and corn storks when those materials are available, has not been so active thus wasting local resources that are regularly available in the area.
- ❑ In 2009, however, there have been number of farmers increasingly who get interested in trying roughage feed preservation techniques such as Urea-treatment and Silage making. Once these techniques are well utilized by the farmers in VT, their cow conditions and milk production can be more stable. So, there is a strong need of preparation of some conditions like material and equipments supply, necessary for the farmers to try the techniques.

Feeding method (FM):

(5 items/15 points)

➤ Some purposes to achieve by this aspect:

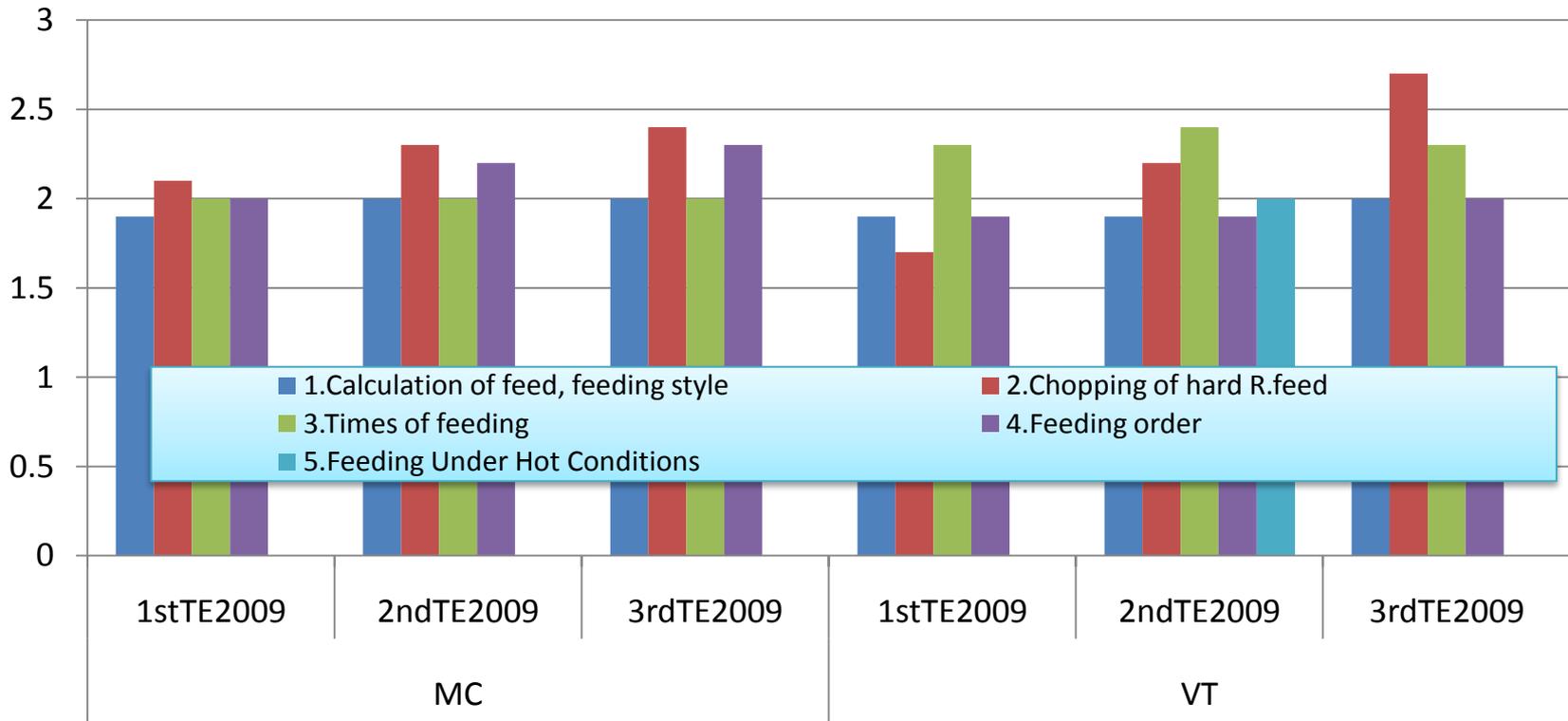
- ✓ Utilize available feed resource at its best way,
- ✓ Maximize “Dry matter(DM) intake” for COWS
- ✓ Increase palatability (Appetite)
- ✓ Combine with preservation techniques

Project Inputs as activities:

- Farmer seminars on “Feeding Before and after calving” , “Calf rearing method” and “Feed evaluation & feeding method”
- Leaflets
- Model farm workshop
- Demonstrations at the model farms
 - Hay feeder, Chopper
 - Simple Dryer for DM check



The Results: “Feeding Method”



FeedingMethod

Area	TimesOfTE	1. Calculation of feed, feeding style	2. Chopping of hard R.feed	3. Times of feeding	4. Feeding order	5. Feeding Under Hot Conditions	Grand Total
MC	1stTE2009	1.9	2.1	2	2		8
	2ndTE2009	2	2.3	2	2.2		8.5
	3rdTE2009	2	2.4	2	2.3		8.7
VT	1stTE2009	1.9	1.7	2.3	1.9		7.8
	2ndTE2009	1.9	2.2	2.4	1.9	2	8.4*
	3rdTE2009	2	2.7	2.3	2		9

*This figure doesn't include the score of Item 5.

