



Why Drug Watch?

Steve Eicker
David MacGibbon
Connor Jameson



Recording and Using Disease Data

Steve Eicker, King Ferry, NY
Paul Rapnicki, St Paul, MN

Outline

- FDA
- Recording diseases
- Monitoring
- Drug Watch

FDA

- Has broad powers to protect / enforce appropriate drug use.
- Cases:
 - FL dairy, over 12 violations
 - NY dairy, 2 violations
 - NY dairy, 6 violations

FL Dairy - Repeat violator

FDA Edict – fix in two weeks, or:

1. Farm can no longer be involved in agriculture.

- cannot sell milk, cows, feed, or land.

2. Includes all employees.

3. Decided to also pursue criminal charges.

NY Dairy – two violations within a week

Treated cow shipped 20 minutes later

Dry cow into the milking string.

Proactive response:

- Implemented protocols

- Invited FDA to review procedures

- Denoted as a model dairy

NY Dairy – six violations

Every employee must personally record every drug injection in writing in a log in the office, and sign it.

Milk is safe

- Most tested product – every tanker
- “Instant” test for 4-6 antibiotics.
- Milk is destroyed if positive prior to contaminating the plant.

Residues are diluted by other cows.

Beef is an issue

- No dilution
- 2008: 800 cows of 3M slaughtered
- Similar to other years

- Poor management:
 - Wrong dose
 - Wrong route
 - Insufficient withholding
 - Unapproved drug

FDA Concern

- If some farmers are using unapproved drugs in improper manner based on beef residues, might they also be selling milk from those cows?

... Repeat Violations

- Repeat violations are serious violations of the law, and could lead to the institution of criminal prosecution and/or injunctive action by USDA, FDA or State Officials.
- FSIS makes a list of repeat residue violators publicly available on http://www.fsis.usda.gov/PDF/Residue_Violators_List.pdf.

CA Repeat Violators

- ANKERIDGE, Visalia
- BIDART, Bakersfield
- DIAS, Stevensville
- ECHEVERRIA, Bakersfield
- F & J DELANO, Delano
- SANTOS, Lanton
- MANCEBO, Tulare
- VERMEER & GOEDHART, Shafter

Recent Announcement

900 farms have been repeat violators. Only on these farms, expanded tests for 20+ antibiotics, and flunixin (Banamine, NSAID).

DFA, etc, and state regulators complained.

Headlines

- FDA trying to protect food supply
- Industry does not want testing

Test Issues:

- False positives
 - Sample ID error
 - Cross reaction
 - Lab error
- Takes much longer
 - Milk already comingled
 - Creamery would need to recall all products – cheese, milk, etc.

Agri-Mark Response

- If you are even *tested*, you must dump all milk.
- Cannot take the likely risk of a positive result.
- A single recall can bankrupt the creamery or co-op.

Current Status

- FDA plan on hold
- Public led to believe that:
 - drugs are being misused
 - FDA folds under industry pressure

Dairy Response

- TX: We need complete tracking, auditable by outsiders.
- WI: Bring in an outside expert for two days to review all procedures.

Opportunity for VAS

- Help our clients
- No incremental effort needed from them.
- Need to be careful we are not taking advantage of a bad situation to make more profit, but instead, we are creating value for them.

Protocols

- Significant resistance by most dairies at first:
 - We have never done it that way.
 - Our employees need to use their own judgment.
- But advantages and society will force them to change, albeit slowly.

2003 NCIMS changes PMO

- May 2003 the NCIMS approved changes to the PMO to clarify the documentation requirements to identify and track treated dairy cows.
- These changes were FDA approved. Two key parts of the revisions are:
 - *Electronic records are an acceptable means of treatment documentation.*
 - *It is no longer required to record specifically who administered the treatment.*

FDA Responded with an M-I

- Does the producer know or have a suspicion of how the milk was contaminated?
- Does the producer have a [protocol](#) in place to prevent contaminated milk from being shipped?
- Since the positive drug residue incident, has the producer taken steps to prevent future occurrences?
- Review the drug treatment [protocol](#) with the producer, at the farm.

Diseases Matter

- Direct Economic Losses – milk, labor
- Indirect – delayed breeding, culling
- Monitors of dairy processes
- Risk of Drug Residues

Consistency

- Detecting
- Recording
- Treating

- Protocols

Why Record Diseases?

- Takes time and effort
- How will the data be used?
- Try to think in time-frames:
 - Daily
 - Weekly/Monthly
 - Long term

Daily Disease Tasks

- Treat the right cows with the right drugs
- Prevent treated cows from being milked
- Prevent treated cows from being sold
- Return the cow to the correct pen

Weekly / Monthly

- Detect change in disease incidence
- May also look for change in severity
- Interval is herd-size related

Long Term

- Review Need for Disease Prevention Investments
- Legal Needs
- Multi-herd Studies
- Evaluate Treatment Protocols – Compliance, Effectiveness?

Protocols

- What disease events will be treated
- What options are available

Prescription Drugs

- The dairy needs a valid VCPR to use prescription drugs.
- Veterinary Client Patient Relationship

Approved vs. ELDU

- The FDA has an approval process for the use of medicating livestock.
- There are a list of approved products for a condition.
- Drug X might be approved for Pneumonia, but NOT mastitis.

REQUIREMENTS FOR USE

- ✓ ELDU is permitted only by or under the supervision of a veterinarian.
- ✓ ELDU is allowed only for FDA approved animal and human drugs.
- ✓ A valid Veterinarian/Client/Patient Relationship is a prerequisite for all ELDU.
- ✓ ELDU for therapeutic purposes only (animal's health is suffering or threatened). Not drugs for production use.
- ✓ Rules apply to dosage form drugs and drugs administered in water. ELDU in feed is prohibited.
- ✓ ELDU is not permitted if it results in violative food residue, or any residue which may present a risk to public health.
- ✓ FDA prohibition of a specific ELDU precludes such use.†

*RECORD REQUIREMENTS

- ◆ Identify the animals, either as individuals or a group.
- ◆ Animal species treated.
- ◆ Numbers of animals treated.
- ◆ Conditions being treated.
- ◆ The established name of the drug and active ingredient.
- ◆ Dosage prescribed or used.
- ◆ Duration of treatment.
- ◆ Specified withdrawal, withholding, or discard time(s), if applicable, for meat, milk, eggs, or animal - derived food.
- ◆ Keep records for 2 years.
- ◆ FDA may have access to these records to estimate risk to public health.

** LABEL REQUIREMENTS

- ◆ Name and address of the prescribing veterinarian.
- ◆ Established name of the drug.
- ◆ Any specified directions for use including the class/species or identification of the animal or herd, flock, pen, lot, or other group; the dosage frequency, and route of administration; and the duration of therapy.
- ◆ Any cautionary statements.
- ◆ Your specified withdrawal, withholding, or discard time for meat, milk, eggs, or any other food.

