

WASHINGTON STATE UNIVERSITY



VETERINARY MEDICINE EXTENSION

Outcomes Driven Health Management



Dairy Health Management Assessments for Dairy Comp 305[®] Users

A guide to understanding the diagnosis, treatment and recording of the major diseases of dairy cattle on the farm

Dr. Sarah K. Giebel DVM, MS

Dr. John R. Wenz DVM, MS

Table of Contents

Hospital/Fresh Pen Observations Form	1
Observations of Diagnosis and Treatment.....	2
Guide to Hospital/Fresh Pen Observations.....	3
Health Records Evaluation Form Summary Instructions: Dairy Comp 305®	4
Health Records Evaluation Form Detailed Instructions: Dairy Comp 305®	5-11
Health Data Evaluation Form: Dairy Comp 305® Users	12
Herd Demographics and Withdrawal Times Determinations	13
Clinical Mastitis Management Assessment	14-15
Guide to using the Clinical Mastitis Management Assessment	16
Retained Placenta and Metritis Management Assessment.....	17-18
Guide to using the Retained Placenta and Metritis Management Assessment	19
Adult Cow Pneumonia Management Assessment.....	20-21
Guide to using the Adult Cow Pneumonia Management Assessment	22
Lameness Management Assessment.....	23-24
Guide to using the Lameness Management Assessment	25
Blank Management Assessment.....	26-27
Blank Guide	28
Drug List	29-31
Guide to the Drug List	32
Drug Residue Avoidance Assessment	33

Hospital/Fresh Pen Observations

Evaluator: _____ Date: _____ Farm: _____

Pen: Hospital Fresh #Cows _____ #People _____

People Involved

#	NAME	JOB POSITION
1		
2		
3		
4		

Treatment Procedures Start Time _____ Finish Time _____

WHO	Recorded WHERE	Description of WHAT was done

How are treated cows visually identified (marked)? _____

Data Flow Diagram

Describe flow of activity from cow to computer. Use arrows between each step. Ex: Glove → Hospital Sheet

Hospital/Fresh Pen Observations

Purpose:

Gain an understanding of who is involved with the treatment of cattle as well as the recording of those treatments, what information is recorded and how data flows on the dairy.

Pen:

Use one collection form for the hospital pen and one for fresh pen, unless the pens are combined. If the hospital and fresh pen are combined then check both boxes. In the event that the hospital and fresh pens are evaluated and treated at the same time, stay at the pen where most treatments are administered and fill in as much information about the missed pen by talking to the individuals evaluating and treating in that pen, and looking at their records for that day.

People Involved:

Record the name of the people involved with the evaluation and treatment of cows in the fresh and hospital pens as well as their job position on the dairy (ie. owner, manger, herdsperson, worker). If the individual's position on the dairy is not obvious then ask.

Treatment Procedures:

Record the time that treatments/evaluation starts and ends for the hospital and fresh pens. This section is intended to capture information about what is done in those pens and most importantly what is recorded for those pens. First indicate who is doing the activity, you can use that persons # assigned in the prior section. If something is being recorded indicate where it is being recorded (ie. glove, scrap piece of paper, computer generated treatment sheet, green treatment notebook). In the description of what is done record what they are doing in the pen (ie. temp all fresh cows 2-10 DIM, walk in front of cows and see who has eaten, palpate cows with abnormal discharge) and record exactly what is written down (ie. cow ID, temp, drug treatment, quarter or limb affected).

How are treated cows visually identified?

Once a cow has been administered an antibiotic therapy is she marked in some way that she can be easily identified, and if so in what way? (ie. none, red leg bands, chalk mark on hip)

Data Flow Diagram:

Indicate the flow of data from the cow to the computer (or another final record).

Example for mastitis: cardboard → green notebook → new cows on office sheet → new cows entered in DC305

Observations of Diagnosis & Treatments

Purpose:

Observe diagnosis and treatment of animals in the fresh and hospital pens for later discussion. The purpose of this is to simply observe what is being done in the pens, note it and discuss your observations later; this time is not for training.

As cows are diagnosed and treated write down the disease or condition being treated, your observed method of diagnosis, any treatments given at the time and any comments that you have about the process.

Health Records Evaluation Form Summary Instructions: Dairy Comp 305® Users

Part A: Obtain Current Health Management Records on the Computer

1. **Obtain a list of User-defined events “ALTER\9”**
 - a. Export to Notepad then Excel® in worksheet: ‘USER DEF EVENTS’

2. **Obtain a table of recorded events “EVENTS\50 FOR LACT>0”**
 - a. Export to Excel® in worksheet ‘EVENTS TABLE’

3. **Obtain a list of cows with recorded health events “EVENTS ID LACT ARDAT FDAT EVT FOR LACT>0\2I”**
 - a. Select events: FRESH, SOLD, DIED, and those for Mastitis, Metritis, Pneumonia and Lameness
 - b. Export to Excel® in worksheet ‘EVENTS LIST’

4. **Obtain milking cow numbers “ECON\ID”**
 - a. Export ‘Report’ tab to Excel® in worksheet ‘COW #’

5. **Obtain a list of Protocols “ALTER\7”**
 - a. Export to Notepad then Excel® in worksheet ‘PROTOCOLS’

Part B: Assess Current Health Management Records in the Computer

Completing the health data evaluation form

- **Are diseases recorded in the computer?**
 - View ‘EVENTS TABLE’ worksheet

- **Create pivot tables for each disease to summarize events**
 - Open ‘EVENTS LIST’ worksheet
 - What events are used to record each disease?
 - What is the apparent incidence rate for each disease?
 - What information is recorded in event remarks?
 - Are daily treatments recorded?

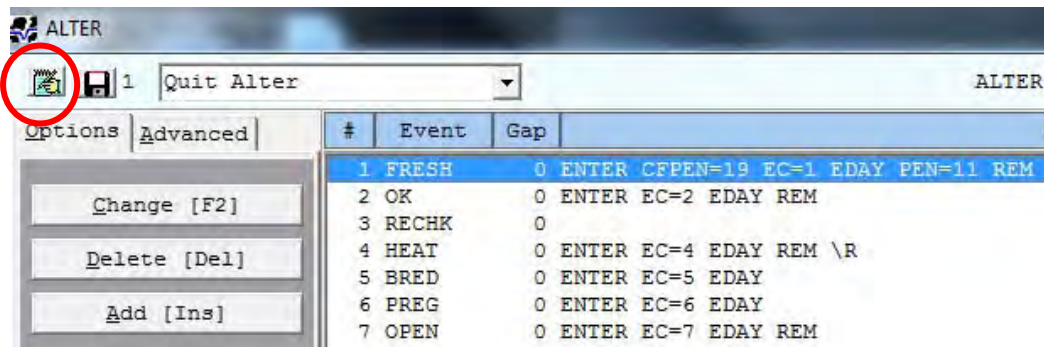
- **Is the ‘Protocols’ function of DC305 used?**
 - View ‘PROTOCOLS’ worksheet

