ANNEX 2



Scenarios herd numbers and treatment schedule

This Annex contains reports indicating for each module the typical types and number of veterinary treatments per age category of the herd. For each module two scenarios of herd numbers are presented (Pos/Neg).



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



Scenario:	below	standards	

Dairy farmer:				SNV Kenya
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Modular Dairy Bar	n 20-40-60-80

General information:	Fill in:	
Number of lactating cows:	20	cows
Duration dry period:	65	days
Calving Interval:	460	days
Replacement rate:	25%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are	averages
Total lactating+dry cows:	22	
Total lactating+dry+intro heifers:	23	
Replacement heifers per year:	6	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	20	20	22
Dry cows present:	2	2	3
Introduction heifers present:	0	0	1
Calvings:	17	0	1
Calvings of adult cows (P2+):	12	0	0
Calvings of heifers (P1):	6	0	0
Birth help adult cow:	1	0,0	0
Birth help heifer:	3	0,1	0
Heavy birth/calving assistance heifer:	2	0,0	0
C-sections (caesarians):	0	0,0	0

				Cases per	Cases per	Treatments		Treatments	per .
	Fill in:		Treatments milking herd:	year	week	per week		case	
Inseminations per pregnancy:	3		Drying off:	11	0,2	0,2		1,0	
Culling until day 55:	10%		Introduction of heifer (heifer check):	: 7	0,1	0,1		1,0	
Cows not being bred:	5%		Oestrus cases:	57	1,1	0,0	>	0,0	
Clinical mastitis incidence (per year):	30%		Inseminations milking herd:	40	0,8	0,8		1,0	
Metabol.probl. at calving parity 2+:	35%		Cases of clinical mastitis:	7	0,1	0,4		3,0	
Metabol.probl. ≤14 days after calving:	20%		Metabolic problems at calving:	4	0,1	0,1		1,0	
Metritis ≤14 days after calving:	25%		Metabolic problems in early lactation	n: 3	0,1	0,1		2,0	
Foot treatments:	200%		Metritis <14 d pp:	4	0,1	0,1		1,0	
Other diseases/problems:	5%		Foot problems:	32	0,6	0,6		1,0	
Fertility/pregnancy check:	150%		Fertility/pregnancy check:	23	0,4	0,4		1,0	
Synchr.breeding/oestrus treatments:	25%		Synchr.breeding/oestrus treatments:	5	0,1	0,2		2,0	
Vaccinations per lactation(1.):	2	number	Other diseases cases:	1	0,0	0,0		3,0	
Vaccination introduction heifer:	0	number	Vaccinations(1.):	32	0,6	0,6		1,0	
1.: vaccination can be given as group to	treatments			Total: 225	5 4	3.7			

1	 vaccination	can be	e given	as	group	treatments	

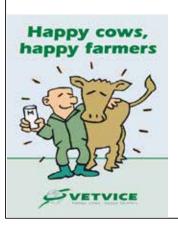
Numbers scenario 1: raising all female calves

			Number	per week	Fill in:
	Fill in:	Total heads of young stock:	average	peak	peak factor
Born dead (DOA):	10%	Calvings in individual housing:	1	1	2
Mortality < 10 days:	8%	-of which bull calves:	0	1	2
Mortality 10 days <> weaning:	4%	-of which heifer calves:	0	0	2
Mortality after weaning:	5%	Heifer calves moved to group housing:	0	0	2
Length individ. housing heifer calves:	10 days	Heifer calves on milk in group:	1	2	1,5
Length individ. housing bull calves:	16 days	Weaned calves to 6 months of age:	2	3	1,3
Total days of milk feeding:	70 days	# 6 to 12 months of age:	3	4	1,2
Age at first calving:	24 months	# 12 months to introduction:	6	7	1,1
Inseminations per pregnancy:	2 ins/conc	# in insemination group (4 months):	2	3	1,2
Insemination period:	18 tm 22 months	# pregnant heifers (AFC-7 months):	4	4	1,1
Young stock not conceiving:	5%	# not conceived:	0	0	1,5
Duration heifer introduction:	28 days	Total young stock ≥14 days of age:	12	14	1,1
		# transported introduction heifers:	0,1		

not conceived:

Total young stock \geq 14 days of age:

transported introduction heifers:



Numbers scenario 2: raising for replacement only

Number per week Total heads of young stock: Piekfactor average peak Calvings in individual housing: 2 -of which bull calves: 2 2 -of which heifer calves: 0 Heifer calves moved to group housing: 2 1,5 Heifer calves on milk in group: 2 1,3 Weaned calves to 6 months of age: #6 to 12 months of age: 4 1,2 # 12 months to introduction: 6 1,1 # in insemination group (4 months): 2 1,2 4 # heifers 0-7 months pregnant: 1,1 0 1,5