EXTRALABEL DRUG USE (ELDU)

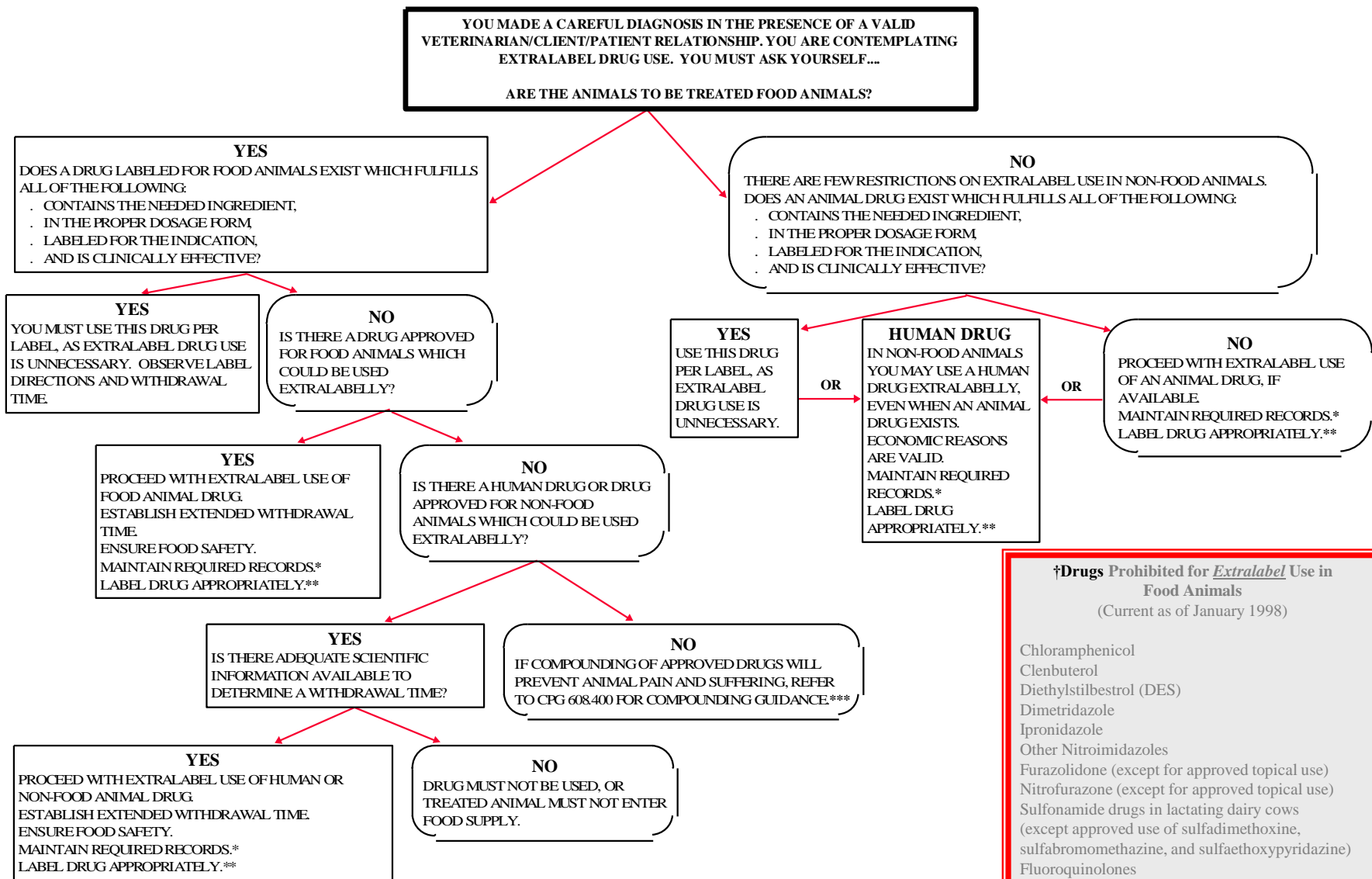
AMDUCA
Guidance Brochure
January 1998



American Veterinary Medical Association
1931 N. Meacham Rd., Suite 100
Schaumburg, IL 60173-4360

If you have questions about the regulations call Mr. Dick Arkin at FDA-CVM at (301) 827-0141

EXTRALABEL DRUG USE ALGORITHM



- †Drugs Prohibited for *Extralabel* Use in Food Animals**
(Current as of January 1998)
- Chloramphenicol
 - Clenbuterol
 - Diethylstilbestrol (DES)
 - Dimetridazole
 - Iprnidazole
 - Other Nitroimidazoles
 - Furazolidone (except for approved topical use)
 - Nitrofurazone (except for approved topical use)
 - Sulfonamide drugs in lactating dairy cows (except approved use of sulfadimethoxine, sulfabromomethazine, and sulfaethoxypyridazine)
 - Fluoroquinolones
 - Glycopeptides (example: vancomycin)

* and ** - See reverse side for record and label requirements.
*** - Compounding of bulk drugs is generally illegal.

Extra-Label Drug Use

- Not allowed unless there is:
 - no approved drug,
 - in the proper form,
 - labeled for that use,
 - that is clinically effective.
- ELDU requires proof that an approved drug fails ON THIS DAIRY.



Protocol Definition

- Disease indication for which it will be used
- Therapy and default data entry remark
- Whether the cow will be moved into a hospital pen
- Days to be treated
- Days to withhold milk
- Days to withhold meat

Example Protocol

- Pirsue – IMM Description
- Mastitis Disease/condition
- Pirsue Drug Used
- 36 Hours Treatment Duration
- 36 Hours Milk Withholding
- 9 Days Meat Withholding

Establishing Protocols

Alter options

- 1 Quit Alter
- 2 Items
- 3 Commands
- 4 Pens definitions
- 5 Veterinary list
- 6 Schedule Tasks
- 7 Protocols
- 8 Sire list
- 9 User-defined events
- A Cow card pages
- B Define Dairy Name, HerdID, etc
- C Fresh event items
- D -
- E Breeding and Technicians

Treatment Protocols

##	Protocol	Event	REMark	Prompt	Pen	Milk	Meat	Days
1	PROP8 OZ.ORAL	KETOSIS	PROP5II	Y	0	0	0	4
2	AMOXIMAST.IMM	MAST	AMO2QQII	Y	9	2	12	2
3	TODAY.IMM	MAST	TOD2QQII	Y	9	4	4	2
4	PIRSUE.IMM	MAST	PIRSTAPH	Y	9	2	2	3
5	LDA TACK	LDA	PROPII	Y	0	0	0	3
6	CULTURE	CULTURE	LABC/QQ	Y	0	0	0	5
7	TOXIC MAST	TOXIC	THEWORKS	Y	0	0	0	2
8	LAMENESS	LAME	LAMEAABP	Y	0	0	0	0
9	PENICIL LAC=1	RP	PEN5II	Y	9	4	14	5
10	PENICIL40CCIM	MET	PEN5II	Y	9	4	14	5
11	PENICIL40CCIM	TEMP	PEN5II	Y	9	4	14	5
12	EXCENEL15CCIM	RESP	EXCEN3II	Y	0	0	2	3
13	EXCENEL15CCIM	MET	EXCEN3II	Y	0	0	2	3
14	EXCENEL15CCIM	FEETROT	EXCEN3II	Y	0	0	2	3
15	EXCENEL15CCIM	TEMP	EXCEN3II	Y	0	0	2	3