Health Records Evaluation Form Detailed Instructions: Dairy Comp 305® Users

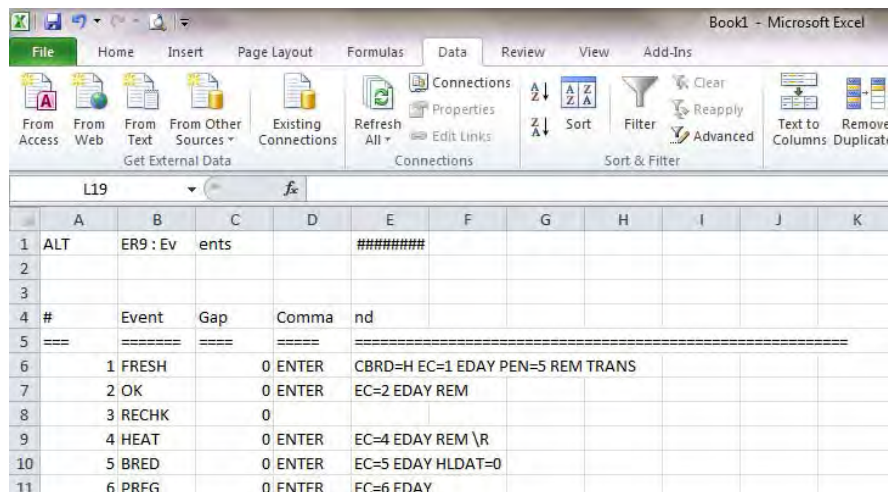
Part A: Collecting Necessary Data

1. Obtain a recent cowfile from the dairy and open the file in DC305®.
 - a. Type SAVE\C in the command line of DC305®, save the file to your thumb drive or some other appropriate location.
 - b. Save the file to your HERDS folder in the C drive on your computer and open the file in DC305®.

2. Determine if the dairy uses Event Gaps by typing “ALTER\9” into the command line.
 - a. For those with a gap, double-click the event and change the gap to 0. ****Note:** If using Version 8, this step is not needed.
 - b. This will make the count of events more accurate, leading to better calculation of apparent monthly incidence.
 - c. Export to Notepad by clicking the icon circled in red.



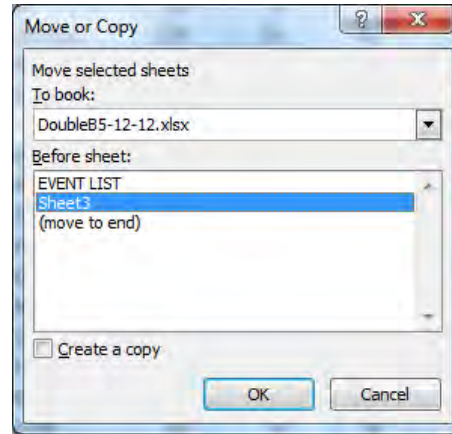
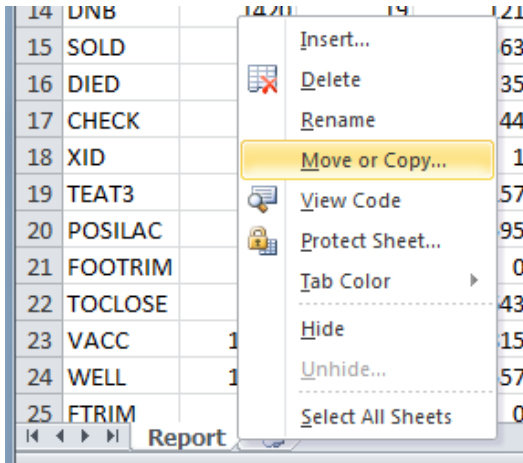
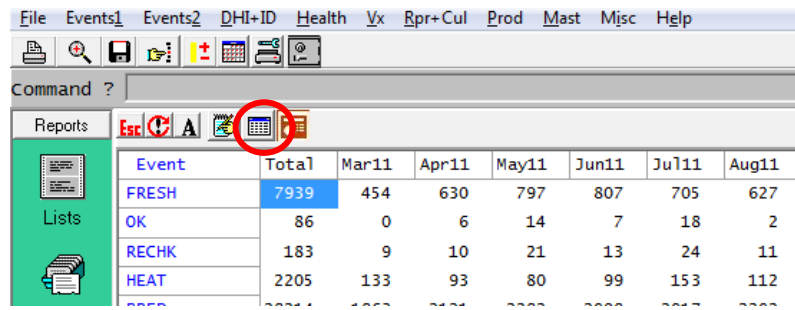
- d. Open an Excel® workbook.
- e. In Notepad, do CTL + A to select ALL the text in CTL + C to copy the text.
- f. Paste (CTL + V) into ‘Sheet1’ of the workbook.
- g. Click the ‘Data’ tab on the Excel Menu, and select ‘Text to Columns.’
 - i. A wizard will open, ‘Original data type’: Fixed width should be selected.
 - ii. Click Finish. Information should be in separate columns as shown below.



- h. Double click the tab where ‘Sheet 1’ is shown and rename ‘USER DEF EVENTS’.

3. Determine Events Recorded by typing in the command line: "EVENTS\5SO"

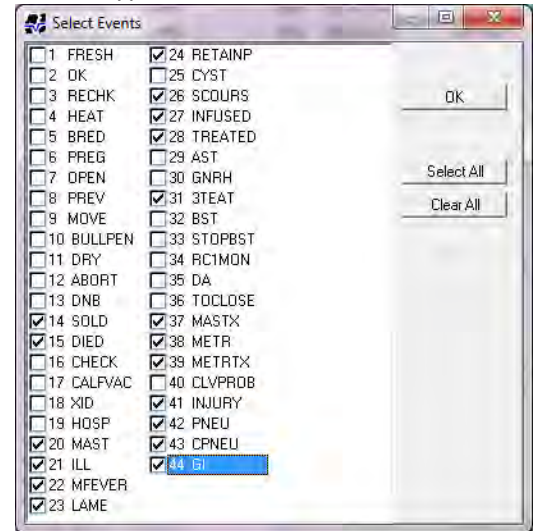
- Choose the date range that covers the last 4 full months (based on the date of the cowfile). This may have to be extended if it is a small dairy.
- Export to Excel®, by clicking the icon circled in red.
- This generates a new workbook called 'Report'. Right Click the 'Report' tab and choose 'Move or Copy...'



- Move 'To Book' created in Step 2. Under 'Before sheet': place sheet after the 'USER DEF EVENTS' sheet from 2h.

4. Rename the worksheet 'EVENTS TABLE' as described in 2h Return to DC 305® and type in the command line: "EVENTS ID LACT\2SI"

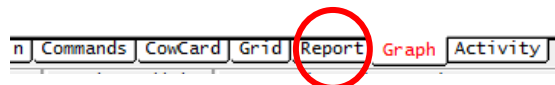
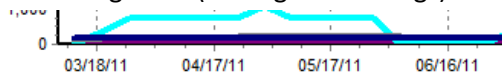
- Choose the date range that covers the last 4 full months.
- Select the health events (including sold and died) that the dairy uses, as determined by the EVENTS TABLE created in Step 3 (see image to the right).
 - Hit enter when 'Select optional REM pattern' prompt comes up.
- Export to Excel and move into the dairy's Excel® workbook (see Step 2 c & d).
 - Rename worksheet 'EVENTS LIST'.
- Create a separate sheet for each disease and copy and paste the entries for each disease into the corresponding sheets. Note: Keep the 'EVENTS LIST' sheet containing all disease information.
- Name each worksheet accordingly.