13

0

1,1

2



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



	Scenario:	good
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SNV Kenya **Dairy farmer:**

Modular Dairy Barn 20-40-60-80

General information:	Fill in:	
Number of lactating cows:	20	cows
Duration dry period:	56	days
Calving Interval:	420	days
Replacement rate:	20%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

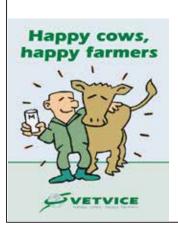
Numbers:	NB.: these numbers are	averages
Total lactating+dry cows:	22	
Total lactating+dry+intro heifers:	22	
Replacement heifers per year:	4	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	20	20	22
Dry cows present:	2	2	3
Introduction heifers present:	0	0	0
Calvings:	18	0	1
Calvings of adult cows (P2+):	14	0	1
Calvings of heifers (P1):	4	0	0
Birth help adult cow:	1	0,0	0
Birth help heifer:	2	0,0	0
Heavy birth/calving assistance heifer:	1	0,0	0
C-sections (caesarians):	0	0.0	0

				Cases per	Cases per	Treatments	Treatments per
	Fill in:		Treatments milking herd:	year	week	per week	case
Inseminations per pregnancy:	2,5		Drying off:	13	0,3	0,3	1,0
Culling until day 55:	10%		Introduction of heifer (heifer check):	6	0,1	0,1	1,0
Cows not being bred:	5%		Oestrus cases:	55	1,0	0,0	0,0
Clinical mastitis incidence (per year):	25%		Inseminations milking herd:	37	0,7	0,7	1,0
Metabol.probl. at calving parity 2+:	25%		Cases of clinical mastitis:	6	0,1	0,3	3,0
Metabol.probl. ≤14 days after calving:	15%		Metabolic problems at calving:	3	0,1	0,1	1,0
Metritis ≤14 days after calving:	15%		Metabolic problems in early lactation	n: 3	0,1	0,1	2,0
Foot treatments:	200%		Metritis <14 d pp:	3	0,1	0,1	1,0
Other diseases/problems:	5%		Foot problems:	35	0,7	0,7	1,0
Fertility/pregnancy check:	150%		Fertility/pregnancy check:	25	0,5	0,5	1,0
Synchr.breeding/oestrus treatments:	25%		Synchr.breeding/oestrus treatments:	5	0,1	0,2	2,0
Vaccinations per lactation(1.):	2	number	Other diseases cases:	1	0,0	0,1	3,0
Vaccination introduction heifer:	0	number	Vaccinations(1.):	35	0,7	0,7	1,0
1.: vaccination can be given as group to	treatments			Total: 224	4	3,7	

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	days
Length individ. housing bull calves:	16	days
Total days of milk feeding:	70	days
Age at first calving:	24	months
Inseminations per pregnancy:	1,4	ins/conc
Insemination period:	14 tm 16	months
Young stock not conceiving:	5%	
Duration heifer introduction:	28	days

Numbers scenario 1: raising all female of	alves			
	Number p	er week	Fill in:	
Total heads of young stock:	average	peak	peak factor	
Calvings in individual housing:	1	1	2	
-of which bull calves:	0	1	2	
-of which heifer calves:	0	0	2	
Heifer calves moved to group housing:	0	0	2	
Heifer calves on milk in group:	1	2	1,5	
Weaned calves to 6 months of age:	3	3	1,3	
# 6 to 12 months of age:	4	5	1,2	
# 12 months to introduction:	8	8	1,1	
# in insemination group (4 months):	3	3	1,2	
# pregnant heifers (AFC-7 months):	5	5	1,1	
# not conceived:	0	0	1,5	
Total young stock ≥14 days of age:	16	17	1,1	
# transported introduction heifers:	0,2			



Numbers scenario 2: raising for replace	cement only		
	Number p	er week	
Total heads of young stock:	average	peak	Piekfactor
Calvings in individual housing:	1	1	2
-of which bull calves:	0	1	2
-of which heifer calves:	0	0	2
Heifer calves moved to group housing:	0	0	2
Heifer calves on milk in group:	1	1	1,5
Weaned calves to 6 months of age:	1	2	1,3
# 6 to 12 months of age:	2	3	1,2
# 12 months to introduction:	4	5	1,1
# in insemination group (4 months):	2	2	1,2
# heifers 0-7 months pregnant:	3	3	1,1
# not conceived:	0	0	1,5
Total young stock ≥14 days of age:	9	10	1,1
# transported introduction heifers:	0.1	0	2



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



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Scenar	10:	hel	ow	stand	ards

Dairy farmer:			SNV Kenya
	M 11 D ' D	20 40	(0.00

General information:	Fill in:	
Number of lactating cows:	40	cows
Duration dry period:	65	days
Calving Interval:	460	days
Replacement rate:	25%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are averages		
Total lactating+dry cows:	44		
Total lactating+dry+intro heifers:	45		
Renlacement heifers ner vear:	11		