Data Entry

- Cow
- Date (today...)
- Choose Protocol
- Edit treatment Remark
 - quarter, limb, person

Automatic Actions

- Pen change
- Last treatment date
- Milk withdrawal date
- Meat withdrawal date
- Inventory changes

Disease Entry

- Select Cow
- Select Protocol from the list
- Edit remark – severity, which quarter, etc.
- Automatically calculates and records:
 - Last Treatment date
 - OK-to-milk
 - OK-to-beef(even if dates are “higher”)

Disease Entry

Select Protocol from the list

Select

select protocol

1	PIRSUE.IMM	MAST	PIR2QQ.	99
2	DARICLOX.IMM	MAST	DAR2QQ.	99
3	HETACIN-K.IMM	MAST	HET3QQ.	99
4	CEFA-LAK.IMM	MAST	CEF1QQ.	99
5	PIRSUE EXT0	MAST	PIX5QQ.	99
6	PIRSUE EXT0	MAST	PIX5QQ	99

OK

Cancel

Disease Entry

Enter Date (usually today)

Entering data for cow 4



MAST Event Date

Events : 4

6/ 2/05	BRED	1H6845
5/ 6/05	FOOTRIM	-
4/27/05	VACC	MLV
3/22/05	FRESH	-

Disease Entry Edit Remark (Quarter)

Entering data for cow 4

6/ 8/05

MAST Event Date

PIR200.

MAST Event Remark

Events : 4

6/ 2/05	BRED	1H6845
5/ 6/05	FOOTRIM	-
4/27/05	VACC	MLV
3/22/05	FRESH	-

Disease Entry (Calculates Dates)

Esc ← → [Icons] ID 4

Events	Items1	Items2	TestDays	PrevLacts	Lactation	Picture
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ID	4	CWVAL	1217	CSEX	FKA	RPRO	BRED
PEN	2	PGVAL	318	305ME	30170	DSLH	6
LACT	2	PSCC	30	PMILK	117	MKDAT	6/12/05
DIM	78	SCC	20	MILK	125	BFDAT	6/19/05

3/22/05	FRESH	-
4/27/05	VACC	MLV
5/ 6/05	FOOTRIM	-

6/ 2/05	BRED	1H6845	8R
6/ 8/05	MAST	PIR2RF.	

Daily Work Lists

- Treat the right cows with the right drugs
- Prevent treated cows from being milked
- Prevent treated cows from being sold
- Return the cow to the correct pen

Hospital Group

- Cows being treated
- Cows being withheld

- Need all cows on the list
- Missing cows are an emergency !

Hospital Treatment List

Cow ID	Date	OK to Milk	To Pen	Last Date	Event	Treat	Cow ID	Notes
23	9/13	9/16	13	9/14	MAST	PIR2	23	
155	9/10	9/13	8	9/13	LAME	NAX4	155	
373	9/11	9/14	2	9/14	MAST	PIR2	373	
416	9/13	9/17	12	9/15	MAST	HET3	416	
702	9/12	9/20	3	9/16	RP	PEN5	702	
726	9/10	9/13	4	9/13	METR	NAX4	726	

Hospital Activity List

ID	DIM	MTOT	MWDAT		ID	DIM	MTOT	MWDAT	
=====	=====	=====	=====		=====	=====	=====	=====	
16	33	36	8/12		2602	12	7	8/20	
18	37	71	8/15				8/10	LDA	PROPTK 3/3
		8/11	MAST	AMO2LHSR 2/2			8/12	TEMP	LA2004TK 1/4
183	27	51	8/12		2754	16	20	8/17	
214	13	49	8/13				8/10	KETOSIS	PROP5TK 3/4
279	15	47	8/16		2760	14	8	8/16	
304	19	45	8/13		2959	13	41	8/17	
310	6	17	8/16		3096	169	81	8/12	
		8/10	KETOSIS	PROPSR 3/4	3187	24	45	8/13	
2009	365	18	8/18				8/ 9	CULTURE	L/RF 4/5
		8/12	MAST	TOD2REFRH 1/2	3232	5	13	8/18	

Hospital Activity List

ID	DIM	MTOT	MWDAT		ID	DIM	MTOT	MWDAT	
===	===	=====	=====		=====	===	=====	=====	
16	33	36	8/12	_____	2602	12	7	8/20	_____
18	37	71	8/15	_____		8/10	LDA	PROPTK	3/3
	8/11	MAST	AMO2LHSR	2/2		8/12	TEMP	LA2004TK	1/4

Take-Out List

- OK-to-Milk-Date \leq "Today"
- Have passed the Milk W/H date
- Some producers will want to test certain or all cows (Delvo?)

Cull List

- OK-to-Beef-Date \leq "Today"
- Have passed the Beef W/H date
- Some producers will want to test certain or all cows (MeatSafe?)

To Cull List

(cannot make this list unless OK to beef)

Cow ID	DIM	Repro	Pen	SCC	Milk	Cow Value	Cow ID	Notes
77	442	BRED	13	1320	38	-275	77	
144	160	PREG	8	200	13	-450	144	
327	224	OPEN	2	775	31	-200	327	
484	512	OPEN	12	150	35	-280	484	

Withdrawal Dates

- Warning if a cow is moved to a milking pen prior to her milk with-hold date.
- Warning if a cow is sold prior to her beef with-hold date.

Daily Tasks, Summarized

- Data Disease Entry
- Work Lists

- No daily treatment entry !!!
- Warnings for withdrawal

Uses of Disease Records

- Today
- **Monthly/Quarterly**
- Long Term

Routine Monitoring of Disease Data

- Probably the earliest monitor of a problem on a dairy.
- Much faster than culling or death or peak milk, etc.
- Much more specific indication of problem.

Monitoring Fresh Cows

- Do NOT wait until cows leave or DIE
 - Very slow
 - Not specific
 - No treatment tracking
 - Ignores morbidity costs
 - (This is a really bad idea...)
- Look for much faster monitors

Disease Incidence

- Track over time – Monitor

Health Events

Why Monitor Health Events?