5. Return to DC 305® and type the following into the command line: "ECON\ID".

- Select the date range that covers the last 4 full months.
- Press Enter (on the keyboard) when 'Select Events' window appears.

- c. Click on the Report Tab (see below), containing the information needed. That screen will provide a list of dates and # of milking cows (among other things) for each date.



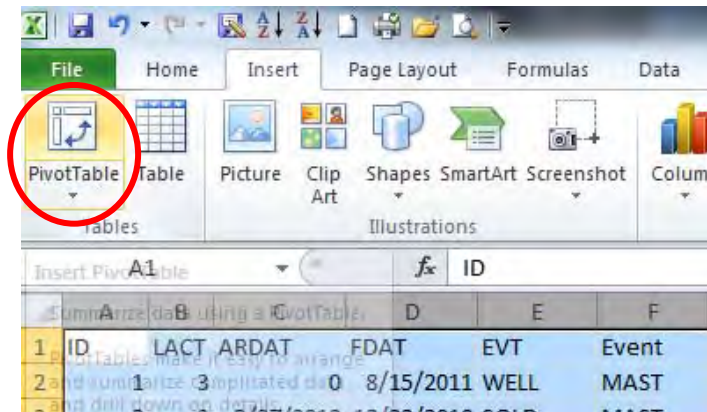
- d. Export to Excel® and move into the dairy’s Excel workbook (see Step 2 c & d).
 - i. Rename the worksheet ‘COW #’.
 - e. Calculate the average number of milking cows for the past 4 full months.
6. Return to DC 305® and type “Alter\7” into the command line to view active protocols.

###	Protocol	Event	REMark	Prompt	Pen	Milk	Meat
1	BLOODY QTR	BLDQTR	BANAMINE	Y	99	2	4
2	NO TREAT	BLDQTR	NO TREAT	Y	99	0	0
3	CBARN-EXCEDE	CBARN	O-EXCEDE	Y	0	0	13
4	EXCENEL-BAN	DA	EXCENEL	Y	99	2	4

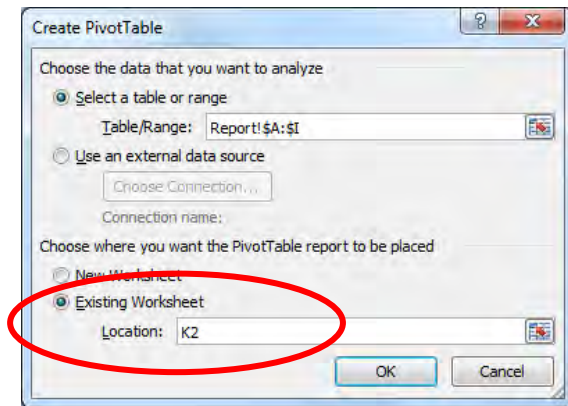
- a. Click on the heading ‘Events’, this will sort the events by name.
 - i. Export this to Notepad, copy and paste into a new worksheet of the dairy’s workbook as described in 2f-h. Rename the worksheet ‘PROTOCOLS’.

Part B: Interpreting Information and Filling out Health Records Evaluation Form

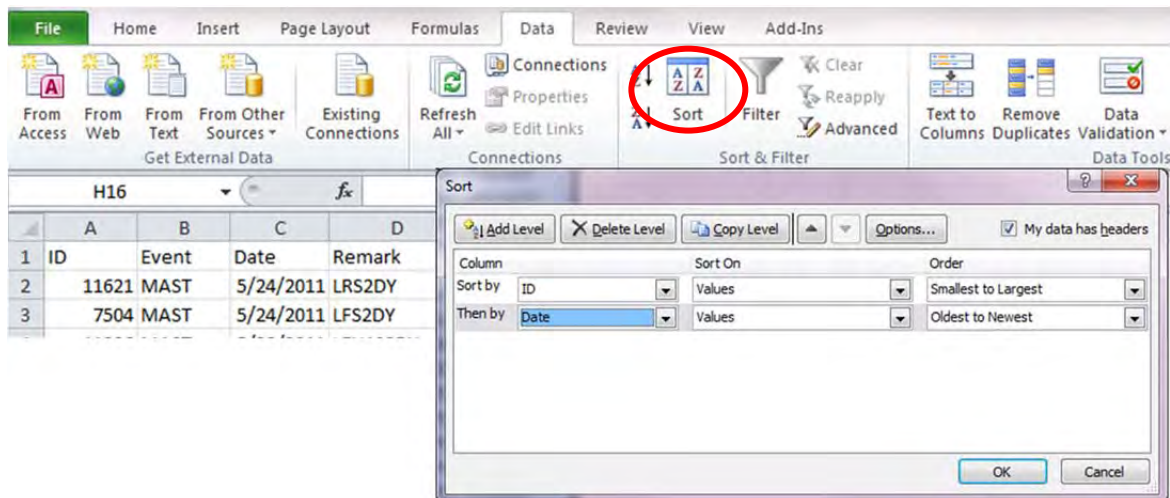
- Using the report generated from Step 3 of Part A:
 - For each event they record in the computer, put an ‘X’ in the “Recorded in Computer Column?”
 - Look at the worksheets for pneumonia and diarrhea, based on the LACT column determine if they are recording pneumonia and diarrhea for calves within the same event as cows, circle ‘Y’ next to the disease name. If they have separate cow and calf events, circle ‘N’.
 - For “Events Used to Record Disease”, “Daily Treatments” and “Retreatments”, make a pivot table for each disease in their corresponding sheet.
 - Create a pivot table for each individual disease recorded.
 - For generation of the first pivot table, select all columns within ‘EVENTS LIST’
 - Go to the Insert tab and click Pivot Table, circled in red below (depending on Excel® edition).



- A ‘Create PivotTable’ window will open. Near the bottom, choose ‘Existing Worksheet’
 - Type K2 in the Location box.



4. To set up the pivot table use the following:
 - a. Report Filter = Event
 - b. Row Labels = Remark
 - c. Values = Count of ID
 5. Once the first pivot table is made, copy and paste it into the first event worksheet that you made in Part A Step 4d.
 6. Change the Event in the filter, by clicking on the Event drop-down to select that disease.
 7. Continue making pivot tables until all events recorded have their own sheet with their individual pivot tables displaying the remark information.
- c. Record the event(s) used for each disease recorded in the computer in “Event(s) Used to Record Disease.”
- i. If they use multiple events for the same disease, write the most commonly used event in the white box and the alternate(s) in the grey. For example: If using METR and ILL to record metritis events, write METR in white square and ILL in grey square.
2. Using the pivot tables generated from Step 1 of Part B, determine if the remarks contain treatment information.
 - a. If they do, write ‘Y’ in the “Treatment Recorded” column for that event.
 - b. If they don’t record treatment, write ‘N’ in the “Treatment Recorded” column for that event.
 3. Sort the events by ID and then Date within the individual event worksheets; look at the frequency of that event to determine if they record treatments daily and if they use a retreatment event. See image below.