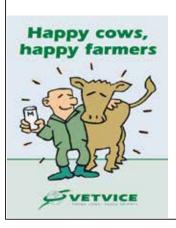
Cows+heifers+calving:	year	week	peak
Lactating cows present:	40	40	44
Dry cows present:	4	4	5
Introduction heifers present:	1	1	1
Calvings:	35	1	1
Calvings of adult cows (P2+):	24	0	1
Calvings of heifers (P1):	11	0	0
Birth help adult cow:	2	0,0	0
Birth help heifer:	6	0,1	0
Heavy birth/calving assistance heifer:	3	0,1	0
C-sections (caesarians):	1	0.0	0

	Fill in:				
Inseminations per pregnancy:	3				
Culling until day 55:	10%				
Cows not being bred:	5%				
Clinical mastitis incidence (per year):	30%				
Metabol.probl. at calving parity 2+:	35%				
Metabol.probl. ≤14 days after calving:	20%				
Metritis ≤14 days after calving:	25%				
Foot treatments:	200%				
Other diseases/problems:	5%				
Fertility/pregnancy check:	150%				
Synchr.breeding/oestrus treatments:	25%				
Vaccinations per lactation(1.):	2	number			
Vaccination introduction heifer:	0	number			
1.: vaccination can be given as group treatments					

			-		Fill in:	
	Cases per	Cases per	Treatment	S	Treatment	s p
Treatments milking herd:	year	week	per week		case	
Drying off:	22	0,4	0,4		1,0	
Introduction of heifer (heifer check):	13	0,3	0,3		1,0	
Oestrus cases:	114	2,2	0,0	>	0,0	
Inseminations milking herd:	81	1,6	1,6		1,0	
Cases of clinical mastitis:	13	0,3	0,8		3,0	
Metabolic problems at calving:	8	0,2	0,2		1,0	
Metabolic problems in early lactation:	7	0,1	0,3		2,0	
Metritis <14 d pp:	9	0,2	0,2		1,0	
Foot problems:	63	1,2	1,2		1,0	
Fertility/pregnancy check:	45	0,9	0,9		1,0	
Synchr.breeding/oestrus treatments:	10	0,2	0,4		2,0	
Other diseases cases:	2	0,0	0,1		3,0	
Vaccinations(1.):	63	1,2	1,2		1,0	
Total	l: 451	9	7.4			

	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days >> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	days
Length individ. housing bull calves:	16	days
Total days of milk feeding:	70	days
Age at first calving:	24	months
Inseminations per pregnancy:	2	ins/conc
Insemination period:	18 tm 22	months
Young stock not conceiving:	5%	
Duration heifer introduction:	28	days

Numbers scenario 1: raising all female c	alves			
	Number	per week	Fill in:	
Total heads of young stock:	average	peak	peak factor	•
Calvings in individual housing:	1	2	2	
-of which bull calves:	1	1	2	
-of which heifer calves:	0	1	2	
Heifer calves moved to group housing:	0	1	2	
Heifer calves on milk in group:	2	3	1,5	
Weaned calves to 6 months of age:	4	5	1,3	
# 6 to 12 months of age:	7	8	1,2	
# 12 months to introduction:	12	13	1,1	
# in insemination group (4 months):	4	5	1,2	
# pregnant heifers (AFC-7 months):	7	8	1,1	
# not conceived:	0	1	1,5	
Total young stock ≥14 days of age:	25	27	1,1	
# transported introduction heifers:	0,2			



Numbers scenario 2: raising for replacement only					
Number per week					
Total heads of young stock:	average	peak	Piekfactor		
Calvings in individual housing:	1	2	2		
-of which bull calves:	1	1	2		
-of which heifer calves:	0	1	2		
Heifer calves moved to group housing:	0	1	2		
Heifer calves on milk in group:	2	3	1,5		
Weaned calves to 6 months of age:	4	5	1,3		
# 6 to 12 months of age:	6	7	1,2		
# 12 months to introduction:	11	12	1,1		
# in insemination group (4 months):	4	5	1,2		
# heifers 0-7 months pregnant:	6	7	1,1		
# not conceived:	0	1	1,5		
Total young stock ≥14 days of age:	23	25	1,1		
# transported introduction heifers:	0.2	0	2		



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



Scenario:	good

General info

Dairy farmer:		SNV Kenya
	Modular Dairy Barn	20-40-60-80

rmation:	Fill in:	
ctating cows:	40	cows
period:	56	days
val:	420	days
rate:	20%	
		_

Calving Interval:	420	days
Replacement rate:	20%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	

Number of lactating cows:	40	cows
Duration dry period:	56	days
Calving Interval:	420	days
Replacement rate:	20%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