The Results: “Feeding Method”

- ❑ **The most obvious improvements in feeding method in case of VT was seen in the increased number of using chopping machines. Farmers in VT use King grass as a chief roughage feed for their cows. When King grass was in the matured stage, its stork becomes hard to consume more time to intake by cows thus reducing Dry Matter Intake. So, “chopping” is an effective way to utilize such hard roughage materials. ,**
- ❑ **Another effective feeding method is based on “its number of times of feeding per day” as well as “form of feeding”, like in MC where some grass hay is prepared, feeding fresh grass in combination with grass hay is much preferred way of feeding as cows surely get more fiber intake than just feeding fresh grass only. Therefore, even in case of VT, it is still recommended to add different form of roughage feed such as silage and hay (even urea-treated rice straw is fine).**

Milking method and mastitis prevention (MM): (5 items/15 points)

➤ Some purposes to achieve by this aspect:

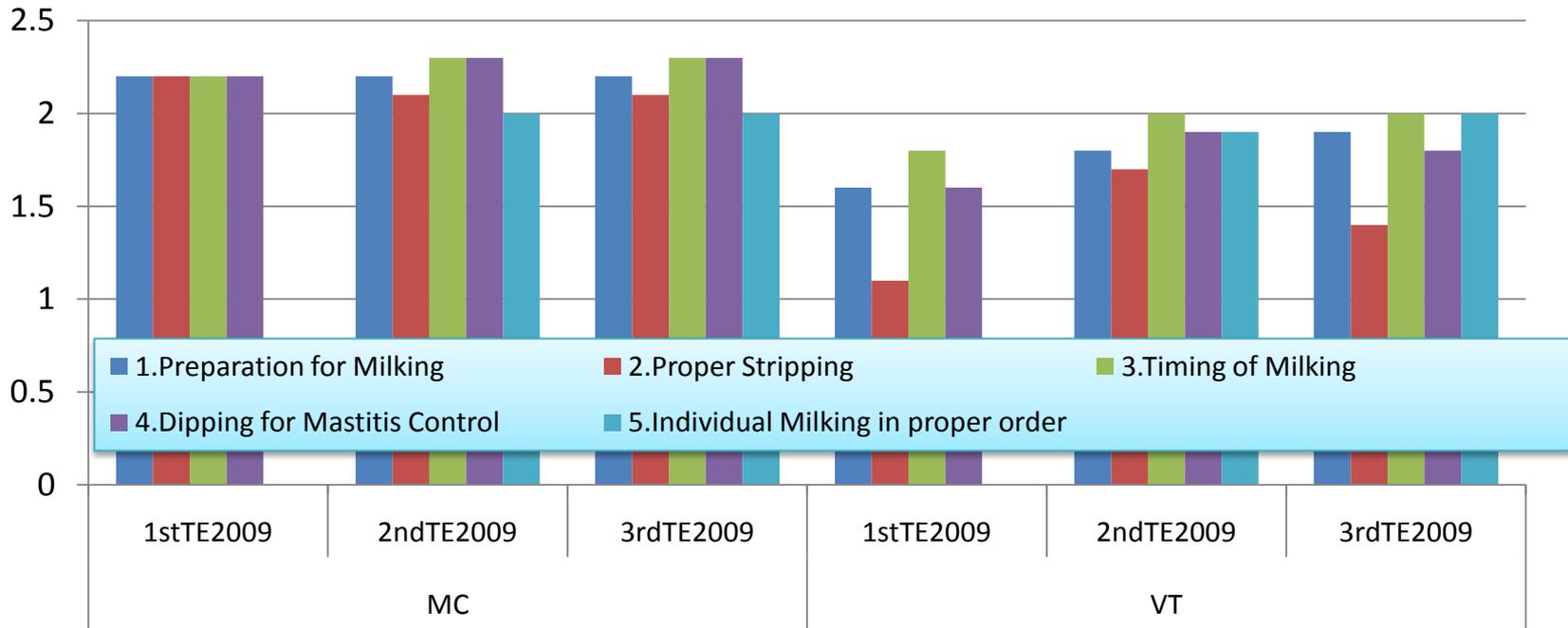
- ✓ Practice “milking” in right manner
- ✓ Obtain milk of clean and hygiene to enjoy high milk price
- ✓ Prevent mastitis

Project Inputs as activities:

- Farmer seminars on “Milking Method” and “Milking Procedure”
 - Leaflets, Milking Poster
 - Model farm workshop
 - Demonstrations at the model farms
- CMT testing kits