- a. If they record daily treatments, list out the event(s) used in the corresponding box under “Daily Treatments.” Otherwise leave the box blank.

- b. Determine if they use specific retreatment events or if they use the same event for retreatment.
Retreatment is defined as a second course of treatment because the cow failed to cure after the first course.
 - i. If they use the same event, write that in the “Retreatments” space for that disease.
 - 1. If it is unclear, write the original event name and ask for clarification when at the dairy.
 - ii. If they have a separate event, enter the event(s) used in the “Retreatments” space for that disease.
4. Determine if they use protocols for events entered into the computer.
- a. Open the .txt file, or look at the protocol spreadsheet, created in Step 6 of Part A.
 - b. For each event that has an active protocol associated with it, place a ‘Y’ in the “Use DCProtocols” column. To be considered ‘active’ the following must be true:
 - i. The protocol is listed as ‘active’ in DC305®.
 - ii. The protocol is used for the stated purpose.
 - c. If there isn’t an active protocol associated with it, place an ‘N’ in the space for each event listed.
5. Calculate the monthly incidence by using the report generated from Step 3 of Part A (for fresh counts) and the milking herd average from Step 5 of Part A.
- a. For mastitis, pneumonia, gastrointestinal issues, lame, injury, sold, and died events: $((\text{Total \# of events}/4^{\dagger})/\text{Milking herd average}) * 100$
 - b. For metritis, displaced abomasum, ketosis, milk fever, and dystocia events: $(\text{Total \# of events in past 4 months}/\text{Total Fresh in the past 4 months}) * 100$
 - c. Enter these values into the “Apparent Monthly Incidence” for the corresponding disease.

[†]If looking at a longer timeframe, this number should reflect the number of months represented.

6. For “Following Rules of Good Recording,” use the data from Step 1 of Part B. For each disease and rule, circle ‘A’ for ALL, ‘S’ for SOME, and ‘N’ for NONE of the remarks meeting that rule.
- a. Number 1 cannot be filled in until you are on the dairy and can talk with the producers.
 - b. Look through the mastitis and lameness events and determine if the dairies **enter** each quarter or limb affected in its own entry (Number 2).
 - i. Circle ‘A’ if ALL remarks reflect single quarters or limbs.

Event	MAST
LFH102DY	1
LFH104AV	1
LFH108DY	1
LFH109DY	2
LFH113DY	1
LFH115DY	1
LFS109AV	1
LFS201DY	1

- ii. Circle 'S' if SOME of the entries reflect single quarters or limbs.

Event	LAME
Row Labels	Count of ID
BIG LEG	2
LEG PENN	1
LF	1
LF PENN	1
LR	1
NAX	4
PENN	11
RF	1
RF NAX	1
RF PENN	1
RR	2
RR LEG	1
SHLDER	1
Grand Total	28

Some entries have quarter but most just have treatment.

- iii. Circle 'N' if NONE of the remarks contain quarter or limb.

Event	MAST
Row Labels	Count of ID
SP	9
TD	8

Only treatment is entered here.

- c. Look through the event remarks (in pivot tables created) and decide if they all provide the same information in the same order, and use the same abbreviations for the same item within the same disease (Number 3).

- i. If ALL remarks meet this rule, circle 'A'.

Event	LAME
Row Labels	Count of ID
BLABLF02	2
BLABLF07	2
BLABLF11	1
BLABLF12	1
BLABLF13	4
BLABLF15	1
BLABLRO5	1
BLABLRO7	1
BLABLRO9	1

Remark: Treatment, Disease, Limb, Pen
Each with 2 character abbreviations

- ii. If SOME of the remarks meet this rule, circle 'S'.

Event	MAST	
Row Labels		Count of ID
LF SPECT		87
RF SPECT		76
ALL4SPECT		16
RR AMOXI		15
LR AMOXI		15
RF AMOXI		12
BR SPECT		11
RR		10
RF		7
BL SPECT		6
LF		6
RR SP		5
LR		5
LR SP		4
ALL4AMOX		4
RF SP		4
BF SPECT		4

Quarter is 2 characters most of the time, and treatment is 4 characters, but sometimes treatment is missing or it is only 2 characters.

- iii. Circle 'N' if NONE of the remarks contain the same information, in the same order, using the same abbreviations within that event.

Event	MAST	
Row Labels		Count of ID
		2
?? SN15		1
A. PYO		1
AL		1
AL ECSP		1
AL SN17		1
AL SP		1
AL SPECT		1
ALL4AMOX		4
BANA EC		1
BF NG17		2
BF SPECT		4
BH		2
BH RF SP		1
CMT 2 RR		1
CMT 3 LR		2

These all break rules.

Health Records Evaluation Form
Dairy Comp 305® Users

Dairy:

Evaluator:

Date:

Disease	Recorded in Computer?	Event(s) Used to Record Disease	Treatment Recorded?	Multiple Events Recorded per Disease Episode?		Use DC Protocols?	Apparent Monthly Incidence	Follow Rules of Good Recording?		
				Daily Treatments (List Event Used)	Retreatments (List Event Used)			1. All cases recorded in the computer	2. Each quarter or limb is recorded as a separate event	3. All remarks have same info in same order using same abbreviations
Mastitis								A S N	A S N	A S N
Metritis								A S N	A S N	A S N
Retained Placenta								A S N	A S N	A S N
Ketosis								A S N	A S N	A S N
Milk Fever								A S N	A S N	A S N
Displaced Abomasum								A S N	A S N	A S N
Dystocia								A S N	A S N	A S N
Pneumonia (Calves too? Y/N)								A S N	A S N	A S N
Diarrhea (Calves too? Y/N)								A S N	A S N	A S N
Diseases causing Lameness	Cause not recorded							A S N	A S N	A S N
	Footrot							A S N	A S N	A S N
	Heelwart							A S N	A S N	A S N
	Sole abscess							A S N	A S N	A S N
	Sole ulcer							A S N	A S N	A S N
	Upper limb (hip, stifle)							A S N	A S N	A S N
Injury								A S N	A S N	A S N
Sold								A S N	A S N	A S N
Died								A S N	A S N	A S N

Crossed boxes indicate the column is not applicable for that disease

For more information contact WSU's Veterinary Medicine Extension (509)335-0773 or ghr@vetmed.wsu.edu

Herd Demographics and Withdrawal Times Determination

Evaluator: _____

Date: _____

Name: _____

Position: _____

Dairy: _____

City: _____ State: _____

Veterinarian: _____

Dairy Mgmt Software: _____

Breed(s): _____

Milking cows: _____

Milk/cow/day _____ lbs (DHI /Meters)

Bulk Tank SCC 12 mon Hi _____ Lo _____

Times a day milked 2x 3x (circle one)

Parlor type/Size: _____

Housing type (% Cows housed by type)

Housing	Milking	Dry	Bedding Type	Ventilation Type
Free Stall	%	%		
Open Lot	%	%		
Other	%	%		
Total	100%	100%		

1. Are treated cows that have a milk withdrawal time housed separate from the milking herd (in a treatment or hospital pen) Y N Don't Know (circle one)
2. How are meat and milk withdrawal **dates** for treated cows determined? Who does it how? (Ex. DC305 calculated, Paul calculates off calendar) _____