	Fill in:	
Inseminations per pregnancy:	2,5	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	25%	
Metabol.probl. at calving parity 2+:	25%	
Metabol.probl. ≤14 days after calving:	15%	
Metritis ≤14 days after calving:	15%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(1.):	2	number

1.: vaccination can be given as group treatments

Vaccination introduction heifer:

Numbers:	imbers: NB.: these numbers are average	
Total lactating+dry cows:	44	
Total lactating+dry+intro heifers:	45	
Replacement heifers per year:	9	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	40	40	44
Dry cows present:	4	4	5
Introduction heifers present:	1	1	1
Calvings:	37	1	1
Calvings of adult cows (P2+):	28	1	1
Calvings of heifers (P1):	9	0	0
Birth help adult cow:	3	0,1	0
Birth help heifer:	4	0,1	0
Heavy birth/calving assistance heifer:	3	0,1	0
C-sections (caesarians):	1	0,0	0

			_		Fill in:	
	Cases per	Cases per	Treatments	5	Treatment	s pe
Treatments milking herd:	year	week	per week		case	
Drying off:	26	0,5	0,5		1,0	
Introduction of heifer (heifer check)	: 11	0,2	0,2		1,0	
Oestrus cases:	109	2,1	0,0	>	0,0	
Inseminations milking herd:	74	1,4	1,4		1,0	
Cases of clinical mastitis:	11	0,2	0,6		3,0	
Metabolic problems at calving:	7	0,1	0,1		1,0	
Metabolic problems in early lactation	on: 5	0,1	0,2		2,0	
Metritis <14 d pp:	5	0,1	0,1		1,0	
Foot problems:	70	1,3	1,3		1,0	
Fertility/pregnancy check:	50	1,0	1,0		1,0	
Synchr.breeding/oestrus treatments:	10	0,2	0,4		2,0	
Other diseases cases:	2	0,0	0,1		3,0	
Vaccinations(1.):	70	1,3	1,3		1,0	
	Total: 449	9	7,3			

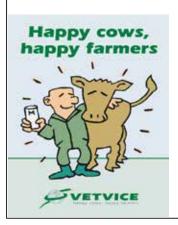
	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	days
Length individ. housing bull calves:	16	days
Total days of milk feeding:	70	days
Age at first calving:	24	months
Inseminations per pregnancy:	1,4	ins/conc
Insemination period:	14 tm 16	months
Young stock not conceiving:	5%	
Duration heifer introduction:	28	days

Fill in:	
6%	
2%	
3%	
1%	
10	days
16	days
70	days
24	months
1,4	ins/conc
14 tm 16	months
5%	
28	days

0

number

Numbers scenario 1: raising all female calves						
	Number	per week	Fill in:			
Total heads of young stock:	average	peak	peak factor			
Calvings in individual housing:	1	3	2			
-of which bull calves:	1	2	2			
-of which heifer calves:	0	1	2			
Heifer calves moved to group housing:	0	1	2			
Heifer calves on milk in group:	3	4	1,5			
Weaned calves to 6 months of age:	5	7	1,3			
# 6 to 12 months of age:	8	10	1,2			
# 12 months to introduction:	15	17	1,1			
# in insemination group (4 months):	5	7	1,2			
# pregnant heifers (AFC-7 months):	9	10	1,1			
# not conceived:	0	1	1,5			
Total young stock ≥14 days of age:	31	34	1,1			
# transported introduction heifers:	0,3					



Numbers scenario 2: raising for replacement only								
Number per week								
Total heads of young stock:	average	peak	Piekfactor					
Calvings in individual housing:	1	3	2					
-of which bull calves:	1	2	2					
-of which heifer calves:	0	1	2					
Heifer calves moved to group housing:	0	0	2					
Heifer calves on milk in group:	2	2	1,5					
Weaned calves to 6 months of age:	3	4	1,3					
# 6 to 12 months of age:	5	6	1,2					
# 12 months to introduction:	9	10	1,1					
# in insemination group (4 months):	3	4	1,2					
# heifers 0-7 months pregnant:	5	6	1,1					
# not conceived:	0	0	1,5					
Total young stock ≥14 days of age:	18	20	1,1					
# transported introduction heifers:	0,2	0	2					



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



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Scenario:	he	low	stanc	lards	

Dairy farmer:			SNV Kenya
	M. 1 1. D D	20 40	(0.00

Modular Dairy Barn	20-40-60-80
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General information:	Fill in:	
Number of lactating cows:	60	cows
Duration dry period:	65	days
Calving Interval:	460	days
Replacement rate:	25%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are	averages
Total lactating+dry cows:	66	
Total lactating+dry+intro heifers:	68	
Replacement heifers per year:	17	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	60	60	66
Dry cows present:	6	6	8
Introduction heifers present:	1	1	2
Calvings:	52	1	2
Calvings of adult cows (P2+):	36	1	1
Calvings of heifers (P1):	17	0	1
Birth help adult cow:	4	0,1	0
Birth help heifer:	8	0,2	0
Heavy birth/calving assistance heifer:	5	0,1	0
C-sections (caesarians):	1	0,0	1