- Identify Concerns before they become Problems
- Monitor and Guide Employees
- Documentation

Events by Month

- Allows to look at fresh health events during month
- Can also look at number fresh during same month
- Evaluate risk by month

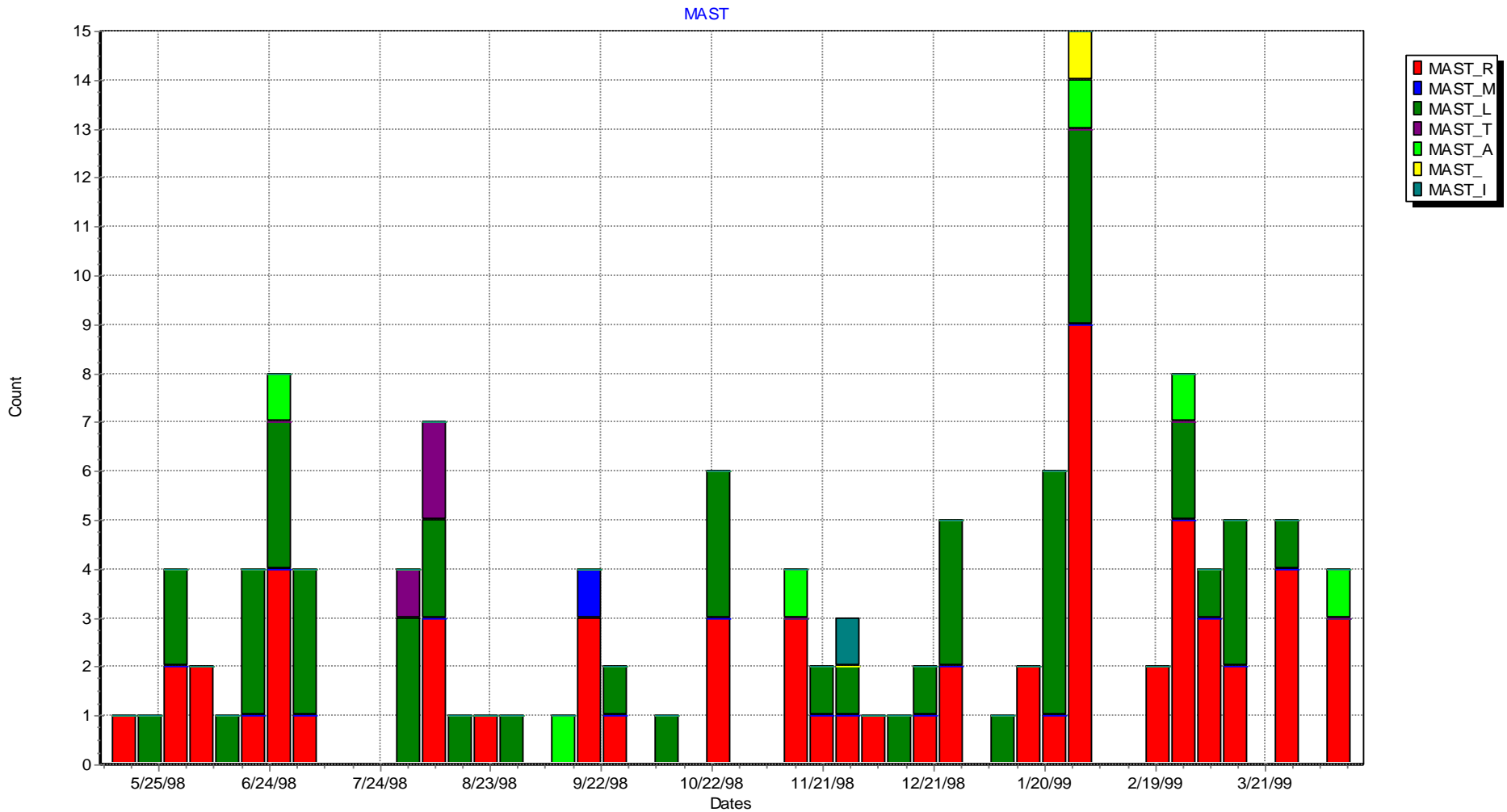
Event	Total	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FRESH	1911	223	147	126	86	113	233	200	147	79	152	201	204
DA	77	8	12	9	7	6	5	6	0	10	4	2	8
LAME	463	41	58	20	0	0	0	0	126	97	47	27	47
MAST	9	0	0	0	0	0	0	0	0	0	3	6	0
METR	3	0	0	0	0	0	0	0	3	0	0	0	0
MF	4	0	1	0	0	1	0	0	0	0	1	1	0
PNEU	16	2	1	0	3	3	2	0	0	1	2	1	1
RP	201	12	7	7	9	15	31	25	19	14	15	23	24
MAST2	510	52	30	48	47	41	47	76	82	24	14	18	31
TOTALS	3194	338	256	210	152	179	318	307	377	225	238	279	315

Events by DIM

- Evaluation of events by DIM
- Can evaluate risk by DIM for various events. Even those just fresh cows e.g. Mast, Lameness

Event	Total	<30	60	90	120	150	180	210	240	270	300	330	>330
FRESH	1911	1911	0	0	0	0	0	0	0	0	0	0	0
DA	77	66	2	0	1	0	1	1	0	0	1	1	4
LAME	463	37	22	31	17	21	26	38	45	56	36	26	108
MAST	9	1	0	3	0	0	0	0	0	0	2	0	3
METR	3	3	0	0	0	0	0	0	0	0	0	0	0
MF	4	4	0	0	0	0	0	0	0	0	0	0	0
PNEU	16	1	2	2	1	2	2	2	1	1	1	0	1
RP	201	195	0	0	0	0	0	0	1	1	1	2	1
MAST2	511	126	27	47	43	50	52	33	33	20	18	9	51
TOTALS	3195	2344	53	83	62	73	81	74	80	78	59	38	168

Mastitis Incidence



Longer Term Use of Disease Data

- Legal Needs
- Prevention Decisions
- Multi-dairy studies
- Protocol Evaluation

Longer Term Use of Data

- Legal Needs
- PMO says electronic recording is sufficient, but...
- Cheap insurance – have treating employee initial printout, store in a binder
- Difficult to search by cow, easy by date.

Annual Disease Incidence

- Use a partial budgeting processes to decide if a potential intervention is worth trying to implement.
- Investment vs. Return
- Estimate Incidence
- Estimate Losses
- Disease Records Matter !

Long Term Use of Data

- Multiple dairy studies – worthy goal, but...
 - Inconsistency with disease definition
 - Inconsistency with recording
- Data scrutiny is huge.
- Must be prospective and limited and checked.

Protocol Evaluation

- There is a almost overwhelming desire by most dairies to be able to evaluate which treatment protocol “works best” on their dairy.
- Unfortunately, this is a very difficult question.