The Results: Milking Method



MilkingMethod

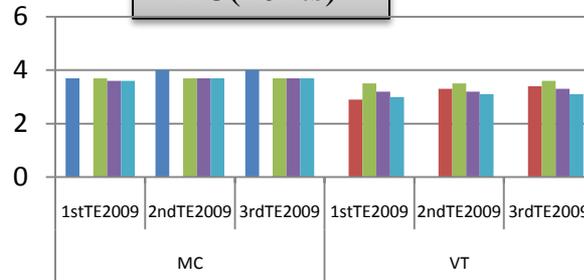
Area	TimesOfTE	1.Preparation for Milking	2.Proper Stripping	3.Timing of Milking	4.Dipping for Mastitis Control	5.Individual Milking in proper order	Grand Total
MC	1stTE2009	2.2	2.2	2.2	2.2		8.8
	2ndTE2009	2.2	2.1	2.3	2.3	2	10.9
	3rdTE2009	2.2	2.1	2.3	2.3	2	10.9
VT	1stTE2009	1.6	1.1	1.8	1.6		6.1
	2ndTE2009	1.8	1.7	2	1.9	1.9	9.3
	3rdTE2009	1.9	1.4	2	1.8	2	9.1

The Results: Milking Method

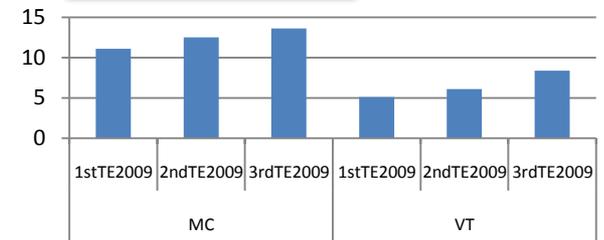
- ❑ **The basic level of milking practice between MC & VT is some what distant from each other. This is because of the difference in basic background of each area.**
- ❑ **MC is now a Joint-stock company operating 2 milk processing factories, setting its own milk quality criteria that is used as a standard for milk pricing system in the area. So, all the dairy farmers must conform to the regulations and milk testing procedures decided by the company. In order to meet such criteria, basic milking skills of the dairy farmers in MC is quite high already. Because of this, the score result shows a different level between the two areas.**
- ❑ **Important observation was mainly made to “the timing of milking” and “prevention of mastitis practiced in right manner”.**

Technical Evaluation & Farm Productivity

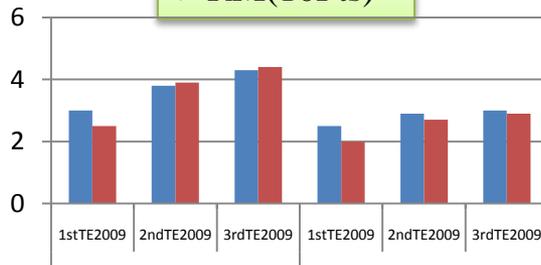
➤FC(20Pts)



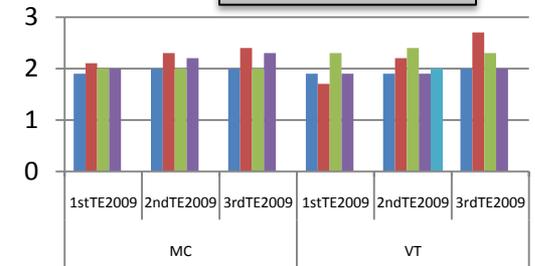
➤F&S(20 Pts)



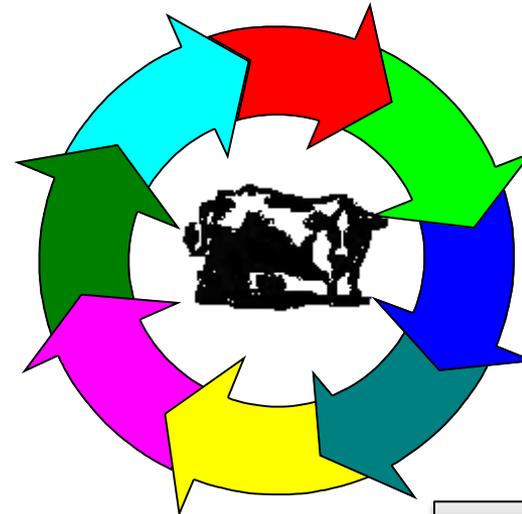
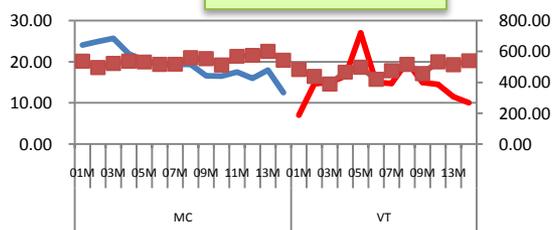
➤RM(10Pts)



➤FM(15Pts)



➤BC(20Pts)



➤MM(15Pts)