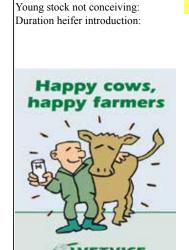
				Cases per	Cases per	Treatments	S	Treatments	s per
	Fill in:		Treatments milking herd:	year	week	per week		case	
Inseminations per pregnancy:	3		Drying off:	33	0,6	0,6		1,0	
Culling until day 55:	10%		Introduction of heifer (heifer check)	: 20	0,4	0,4		1,0	
Cows not being bred:	5%		Oestrus cases:	171	3,3	0,0	>	0,0	
Clinical mastitis incidence (per year):	30%		Inseminations milking herd:	121	2,3	2,3		1,0	
Metabol.probl. at calving parity 2+:	35%		Cases of clinical mastitis:	20	0,4	1,1		3,0	
Metabol.probl. ≤14 days after calving:	20%		Metabolic problems at calving:	12	0,2	0,2		1,0	
Metritis ≤14 days after calving:	25%		Metabolic problems in early lactatio	n: 10	0,2	0,4		2,0	
Foot treatments:	200%		Metritis <14 d pp:	13	0,3	0,3		1,0	
Other diseases/problems:	5%		Foot problems:	95	1,8	1,8		1,0	
Fertility/pregnancy check:	150%		Fertility/pregnancy check:	68	1,3	1,3		1,0	
Synchr.breeding/oestrus treatments:	25%		Synchr.breeding/oestrus treatments:	14	0,3	0,5		2,0	
Vaccinations per lactation(1.):	2	number	Other diseases cases:	2	0,0	0,1		3,0	
Vaccination introduction heifer:	0	number	Vaccinations(1.):	95	1,8	1,8		1,0	
1.: vaccination can be given as group	treatments			Total: 676	13	11,1			

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Born dead (DOA): Mortality < 10 days: Mortality 10 days <> weaning: Mortality after weaning:

Numbers scenario 1: raising all female calves

		G	Number p	er week	Fill in:
Fill in:		Total heads of young stock:	average	peak	peak factor
10%		Calvings in individual housing:	2	3	2
8%		-of which bull calves:	1	2	2
4%		-of which heifer calves:	1	1	2
5%		Heifer calves moved to group housing:	0	1	2
10	days	Heifer calves on milk in group:	3	5	1,5
16	days	Weaned calves to 6 months of age:	6	8	1,3
70	days	# 6 to 12 months of age:	10	12	1,2
24	months	# 12 months to introduction:	18	20	1,1
2	ins/conc	# in insemination group (4 months):	6	8	1,2
8 tm 22	months	# pregnant heifers (AFC-7 months):	11	12	1,1
5%		# not conceived:	1	1	1,5
28	days	Total young stock ≥14 days of age:	37	41	1,1
		# transported introduction heifers:	0,4		



Length individ. housing heifer calves: Length individ. housing bull calves: Total days of milk feeding: Age at first calving: Inseminations per pregnancy: Insemination period:

Numbers scenario 2: raising for replace	ment only								
	Number per week								
Total heads of young stock:	average	peak	Piekfactor						
Calvings in individual housing:	2	3	2						
-of which bull calves:	1	2	2						
-of which heifer calves:	1	1	2						
Heifer calves moved to group housing:	0	1	2						
Heifer calves on milk in group:	3	5	1,5						
Weaned calves to 6 months of age:	6	7	1,3						
# 6 to 12 months of age:	9	11	1,2						
# 12 months to introduction:	17	18	1,1						
# in insemination group (4 months):	6	7	1,2						
# heifers 0-7 months pregnant:	10	11	1,1						
# not conceived:	1	1	1,5						
Total young stock ≥14 days of age:	34	38	1,1						
# transported introduction heifers:	0,3	1	2						

Fill in:

peak factor

2

2

1,3

1,2

1,1

1,2

1,1

1,5

1,1



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



Scenario: good	
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Dairy farmer: SNV Kenya

Modular Dairy Barn 20-40-60-80

General information:	Fill in:	
Number of lactating cows:	60	cows
Duration dry period:	56	days
Calving Interval:	420	days
Replacement rate:	20%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are	averages
Total lactating+dry cows:	66	
Total lactating+dry+intro heifers:	67	
Replacement heifers per year:	13	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	60	60	66
Dry cows present:	6	6	8
Introduction heifers present:	1	1	1
Calvings:	55	1	2
Calvings of adult cows (P2+):	42	1	2
Calvings of heifers (P1):	13	0	1
Birth help adult cow:	4	0,1	0
Birth help heifer:	7	0,1	0
Heavy birth/calving assistance heifer:	4	0,1	0
C-sections (caesarians):	1	0.0	1