Summary: Comparing Treatments

- Almost impossible to accurately compare:
 - Multiple outcome measures of “works best”
 - Inaccurate categorization of disease severity
 - Insufficient numbers to establish confidence
 - Inability to recognize and control for confounding factors
 - Unlikelihood of consistently following exact treatment protocols
 - Other economic factors

Drug Watch

- Developed to keep FL dairy out of jail
- Required in EU (DE, IT)
- Two goals
 - Historical record of drug use
 - Inventory control

Goals

- Once set up, completely passive
- No additional data entry
- No change in employee recording

Drug Watch – Getting Started

Install

<http://www.vas.com/drugwatch.html>

Manual

[http://www.vas.com/Help/DrugWatch.
htm](http://www.vas.com/Help/DrugWatch.htm)

Overview

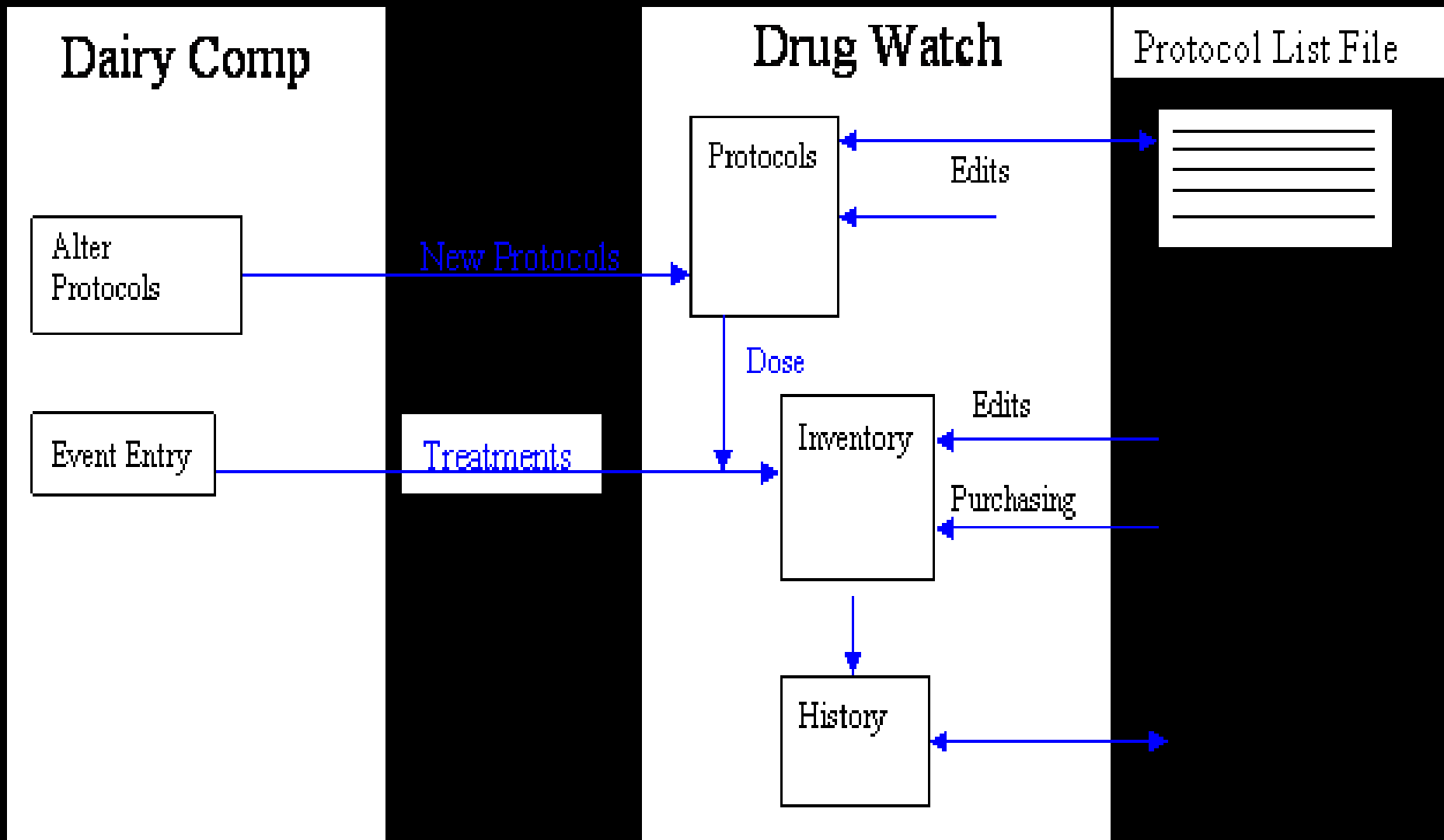
Protection of the public's perception of dairy food safety has never been more important.

Drug Watch helps accomplish this by working with Dairy Comp 305 to maintain a historical record of drug usage.

Goal

The intended role of Drug Watch is to act as a court stenographer, to take complete accurate notes, to look things up as required, to stay out of the way, and to hinder progress as little as possible.

Architecture



Initializing Protocols

When protocols are configured in Alter Protocols, a list of protocol numbers and names is sent to the \DrugWatch.

This list is the beginning of the “Protocols” table in Drug Watch, it is finished by manually adding dosages and complete drug identification.

Once the protocols are setup, they are kept on disk as the protocol list file:

ProtocolList.csv

Date Entry

- When events are entered with a Dairy Comp command like "MAST", a treatment record is sent to a folder where Drug Watch processes it.
- Drug Watch takes the protocol number from the treatment file, looks up the drug and the dosage, decrements the inventory table, appends the treatment to the history table and writes the treatment to the inventory tape file: InventoryTape.ser

Protocol

A protocol is a standard approach to treating a disease or a condition. In general terms, a protocol can be a multi-page document that describes every material and action in excruciating detail.

Specifically for our programs, there are three aspects to every drug protocol that we do need.

Three Locations

- Printed for the employees
- Described in Dairy Comp
- Detailed in Drug Watch

Employees

- A protocol is a document that describes what the diagnostic and treatment plan is for a given condition and how to perform it.
- It should contain at least enough detail to allow a replacement employee to perform the protocol.
- Laminating and posting is recommended.

Dairy Comp (ALTER)

##	Protocol	Event	REMark	Prompt	Pen	Milk	Meat	Days
1	PROP8 OZ.ORAL	KETOSIS	PROP5II	Y	0	0	0	4
2	AMOXIMAST.IMM	MAST	AMO2QQII	Y	9	2	12	2
3	TODAY.IMM	MAST	TOD2QQII	Y	9	4	4	2
4	PIRSUE.IMM	MAST	PIRSTAPH	Y	9	2	2	3
5	LDA TACK	LDA	PROPII	Y	0	0	0	3
6	CULTURE	CULTURE	LABC/QQ	Y	0	0	0	5
7	TOXIC MAST	TOXIC	THEWORKS	Y	0	0	0	2
8	LAMENESS	LAME	LAMEAABP	Y	0	0	0	0
9	PENICIL LAC=1	RP	PEN5II	Y	9	4	14	5
10	PENICIL40CCIM	MET	PEN5II	Y	9	4	14	5
11	PENICIL40CCIM	TEMP	PEN5II	Y	9	4	14	5
12	EXCENEL15CCIM	RESP	EXCEN3II	Y	0	0	2	3
13	EXCENEL15CCIM	MET	EXCEN3II	Y	0	0	2	3
14	EXCENEL15CCIM	FEETROT	EXCEN3II	Y	0	0	2	3
15	EXCENEL15CCIM	TEMP	EXCEN3II	Y	0	0	2	3

Drug Watch

Drug Watch needs to know about dosages, the trade name or common drug name and the official regulatory name or NADA.