3. Who determines when treated cows go back in the tank? Name: _____ Position: _____
 a. Decision is based on: Calculated dates Delvo Snap Other _____ (circle all that apply)

4. Who determines when treated cows can be sold? Name: _____ Position: _____
 a. Decision is based on: Calculated dates Meatsafe Other _____ (circle all that apply)

Clinical Mastitis Management Assessment

Evaluator: _____ Date: _____ Farm: _____

1. How are cases of clinical mastitis identified? (Who, what, when/how often) _____

2. Milk culture of clinical mastitis: ALL SOME NONE (If NONE skip to #3)

a. Cultures are done: On Farm University Vet Clinic Private milk lab Other

Other: _____

b. If SOME, selection criteria? _____

c. Are culture results used to determine treatments? Y N Don't Know (circle one)

Explain: _____

3. Who decides Tx: Name: _____ Position: _____

4. Who gives Tx: Name: _____ Position: _____

5. If 3 and 4 are different how is Tx communicated? _____

6. Are cows that are treated for Mastitis marked? If so, how? _____

a. Are cows that are treated with Dry cow therapy marked? If so, how? _____

7. Can you tell me what treatments are given to cows with clinical mastitis?

(Complete table on next page, THEN ask question # 8 & 9)

8. Is there a written protocol for clinical mastitis treatment? Y N Don't Know (circle one)

If Y-yes continue below

a. Who determined the treatment protocol? Vet Owner Manager Worker (circle all that apply)

b. Are the written protocols what is actually being done today? Y N Don't Know

c. May I get a copy of the written protocol? Y N Don't Know

9. Where is the following information recorded for mastitis? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

**Clinical MASTITIS Management Assessment
Treatment Protocols**

TX #	Protocol Criteria (Severity, Cultures, Retreatment)	Intramammary Antibiotic					Injectable Antibiotic or Other (Flunixin, Dexamethosone, etc)					
		Drug	# Tubes	Times/d	# Days	Meat/Milk	Drug	Dose	Route	Times/d	# Days	Meat/Milk
M1				1X 2X						1X 2X		
										1X 2X		
M2				1X 2X						1X 2X		
										1X 2X		
M3				1X 2X						1X 2X		
										1X 2X		
M4				1X 2X						1X 2X		
										1X 2X		
M5				1X 2X						1X 2X		
										1X 2X		
M6				1X 2X						1X 2X		
										1X 2X		
M7				1X 2X						1X 2X		
										1X 2X		
M8	DRY COWS			1X 2X						1X 2X		
										1X 2X		

Don't Forget Questions 8 & 9

Guide to using the Clinical Mastitis Management Assessment

1. How are cases of clinical mastitis identified?
 - a. Who identifies cows (milkers, owner, herds person)?
 - b. What criteria are used (abnormal milk and or udder, milk deviation report etc)?
 - c. When are cows identified (during each milking shift, single shift a day, single shift a week)?
2. Milk culture of clinical mastitis: Are ALL, SOME or NONE of cases cultured? This only refers to cows with clinical mastitis, not cows at freshening or those with a high SCC.
 - a. Where are cultures done?
 - b. If only SOME are cultured what criteria are used to determine those that get cultured (Repeat case, didn't respond to first treatment, severity, etc)?
 - c. Are culture results used to determine treatments? For example, Yes, all gram positive cows get treated...
3. Who decides Tx: Name: _____ Position: _____
Who is deciding if a cow should be treated or how they should be treated?
4. Who gives Tx: Name: _____ Position: _____
5. If 3 and 4 are different how is Tx communicated? (Ex. Verbally, written on Treatment sheet...)
6. How are treated cows identified/marked: Legband, Chalk etc. **If they are not specifically identified as treated in some way record NONE.**
7. Can you tell me what treatments are given to cows with clinical mastitis? Using the attached table determine: **Primary focus is on Antibiotics and Anti-inflammatories. However, electing not to treat (Ex. E. coli culture positive) should be recorded as No Treat.**
 - a. **Protocol** criteria – briefly describe how treatment is determined. For example if based on severity: mild, moderate, severe treatments would be described in Rows M1, M2, M3, respectively. Treatments may be based on culture result: E. coli, Strep, Gram positive, No growth etc).
 - i. Write 'Retreatment' to describe what happens if first course of treatment doesn't lead to a cure.
This is most meaningful in herds that treat for a set number of days, but applies to those that switch treatments for the same clinical episode.
 - b. **Drug.** The drug given for this protocol, this could include No Treatment.
 - c. **# tubes.** One is standard (label), however, some have been known to give two tubes in one quarter at a time (ELDU).
 - d. **Times/d** and **# of days** drug is given.
 - e. **Meat/Milk.** What withhold times are currently observed for this treatment.
 - f. Repeat for any antibiotic or other drugs given that have a milk and/or meat withdrawal time.
Specifically ask if cows are given Flunixin (Banamine, Flunixin)

DON'T FORGET TO GO BACK TO THE FIRST PAGE AND ASK Question 8 and 9!!
8. Is there a written protocol for clinical mastitis treatment?
 - a. Circle all those involved in determining the treatment protocol.
 - b. Are the written treatment protocols what is actually being done today?
 - c. **May I get a copy of the written protocol?** This will allow you to compare what is on the protocol to what is described on the Treatment protocols and recording table.
9. **"Recorded where?"** This row is to determine where the information about treatments is kept. You will use this to determine if their treatment records meet FDA requirements. **Comp** = Computer, **Paper** = on paper treatment record, **SOP** = in a written protocol and **TEMP** = temporary place that is not able to be kept for 2 years.

Retained Placenta and Metritis Management Assessment

Evaluator: _____ Date: _____ Farm: _____

1. How are cases of Retained Placenta identified?

2. How are cases of Metritis identified (Temp, Discharge, Cow appearance)?

3. Who decides Tx: Name: _____ Position: _____

4. Who gives Tx: Name: _____ Position: _____

5. If 3 and 4 are different how is Tx communicated? _____

6. Are cows that are treated marked? If so, how? _____

7. Can you tell me what treatments are given to cows with retained placenta and metritis?

(Complete table on next page, THEN ask question # 8-10)

8. Is there a written protocol for metritis treatment? Y N Don't Know (circle one)

If Y-yes continue below

a. Who determined the treatment protocol? Vet Owner Manager Worker (circle all that apply)

b. Are the written protocols what is actually being done today? Y N Don't Know

c. May I get a copy of the written protocol? Y N Don't Know

9. Where is the following information recorded for Retained Placenta? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

10. Where is the following information recorded for Metritis? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

**RETAINED PLACENTA and METRITIS Management Assessment
Treatment Protocols**

TX #	Protocol Criteria (Severity, Fever, Discharge, Retreatment)	Injectable Antibiotic or Other (Flunixin, PGF, ECP, etc)						Intrauterine Treatment					
		Drug	Dose	Route	Times/d	# Days	Meat/Milk	Treatment	Dose/Vol.	Route	Times/d	# Days	Meat/Milk
U1					1X 2X						1X 2X		
					1X 2X								
U2					1X 2X						1X 2X		
					1X 2X								
U3					1X 2X						1X 2X		
					1X 2X								
U4					1X 2X						1X 2X		
					1X 2X								
U5					1X 2X						1X 2X		
					1X 2X								
U6					1X 2X						1X 2X		
					1X 2X								
U7					1X 2X						1X 2X		
					1X 2X								
U8					1X 2X						1X 2X		
					1X 2X								