				C	ases per	Cases per	Treatments		Treatments per
	Fill in:		Treatments milking herd:	y	ear	week	per week		case
Inseminations per pregnancy:	2,5		Drying off:	3)	0,8	0,8		1,0
Culling until day 55:	10%		Introduction of heifer (heifer check)): 1	7	0,3	0,3		1,0
Cows not being bred:	5%		Oestrus cases:	1	54	3,1	0,0	>	0,0
Clinical mastitis incidence (per year):	25%		Inseminations milking herd:	1	.1	2,1	2,1		1,0
Metabol.probl. at calving parity 2+:	25%		Cases of clinical mastitis:	1	7	0,3	1,0		3,0
Metabol.probl. ≤14 days after calving:	15%		Metabolic problems at calving:	10)	0,2	0,2		1,0
Metritis ≤14 days after calving:	15%		Metabolic problems in early lactation	on: 8		0,2	0,3		2,0
Foot treatments:	200%		Metritis <14 d pp:	8		0,2	0,2		1,0
Other diseases/problems:	5%		Foot problems:	10)4	2,0	2,0		1,0
Fertility/pregnancy check:	150%		Fertility/pregnancy check:	7-	1	1,4	1,4		1,0
Synchr.breeding/oestrus treatments:	25%		Synchr.breeding/oestrus treatments:	: 14	1	0,3	0,5		2,0
Vaccinations per lactation(1.):	2	number	Other diseases cases:	3		0,1	0,2		3,0
Vaccination introduction heifer:	0	number	Vaccinations(1.):	1)4	2,0	2,0		1,0
1.: vaccination can be given as group to	treatments			Total:	673	13	11,0		

1	 vaccination	can b	e given	as	group	treatments	

Born dead (DOA):

Mortality < 10 days:

Age at first calving:

Insemination period:

Mortality after weaning:

Total days of milk feeding:

Inseminations per pregnancy:

Young stock not conceiving:

Duration heifer introduction:

Mortality 10 days <> weaning:

Length individ. housing heifer calves:

Length individ. housing bull calves:

Fill in:

14 tm 16

6%

2%

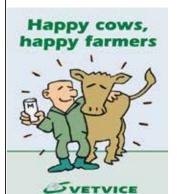
28 days

Total head	s of young s	tock:
Calvings in	n individual	housing:
of which	oull calves:	
of which	neifer calves	3:
of which	neifer calves	3:

Numbers scenario 1: raising all female calves

2%		-of which bull calves:	
3%		-of which heifer calves:	
1%		Heifer calves moved to group housing:	
10	days	Heifer calves on milk in group:	
16	days	Weaned calves to 6 months of age:	
70	days	# 6 to 12 months of age:	1
24	months	# 12 months to introduction:	2
1,4	ins/conc	# in insemination group (4 months):	
	months	# pregnant heifers (AFC-7 months):	1
5%		# not conceived:	

Total young stock \ge 14 days of age: # transported introduction heifers:



Numbers scenario 2: raising for replacement only							
Number per week							
Total heads of young stock:	average	peak	Piekfactor				
Calvings in individual housing:	2	4	2				
-of which bull calves:	1	2	2				
-of which heifer calves:	1	1	2				
Heifer calves moved to group housing:	0	1	2				
Heifer calves on milk in group:	2	4	1,5				
Weaned calves to 6 months of age:	4	6	1,3				
# 6 to 12 months of age:	7	8	1,2				
# 12 months to introduction:	13	14	1,1				
# in insemination group (4 months):	5	6	1,2				
# heifers 0-7 months pregnant:	8	9	1,1				
# not conceived:	0	1	1,5				
Total young stock \geq 14 days of age:	27	30	1,1				
# transported introduction heifers:	0.3	1	2				

Number per week

peak

4

2

1

10

15

25

10

16

1

51

average



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments



Scenario:	held	W SI	tand	ard	Q.

Dairy farmer:			SNV Kenya
	Madular Dairy Dam	20.40	60.80

Modular Dairy Barn	20-40-60-80
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General information:	Fill in:	
Number of lactating cows:	80	cows
Duration dry period:	65	days
Calving Interval:	460	days
Replacement rate:	25%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are	averages
Total lactating+dry cows:	88	
Total lactating+dry+intro heifers:	90	
Replacement heifers per year:	22	

Cows+heifers+calving:	year	week	peak
Lactating cows present:	80	80	88
Dry cows present:	8	8	10
Introduction heifers present:	2	2	2
Calvings:	70	1	3
Calvings of adult cows (P2+):	48	1	2
Calvings of heifers (P1):	22	0	1
Birth help adult cow:	5	0,1	0
Birth help heifer:	11	0,2	0
Heavy birth/calving assistance heifer:	7	0,1	0
C-sections (caesarians):	1	0,0	1