To Drug Watch, a protocol table looks like this:

##	Protocol	NADA	TradeName	Dose
1,	MASTITIS 1,	141-036,	PIRSUE,	3

Inventory

Inventory is a list of the drugs in the storeroom and the quantity of each of them at a particular point in time.

For convenience Drug Watch also tracks the common trade name, the number of treatment units in stock, the unit of packaging for treatment, the unit of packaging for reordering and the ratio of the two units.

As example of packaging units, Pirsue is re-ordered by boxes and treatments use tubes.

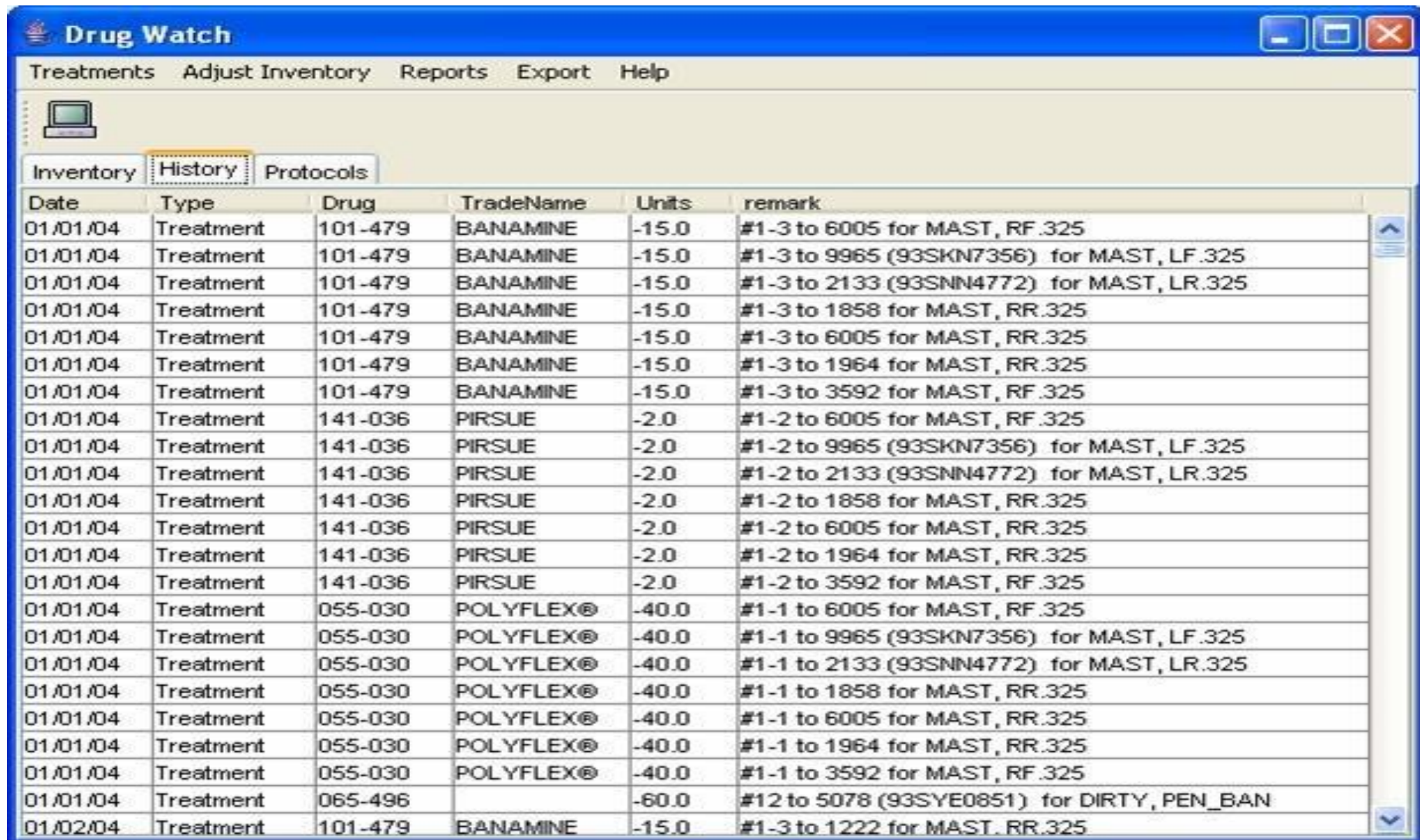
Complete History

The inventory tape is what we call the file that has the complete history of all changes over time.

All treatments, purchases and correction are written to the tape (file) just like a cash register receipt or an old adding machine.

To simplify future archival, the complete current inventory is also periodically written to the tape.