Don't Forget Questions 8-10

Guide to using the Retained Placenta and Metritis Management Assessment

1. How are cases of Retained Placenta identified? It is best to start by clearly defining a retained placenta on that farm and defining what metritis is and when a retained placenta is also considered metritis (uterine infection).
2. How are cases of Metritis identified? The case definition of metritis (at least what gets recorded) is highly variable on farms. How cows are identified with metritis has an impact on the apparent incidence of the disease on a farm. It is common practice to only identify cows as having metritis if they are going to be treated with antibiotics. Consequently, metritis is often underreported on many dairies. On the other hand, if metritis is diagnosed based on elevated rectal temperature alone the apparent incidence may be higher than the true incidence. On the individual dairy this may not be of much consequence, however, it makes it nearly impossible to compare the incidence of uterine infections across dairies. **The goal of this question is to understand how each dairy makes a metritis diagnosis.**
3. Who decides Tx: Name: _____ Position: _____
Who is deciding if a cow should be treated or how they should be treated?
4. Who gives Tx: Name: _____ Position: _____
5. If 3 and 4 are different how is Tx communicated? (Ex. Verbally, written on Treatment sheet...)
6. How are treated cows identified/marked: Legband, Chalk etc. **If they are not specifically identified as treated in some way record NONE.**
7. Can you tell me what treatments are given to cows with metritis? **Primary focus is on Antibiotics and Anti-inflammatories. However, electing not to treat (Ex. Mild cases) should be recorded as No Treat.** Using the attached table determine:
 - a. **Protocol** criteria – briefly describe how treatment is determined. For example if based on severity: mild, moderate, severe treatments would be described in Rows U1, U2, U3, respectively.
 - i. Write ‘Retreatment’ to describe what happens if first course of treatment doesn’t lead to a cure. This is most meaningful in herds that treat for a set number of days, but applies to those that switch treatments for the same clinical episode.
 - b. **Drug.** The drug given for this protocol, this could include No Treatment.
 - c. **Dose.** Number of ml or cc given.
 - d. **Route.** IM, SQ, IV BOE (back of ear) etc.
 - e. **Times/d and # of days** drug is given.
 - f. **Meat/Milk.** What withhold times are currently observed for this treatment.
Specifically ask if cows are given Flunixin (Banamine, Flunixin)
 - g. Same for any intrauterine treatments given.**DON'T FORGET TO GO BACK TO THE FIRST PAGE AND ASK Question 8-10!!**
8. Is there a written protocol for metritis treatment?
 - a. Circle all those involved in determining the treatment protocol.
 - b. Are the written treatment protocols what is actually being done today?
 - c. **May I get a copy of the written protocol?** This will allow you to compare what is on the protocol to what is described on the Treatment protocols and recording table.
9. **“Recorded where?”** This row is to determine where the information about treatments is kept. You will use this to determine if their treatment records meet FDA requirements. **Comp** = Computer, **Paper** = on paper treatment record, **SOP** = in a written protocol and **TEMP= temporary place that is not able to be kept for 2 years.**
 - a. If cows with retained placenta are not given any treatment (drugs) but are recorded then the treatment would be No Treatment and you should circle all locations that that is recorded.

Adult Cow Pneumonia Management Assessment

Evaluator: _____ Date: _____ Farm: _____

1. How are cases of Pneumonia in **ADULT cows** identified (Temp, Breathing hard, Cow appearance, milk production)?

2. Who decides Tx: Name: _____ Position: _____

3. Who gives Tx: Name: _____ Position: _____

4. If 2 and 3 are different how is Tx communicated? _____

5. Are cows that are treated for Pneumonia marked? If so, how? _____

6. Can you tell me what treatments are given to cows with pneumonia?

(Complete table on next page, THEN ask question # 7 & 8)

7. Is there a written protocol for pneumonia treatment? Y N Don't Know (circle one)

If Y=yes continue below

a. Who determined the treatment protocol? Vet Owner Manager Worker (circle all that apply)

b. Are the written protocols what is actually being done today? Y N Don't Know

c. May I get a copy of the written protocol? Y N Don't Know

8. Where is the following information recorded for Pneumonia? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

**Adult Cow PNEUMONIA Management Assessment
Treatment Protocols**

TX #	Protocol Criteria (Severity, Fever, Retreatment)	Injectable Antibiotic						Other treatments (Flunixin, Dexamethosone, Re-Covr, etc)					
		Drug	Dose	Route	Times/d	# Days	Meat/Milk	Drug	Dose	Route	Times/d	# Days	Meat/Milk
P1					1X 2X						1X 2X		
											1X 2X		
P2					1X 2X						1X 2X		
											1X 2X		
P3					1X 2X						1X 2X		
											1X 2X		
P4					1X 2X						1X 2X		
											1X 2X		
P5					1X 2X						1X 2X		
											1X 2X		
P6					1X 2X						1X 2X		
											1X 2X		
P7					1X 2X						1X 2X		
											1X 2X		
P8					1X 2X						1X 2X		
											1X 2X		

Don't Forget Questions 7 & 8

Guide to using the Adult Cow Pneumonia Management Assessment

- How are cases of Pneumonia identified? The goal of this question is to determine how adult cows with pneumonia are identified and diagnosed. Examples:
 - Cows down in milk on the deviation report are examined, those with 'fever', off-feed and increased breaths/min are diagnosed with pneumonia.
 - Fresh cows with fever, no other problems identified that are 'breathing hard'.
 - Cows off-feed breathing hard.
- Who decides Tx: Name: _____ Position: _____
Who is deciding if a cow should be treated or how they should be treated?
- Who gives Tx: Name: _____ Position: _____
- If 2 and 3 are different how is Tx communicated? (Ex. Verbally, written on Treatment sheet...)
- How are treated cows identified: Legband, Chalk etc. **If they are not specifically identified as treated in some way record NONE.**
- Can you tell me what treatments are given to cows with Pneumonia?
Primary focus is on Antibiotics and Anti-inflammatories.
However, electing not to treat (Ex. Mild cases) should be recorded as No Treat.
Using the attached table determine:
 - Protocol** criteria – briefly describe how treatment is determined. For example if based on severity: mild, moderate, severe treatments would be described in Rows P1, P2, P3, respectively.
 - Write 'Retreatment' to describe what happens if first course of treatment doesn't lead to a cure. This is most meaningful in herds that treat for a set number of days, but applies to those that switch treatments for the same clinical episode.
 - Drug.** The drug given for this protocol, this could include No Treatment.
 - Dose.** Number of ml or cc given.
 - Times/d and # of days** drug is given.
 - Meat/Milk.** What withhold times are currently observed for this treatment.
 - Same for any other treatments given.
Specifically ask if cows are given Flunixin (Banamine, Flunixin)
DON'T FORGET TO GO BACK TO THE FIRST PAGE AND ASK Question 7 & 8!!
- Is there a written protocol for pneumonia treatment?
 - Circle all those involved in determining the treatment protocol.
 - Are the written treatment protocols what is actually being done today?
 - May I get a copy of the written protocol?** This will allow you to compare what is on the protocol to what is described on the Treatment protocols and recording table.
- "Recorded where?"** This row is to determine where the information about treatments is kept. You will use this to determine if their treatment records meet FDA requirements. **Comp** = Computer, **Paper** = on paper treatment record, **SOP** = in a written protocol and **TEMP= temporary place that is not able to be kept for 2 years.**