	Fill in:	
Inseminations per pregnancy:	3	
Culling until day 55:	10%	
Cows not being bred:	5%	
Clinical mastitis incidence (per year):	30%	
Metabol.probl. at calving parity 2+:	35%	
Metabol.probl. ≤14 days after calving:	20%	
Metritis ≤14 days after calving:	25%	
Foot treatments:	200%	
Other diseases/problems:	5%	
Fertility/pregnancy check:	150%	
Synchr.breeding/oestrus treatments:	25%	
Vaccinations per lactation(1.):	2	n
Vaccination introduction heifer:	0	7
1 1 .		

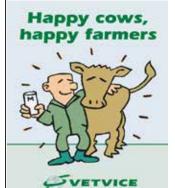
1.: vaccination can be given as group treatments	1		vaccination	can	be	given	as	group	treatments	
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	Cases p	er Cases pe	r Treatment	ts	Treatment	ts p
Treatments milking herd:	year	week	per week		case	-
Drying off:	44	0,9	0,9		1,0	
Introduction of heifer (heifer check)	: 27	0,5	0,5		1,0	
Oestrus cases:	227	4,4	0,0	>	0,0	
Inseminations milking herd:	162	3,1	3,1		1,0	
Cases of clinical mastitis:	27	0,5	1,5		3,0	
Metabolic problems at calving:	17	0,3	0,3		1,0	
Metabolic problems in early lactatio	n: 14	0,3	0,5		2,0	
Metritis <14 d pp:	17	0,3	0,3		1,0	
Foot problems:	127	2,4	2,4		1,0	
Fertility/pregnancy check:	90	1,7	1,7		1,0	
Synchr.breeding/oestrus treatments:	19	0,4	0,7		2,0	
Other diseases cases:	3	0,1	0,2		3,0	
Vaccinations(1.):	127	2,4	2,4		1,0	
	Total: 9	01 17	14,7			

Fill in:	
10%	
8%	
4%	
5%	
10	days
16	days
70	days
24	months
2	ins/conc

	Fill in:	
Born dead (DOA):	10%	
Mortality < 10 days:	8%	
Mortality 10 days >> weaning:	4%	
Mortality after weaning:	5%	
Length individ. housing heifer calves:	10	days
Length individ. housing bull calves:	16	days
Total days of milk feeding:	70	days
Age at first calving:	24	months
Inseminations per pregnancy:	2	ins/conc
Insemination period:	18 tm 22	months
Young stock not conceiving:	5%	
Duration heifer introduction:	28	days

Numbers scenario 1: raising all female calves				
_	Number per week Fill			
Total heads of young stock:	average	peak	peak factor	
Calvings in individual housing:	2	5	2	
-of which bull calves:	1	3	2	
-of which heifer calves:	1	2	2	
Heifer calves moved to group housing:	1	1	2	
Heifer calves on milk in group:	5	7	1,5	
Weaned calves to 6 months of age:	8	11	1,3	
# 6 to 12 months of age:	13	16	1,2	
# 12 months to introduction:	24	26	1,1	
# in insemination group (4 months):	9	10	1,2	
# pregnant heifers (AFC-7 months):	15	16	1,1	
# not conceived:	1	1	1,5	
Total young stock ≥14 days of age:	50	55	1,1	
# transported introduction heifers:	0.5			



Numbers scenario 2: raising for replacement only				
Number per week				
Total heads of young stock:	average	peak	Piekfactor	
Calvings in individual housing:	2	5	2	
-of which bull calves:	1	3	2	
-of which heifer calves:	1	2	2	
Heifer calves moved to group housing:	1	1	2	
Heifer calves on milk in group:	4	6	1,5	
Weaned calves to 6 months of age:	8	10	1,3	
# 6 to 12 months of age:	12	15	1,2	
# 12 months to introduction:	22	24	1,1	
# in insemination group (4 months):	8	10	1,2	
# heifers 0-7 months pregnant:	13	14	1,1	
# not conceived:	1	1	1,5	
Total young stock ≥14 days of age:	46	51	1,1	
# transported introduction heifers:	0,4	1	2	



Vetvice Barn Design Calculation Tool: Numbers of cattle and treatments

Scenario: good	
Dairy farmer:	SNV I

	SNV Kenya
Modular Dairy Barn	20-40-60-80

General information:	Fill in:	
Number of lactating cows:	80	cows
Duration dry period:	56	days
Calving Interval:	420	days
Replacement rate:	20%	
Duration heifer introduction:	28	days
Birth help adult cows (P2+):	10%	
Birth help heifers (P1):	50%	
Heavy birth/calving assistance heifers:	30%	