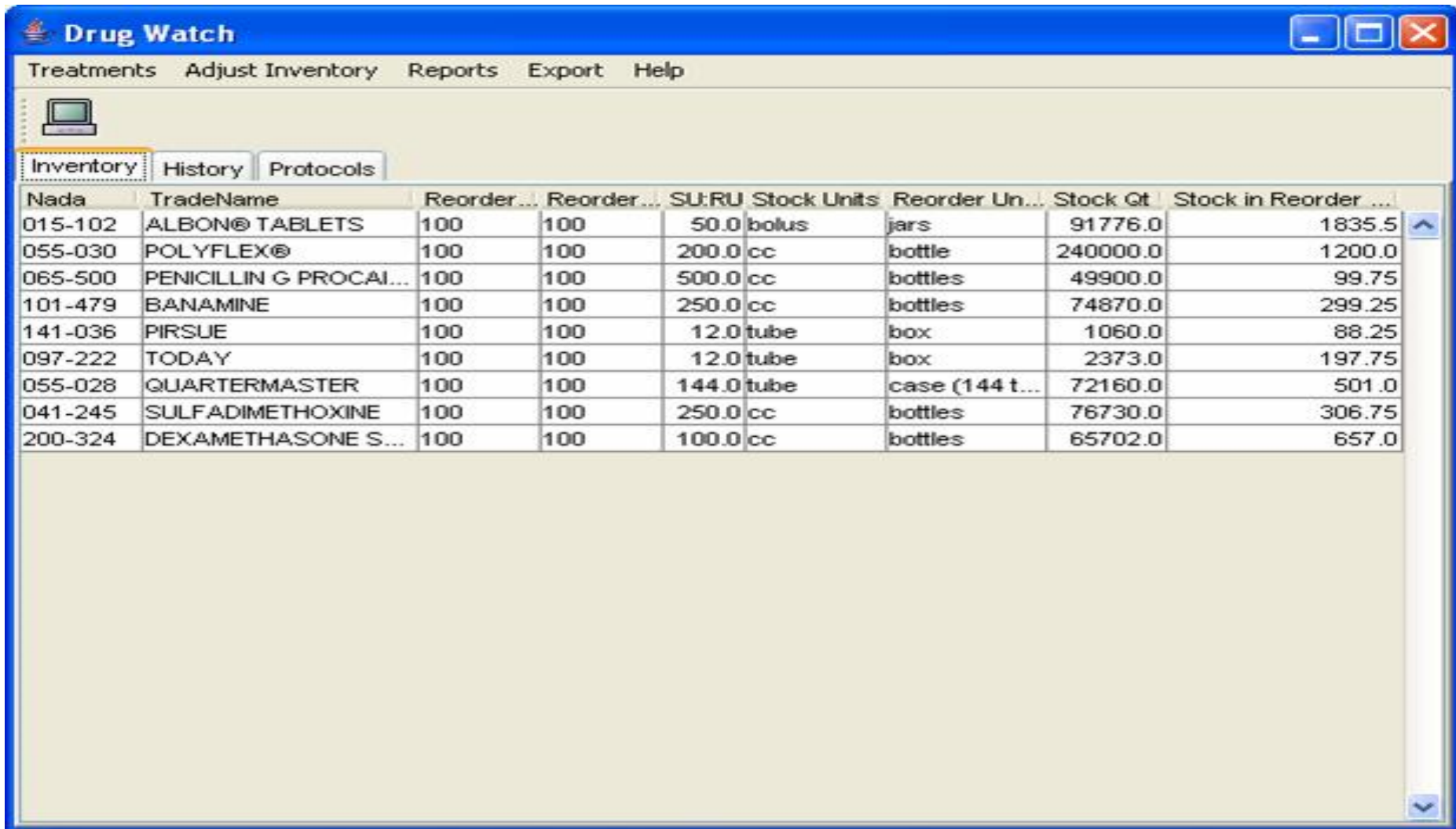
Navigation - History



The screenshot shows a software window titled "Drug Watch" with a menu bar containing "Treatments", "Adjust Inventory", "Reports", "Export", and "Help". Below the menu is a toolbar with a computer icon and a tabbed interface with three tabs: "Inventory", "History" (which is selected), and "Protocols". The main area displays a table with the following columns: "Date", "Type", "Drug", "TradeName", "Units", and "remark". The table contains 25 rows of data, each representing a treatment entry with specific drug names, quantities, and remarks.

Date	Type	Drug	TradeName	Units	remark
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 6005 for MAST, RF.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 9965 (93SKN7356) for MAST, LF.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 2133 (93SNN4772) for MAST, LR.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 1858 for MAST, RR.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 6005 for MAST, RR.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 1964 for MAST, RR.325
01/01/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 3592 for MAST, RF.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 6005 for MAST, RF.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 9965 (93SKN7356) for MAST, LF.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 2133 (93SNN4772) for MAST, LR.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 1858 for MAST, RR.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 6005 for MAST, RR.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 1964 for MAST, RR.325
01/01/04	Treatment	141-036	PIRSUE	-2.0	#1-2 to 3592 for MAST, RF.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 6005 for MAST, RF.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 9965 (93SKN7356) for MAST, LF.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 2133 (93SNN4772) for MAST, LR.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 1858 for MAST, RR.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 6005 for MAST, RR.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 1964 for MAST, RR.325
01/01/04	Treatment	055-030	POLYFLEX®	-40.0	#1-1 to 3592 for MAST, RF.325
01/01/04	Treatment	065-496		-60.0	#12 to 5078 (93SYE0851) for DIRTY, PEN_BAN
01/02/04	Treatment	101-479	BANAMINE	-15.0	#1-3 to 1222 for MAST, RR.325