Lameness Management Assessment

Evaluator: _____ Date: _____ Farm: _____

1. How often are cow's hooves trimmed? _____

2. Who does routine hoof trimming? Farm personnel / Professional Trimmer

3. Who does lame cow hoof trimming? Farm personnel / Professional Trimmer

4. How are cases of Lameness identified? (Who, what when/how often) _____

5. Who diagnoses **diseases** causing lameness? _____

6. Who decides Tx: Name: _____ Position: _____

7. Who gives Tx: Name: _____ Position: _____

8. If 6 and 7 are different how is Tx communicated? _____

9. Are cows that are treated for Lameness marked? If so, how? _____

10. Can you tell me what treatments are given to cows with lameness?

(Complete table on next page, THEN ask question # 11 & 12)

11. Is there a written protocol for Lameness treatment? Y N Don't Know (circle one)

If Y-yes continue below

a. Who determined the treatment protocol? Vet Owner Manager Worker (circle all that apply)

b. Are the written protocols what is actually being done today? Y N Don't Know

c. May I get a copy of the written protocol? Y N Don't Know

12. Where is the following information recorded for Lameness? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

**LAMENESS Management Assessment
Treatment Protocols**

TX #	Protocol Criteria (Disease, Severity)	Injectable Antibiotic						Other (Flunixin, Dexamethasone, etc) or Topical Treatment (Oxytet, Wrap Block)						
		Drug	Dose	Route	Times/d	# Days	Meat/Milk	Drug/Treatment	Dose	Route	Times/d	# Days	Meat/Milk	
L1					1X						1X	2X		
					2X						1X	2X		
L2					1X						1X	2X		
					2X						1X	2X		
L3					1X						1X	2X		
					2X						1X	2X		
L4					1X						1X	2X		
					2X						1X	2X		
L5					1X						1X	2X		
					2X						1X	2X		
L6					1X						1X	2X		
					2X						1X	2X		
L7					1X						1X	2X		
					2X						1X	2X		
L8					1X						1X	2X		
					2X						1X	2X		

Don't Forget Questions 11 & 12

Guide to using the Lameness Management Assessment

1. How often are cow's hooves trimmed? As needed, at fresh, at dry off, at x DIM?
2. Who does routine hoof trimming? Farm personnel / Professional Trimmer
3. Who does lame cow hoof trimming? Farm personnel / Professional Trimmer
4. How are cases of Lameness identified?
 - a. Who identifies cows (Pushers, Herdsman, Owner)?
 - b. What criteria (Observed lame, routine locomotion score)?
 - c. When are cows identified (All the time when someone sees a lame cow, when pushed up to milk, certain time each week walking the pen)?
5. Who diagnoses **diseases** causing lameness? Once a cow is identified as lame, who evaluates the cow and makes a disease diagnosis (Ex. Footrot, heel warts, sole abscess). Hoof trimmer, herdsman etc.
6. Who decides Tx: Name: _____ Position: _____
Who is deciding if a cow should be treated or how they should be treated?
7. Who gives Tx: Name: _____ Position: _____
8. If 6 and 7 are different how is Tx communicated? (Ex. Verbally, written on Treatment sheet...)
9. How are treated cows identified: Legband, Chalk etc. **If they are not specifically identified as treated in some way record NONE.**
10. Can you tell me what treatments are given to cows that are lame? Using the attached table determine:
Primary focus is on Antibiotics and Anti-inflammatories.
However, electing not to treat (Ex. chronic cases) should be recorded as No Treat.
 - a. **Protocol** criteria – briefly describe how treatment is determined. For example if based on disease: footrot, heel warts and sole abscess would be described in Rows L1, L2, L3, respectively.
 - i. Write 'Retreatment' to describe what happens if first course of treatment doesn't lead to a cure.
This is most meaningful in herds that treat for a set number of days, but applies to those that switch treatments for the same clinical episode.
 - b. **Drug.** The drug given for this protocol, this could include No Treatment.
 - c. **Dose.** Number of ml or cc given.
 - d. **Route.** IM, SQ, IV BOE (back of ear) etc.
 - e. **Times/d and # of days** drug is given.
 - f. Repeat for any antibiotic or other drugs given that have a milk and/or meat withdrawal time.
Specifically ask if cows are given Flunixin (Banamine, Flunixin)**DON'T FORGET TO GO BACK TO THE FIRST PAGE AND ASK Question 11 & 12!!**
11. Is there a written protocol for lame disease treatments?
 - a. Circle all those involved in determining the treatment protocol.
 - b. Are the written treatment protocols what is actually being done today?
 - c. **May I get a copy of the written protocol?** This will allow you to compare what is on the protocol to what is described on the Treatment protocols and recording table.
12. **"Recorded where?"** This row is to determine where the information about treatments is kept. You will use this to determine if their treatment records meet FDA requirements. **Comp** = Computer, **Paper** = on paper treatment record, **SOP** = in a written protocol and **TEMP** = temporary place that is not able to be kept for 2 years.

Evaluator: _____ Date: _____ Farm: _____

1. How are cases of this disease/condition identified?

2. Who decides Tx: Name: _____ Position: _____

3. Who gives Tx: Name: _____ Position: _____

4. If 2 and 3 are different how is Tx communicated? _____

5. Are cows that are treated for this disease/condition marked? If so, how? _____

6. Can you tell me what treatments are given to cows with this disease?

(Complete table on next page, THEN ask question # 7 & 8)

7. Is there a written protocol for the treatment of this disease/condition? Y N Don't Know (circle one)

If Y-yes continue below

a. Who determined the treatment protocol? Vet Owner Manager Worker (circle all that apply)

b. Are the written protocols what is actually being done today? Y N Don't Know

c. May I get a copy of the written protocol? Y N Don't Know

8. Where is the following information recorded? (Circle all that apply)

a. Treatment: COMP PAPER SOP TEMP

b. Dose: COMP PAPER SOP TEMP

c. Route: COMP PAPER SOP TEMP

d. Frequency: COMP PAPER SOP TEMP

e. Duration: COMP PAPER SOP TEMP

Management Assessment
Treatment Protocols

TX #	Protocol Criteria (Severity, Fever, Retreatment)	Injectable Antibiotic						Other treatments (Flunixin, Dexamethosone, Re-Covr, etc)					
		Drug	Dose	Route	Times/d	# Days	Meat/Milk	Drug	Dose	Route	Times/d	# Days	Meat/Milk
1					1X						2X		
2					1X						2X		
3					1X						2X		
4					1X						2X		
5					1X						2X		
6					1X						2X		
7					1X						2X		
8					1X						2X		

Don't Forget Questions 7 & 8

Guide to using the Management Assessment

1. How are cases of this disease/condition identified? The goal of this question is to clearly determine how these animals are identified and diagnosed.
2. Who decides Tx: Name: _____ Position: _____
Who is deciding if a cow should be treated or how they should be treated?
3. Who gives Tx: Name: _____ Position: _____
4. If 2 and 3 are different how is Tx communicated? (Ex. Verbally, written on Treatment sheet...)
5. How are treated cows identified: Legband, Chalk etc. **If they are not specifically identified as treated in some way record NONE.**
6. Can you tell me what treatments are given to cows with this disease/condition?
Primary focus is on Antibiotics and Anti-inflammatories.
However, electing not to treat (Ex. Mild cases) should be recorded as No Treat.