Numbers:	NB.: these numbers are averages		
Total lactating+dry cows:	89		
Total lactating+dry+intro heifers:	90		
Donlagoment heifers nor years	10		

Cows+heifers+calving:	year	week	peak
Lactating cows present:	80	80	88
Dry cows present:	9	9	10
Introduction heifers present:	1	1	2
Calvings:	73	1	3
Calvings of adult cows (P2+):	56	1	2
Calvings of heifers (P1):	18	0	1
Birth help adult cow:	6	0,1	0
Birth help heifer:	9	0,2	0
Heavy birth/calving assistance heifer:	5	0,1	0
C-sections (caesarians):	1	0.0	1

	Fill in:
Inseminations per pregnancy:	2,5
Culling until day 55:	10%
Cows not being bred:	5%
Clinical mastitis incidence (per year):	25%
Metabol.probl. at calving parity 2+:	25%
Metabol.probl. ≤14 days after calving:	15%
Metritis ≤14 days after calving:	15%
Foot treatments:	200%
Other diseases/problems:	5%
Fertility/pregnancy check:	150%
Synchr.breeding/oestrus treatments:	25%
Vaccinations per lactation(1.):	2
Vaccination introduction heifer:	0

Vaccination introduction heifer:	0
1.: vaccination can be given as group to	treatments

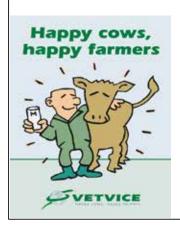
	Cases p	er Cases p	er Treatmen	ts Treatments pe
Treatments milking herd:	year	week	per week	case
Drying off:	52	1,0	1,0	1,0
Introduction of heifer (heifer check)	: 22	0,4	0,4	1,0
Oestrus cases:	218	4,2	0,0	> 0,0
Inseminations milking herd:	148	2,8	2,8	1,0
Cases of clinical mastitis:	22	0,4	1,3	3,0
Metabolic problems at calving:	14	0,3	0,3	1,0
Metabolic problems in early lactatio	n: 11	0,2	0,4	2,0
Metritis <14 d pp:	11	0,2	0,2	1,0
Foot problems:	139	2,7	2,7	1,0
Fertility/pregnancy check:	99	1,9	1,9	1,0
Synchr.breeding/oestrus treatments:	19	0,4	0,7	2,0
Other diseases cases:	3	0,1	0,2	3,0
Vaccinations(1.):	139	2,7	2,7	1,0
	Total: 8	98 17	14,6	

	Fill in:	
Born dead (DOA):	6%	
Mortality < 10 days:	2%	
Mortality 10 days <> weaning:	3%	
Mortality after weaning:	1%	
Length individ. housing heifer calves:	10	days
Length individ. housing bull calves:	16	days
Total days of milk feeding:	70	days
Age at first calving:	24	months
Inseminations per pregnancy:	1,4	ins/con
Insemination period:	14 tm 16	months
Young stock not conceiving:	5%	
Duration heifer introduction:	28	days

		Numbers scenario 1: raising all female of
		Total heads of young stock:
5%		Calvings in individual housing:
2%		-of which bull calves:
3%		-of which heifer calves:
1%		Heifer calves moved to group housing:
10	days	Heifer calves on milk in group:
16	days	Weaned calves to 6 months of age:
70	days	# 6 to 12 months of age:
24	months	# 12 months to introduction:
1,4	ins/conc	# in insemination group (4 months):
	months	# pregnant heifers (AFC-7 months):
5%		# not conceived:
28	days	Total young stock \geq 14 days of age:

calves							
Number per week					Fill in:		
	average	peak			peak factor	r	
	3	5			2		
	2	3			2		
	1	2			2		
	1	1			2		
	5	8			1,5		
	10	13			1,3		
	16	20			1,2		
	30	33			1,1		
	11	13			1,2		
	19	21			1,1		
	1	1			1,5		
	62	68			1,1		
	0,6						

Fill in:



Numbers	scenario 2:	raising for	replacement only	7

transported introduction heifers:

Numbers scenario 2: raising for replacement only							
Number per week							
Total heads of young stock:	average	peak	Piekfactor				
Calvings in individual housing:	3	5	2				
-of which bull calves:	2	3	2				
-of which heifer calves:	1	2	2				
Heifer calves moved to group housing:	0	1	2				
Heifer calves on milk in group:	3	5	1,5				
Weaned calves to 6 months of age:	6	8	1,3				
# 6 to 12 months of age:	9	11	1,2				
# 12 months to introduction:	17	19	1,1				
# in insemination group (4 months):	6	8	1,2				
# heifers 0-7 months pregnant:	10	11	1,1				
# not conceived:	1	1	1,5				
Total young stock ≥14 days of age:	36	39	1,1				
# transported introduction heifers:	0,3	1	2				



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