Using the attached table determine:

- a. **Protocol** criteria – briefly describe how treatment is determined. For example if based on severity: mild, moderate, severe treatments would be described in Rows 1, 2, 3, respectively.
 - i. Write 'Retreatment' to describe what happens if first course of treatment doesn't lead to a cure.
This is most meaningful in herds that treat for a set number of days, but applies to those that switch treatments for the same clinical episode.
 - b. **Drug.** The drug given for this protocol, this could include No Treatment.
 - c. **Dose.** Number of ml or cc given.
 - d. **Times/d and # of days** drug is given.
 - e. **Meat/Milk.** What withhold times are currently observed for this treatment.
 - f. Same for any other treatments given.
Specifically ask if cows are given Flunixin (Banamine, Flunixin)
DON'T FORGET TO GO BACK TO THE FIRST PAGE AND ASK Question 7 & 8!!
7. Is there a written protocol for the treatment of this disease/condition?
 - a. Circle all those involved in determining the treatment protocol.
 - b. Are the written treatment protocols what is actually being done today?
 - c. **May I get a copy of the written protocol?** This will allow you to compare what is on the protocol to what is described on the Treatment protocols and recording table.
 8. **"Recorded where?"** This row is to determine where the information about treatments is kept. You will use this to determine if their treatment records meet FDA requirements. **Comp** = Computer, **Paper** = on paper treatment record, **SOP** = in a written protocol and **TEMP**= temporary place that is not able to be kept for 2 years.

DRUG LIST

Evaluator: _____ Date: _____ Farm: _____

DRUG	VET LABEL		VET LABEL INDICATIONS	VET LABEL DRUG WITHHOLDS		IDENTIFIED USE	LABEL USE	JUSTIFICATION
	Y	N		MILK	MEAT			
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	

DRUG LIST

Evaluator: _____ Date: _____ Farm: _____

DRUG	VET LABEL		VET LABEL INDICATIONS	VET LABEL DRUG WITHHOLDS		IDENTIFIED USE	LABEL USE	JUSTIFICATION
	Y	N		MILK	MEAT			
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	

DRUG LIST

Evaluator: _____ Date: _____ Farm: _____

DRUG	VET LABEL		VET LABEL INDICATIONS	VET LABEL DRUG WITHHOLDS		IDENTIFIED USE	LABEL USE	JUSTIFICATION
	Y	N		MILK	MEAT			
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	
			Disease Dose Route Duration & Freq Age restrictions			MAST METR LAME PNEU Other_____	OK ELDU ILLEGAL	

Guide to the DRUG LIST

Purpose:

Obtain a complete list of all the drugs on the dairy, record if the drug has a vet label on it and what that vet label indicates. For the drugs discussed in the interview with the producer, record the identified use and determine if the current use of that drug is OK, ELDU or Illegal based on the label indications. This list will be presented to the veterinarian.

Fill in the white section of the form while on the dairy; grey section can be filled in later.

WHITE SECTION

Drug:

List all drugs found on the dairy, even if the drug was not discussed in the interview.

Vet Label:

Look on the drug bottle or box of intramammary tubes and indicate if there is a vet label.

Vet Label Indications:

If there is a vet label then record what the vet label indicates for that drug, be sure to include diseases or conditions to be treated, dose, duration, route of administration and any age restrictions.

Vet Label Drug Withholds:

If there is a vet label then record the listed milk and meat withholds.

GREY SECTION

Identified Use:

Based on the interview, circle all diseases that this drug is used to treat. If the drug was not discussed in the interview then leave blank.

Label Use:

Using the Compendium of Veterinary Products look up the labeled use for each drug and circle if the current use for the drug is OK, ELDU or Illegal (Be sure to pay close attention to indication of use, dosage, duration and frequency of therapy, and route of administration).

Justification:

If you circle ELDU or Illegal, record your justification for circling that. (Ex. Penicillin is given at 3 times the dose that is on the bottle label, no vet label on bottle)

Any drugs that require justification should be discussed with the veterinarian.

Drug Residue Avoidance Assessment

Answering NO to any of the below questions indicates the need for further evaluation.

#	Question	YES	NO	Comment
1	Are treatment records kept?			
	Paper Treatment Records			
	Computer Treatment Records			
2	Does the dairy have written treatment protocols?			
	Mastitis			
	Metritis			
	Lameness			
	Pneumonia			
3	If present, are the written treatment protocols and the treatment protocols discussed in the interview the same?			
4	Only drugs approved for lactating cattle are used in protocols for lactating cows?			
5	All drugs are used for the label indications or vet label indications?			
6	Dosages are administered according to label directions?			
7	Approved routes of administration are used?			
8	Are drugs that need to be re-constituted done so properly?			
9	Approved treatment intervals and duration are used?			
10	Appropriate amount of drugs given per injection site?			
11	Treated cows are marked appropriately?			
12	Records are maintained in sufficient fashion to track the milk and meat withdrawal?			
13	Appropriate meat and milk withhold times followed on farm?			
14	Is dry cow therapy recorded?			
15	Prescription products are labeled appropriately?			
16	Do the treatment/medical records include the following information? ^{1,2}			
	Animal ID			
	Treatment date			
	Drug(s)/medicated feed used			
	Dosage(s) given			
	Route of administration			
	Withdrawal time for meat and milk (even if it is 0)			
	Individual who administered drug			
Date animal can be slaughtered and/or milk can be used				
Reason for treatment (If due to illness, was the ailment being treated specified?)				
17	Do treatment records have the potential to be maintained for a minimum of 2 years? ^{1,3}			
18	Drugs used in an extra label fashion are labeled accordingly by the prescribing vet?			
19	If a veterinarian's label is present on the drug, does it specify the following: ^{2,3}			
	Indication for use			
	Dosage			
	Duration of therapy			
	Expiration date			
	Name and address of practitioner			
	Contraindications			
	Route of administration			
Withdrawal period				
	Active ingredients			

1: Drug Residue Avoidance Control Measures, pg 156 of 2009 PMO Appendix C: Dairy Farm Construction Standards and Milk Production

2: Attachment C 7371.006 of *Illegal Residues in Meat, Poultry, Seafood, and Other Animal Derived Foods*

3. Animal Medicinal Drug Use Clarification Act (AMDUCA) Extralabel Drug Usage Requirements