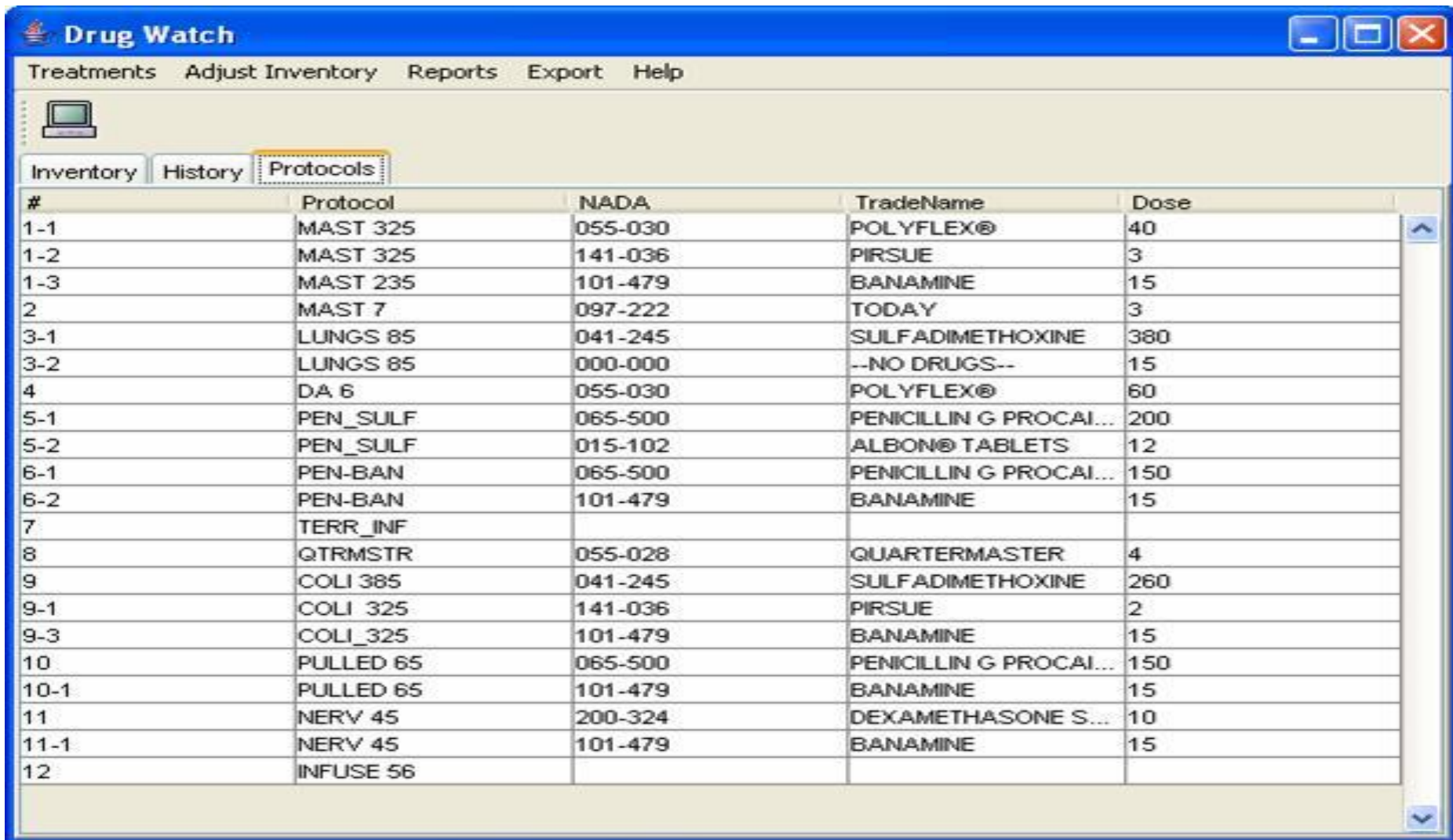
Navigation – Inventory



The screenshot shows a software window titled "Drug Watch" with a menu bar containing "Treatments", "Adjust Inventory", "Reports", "Export", and "Help". Below the menu bar is a toolbar with a laptop icon and three tabs: "Inventory" (selected), "History", and "Protocols". The main area displays a table with the following columns: "Nada", "TradeName", "Reorder...", "Reorder...", "SU:RU", "Stock Units", "Reorder Un...", "Stock Qt", and "Stock in Reorder ...". The table contains 9 rows of data for various drugs.

Nada	TradeName	Reorder...	Reorder...	SU:RU	Stock Units	Reorder Un...	Stock Qt	Stock in Reorder ...
015-102	ALBON® TABLETS	100	100	50.0	bolus	jars	91776.0	1835.5
055-030	POLYFLEX®	100	100	200.0	cc	bottle	240000.0	1200.0
065-500	PENICILLIN G PROCAI...	100	100	500.0	cc	bottles	49900.0	99.75
101-479	BANAMINE	100	100	250.0	cc	bottles	74870.0	299.25
141-036	PIRSUE	100	100	12.0	tube	box	1060.0	88.25
097-222	TODAY	100	100	12.0	tube	box	2373.0	197.75
055-028	QUARTERMASTER	100	100	144.0	tube	case (144 t...	72160.0	501.0
041-245	SULFADIMETHOXINE	100	100	250.0	cc	bottles	76730.0	306.75
200-324	DEXAMETHASONE S...	100	100	100.0	cc	bottles	65702.0	657.0

Navigation – Protocols



The screenshot shows the 'Drug Watch' application window. The title bar includes the application name and standard window controls. The menu bar contains 'Treatments', 'Adjust Inventory', 'Reports', 'Export', and 'Help'. Below the menu bar is a toolbar with a laptop icon. Three tabs are visible: 'Inventory', 'History', and 'Protocols', with 'Protocols' being the active tab. The main area displays a table with the following columns: '#', 'Protocol', 'NADA', 'TradeName', and 'Dose'. The table contains 20 rows of data.

#	Protocol	NADA	TradeName	Dose
1-1	MAST 325	055-030	POLYFLEX®	40
1-2	MAST 325	141-036	PIRSUE	3
1-3	MAST 235	101-479	BANAMINE	15
2	MAST 7	097-222	TODAY	3
3-1	LUNGS 85	041-245	SULFADIMETHOXINE	380
3-2	LUNGS 85	000-000	--NO DRUGS--	15
4	DA 6	055-030	POLYFLEX®	60
5-1	PEN_SULF	065-500	PENICILLIN G PROCAI...	200
5-2	PEN_SULF	015-102	ALBON® TABLETS	12
6-1	PEN-BAN	065-500	PENICILLIN G PROCAI...	150
6-2	PEN-BAN	101-479	BANAMINE	15
7	TERR_INF			
8	QTRMSTR	055-028	QUARTERMASTER	4
9	COLI 385	041-245	SULFADIMETHOXINE	260
9-1	COLI 325	141-036	PIRSUE	2
9-3	COLI_325	101-479	BANAMINE	15
10	PULLED 65	065-500	PENICILLIN G PROCAI...	150
10-1	PULLED 65	101-479	BANAMINE	15
11	NERV 45	200-324	DEXAMETHASONE S...	10
11-1	NERV 45	101-479	BANAMINE	15
12	INFUSE 56			

The Protocol Table

When Drug Watch starts, go to the Treatments and then Edit Protocols menu choice.

Protocols consist of a number, a Protocol name, an NADA (New Animal Drug Application) code, a trade name and dosage.

The Protocol Number should be the same as in Alter.

Editing the Protocols

When Drug Watch is initially setup, it will import data from DC305's Protocol table. It will bring in the Protocol number and name. In all cases it is intended to just be a starter.

These must be edited before they will work.

Editing the Protocols

Included with the program is a NADA list which can be used to pick the desired drug. By clicking in the NADA cell, the list is brought up and one can scroll up and down to find the desired drug.

If a drug is being used that has no NADA number, one needs to be created and assigned to the drug.

Multi-Drug Protocols

In certain instances a Protocol in DC305 will have more than one drug associated with it. Let's say that Protocol 5 from DC305 was NAXASP for Naxcel and Aspirin.

In Drug Watch this would be set up as follows:

Single vs. Multiple Drugs

###	Protocol	NADA	TradeName	Dose
1,	MASTITIS 1,	141-036,	PIRSUE,	3

VS.

###	Protocol	NADA	TradeName	Dose
5-1,	Naxcel/Asp,	002-201,	Naxcel,	30
5-2,	Naxcel/Asp,	050-004,	Aspirin,	2

Variable Drug Doses

It is possible for DC305 to pass a dose to Drug Watch in the remark of an event. It is intended to handle such things as calf medications where the dose is on a per-pound (or 100 pound) basis and the calf's weight is taken into consideration for each injection.

Use REMARK to record dose

When this is to be done, to dose in the Protocol table should be set to "0".

The remark of the event must contain a "#" followed by the dose given.

A remark of PENIM#3 would designate that 3 units of the drug (in this case cc's of Penicillin) were given to the calf.

Editing the Protocol Table


Edit Protocols Dialog

#	Protocol	NADA	TradeName	Dose
3-1	LUNGS 85	041-245	SULFADIMETHOXINE	380
4	DA 6	055-030	POLYFLEX®	60
5-1	PEN_SULF	065-500	PENICILLIN G PROCAINE AQUE...	200
6-1	PEN-BAN	065-500	PENICILLIN G PROCAINE AQUE...	150
1-2	MAST 325	141-036	PIRSUE	3
1-3	MAST 235	101-479	BANAMINE	15
3-2	LUNGS 85	101-479	BANAMINE	15
5-2	PEN_SULF	015-102	ALBON® TABLETS	12
6-2	PEN-BAN	101-479	BANAMINE	15
8	QTRMSTR	055-028	QUARTERMASTER	4
9	COLI 385	041-245	SULFADIMETHOXINE	260
9-1	COLI 325	141-036	PIRSUE	2
9-3	COLI_325	101-479	BANAMINE	15
10-1	PULLED 65	101-479	BANAMINE	15
10	PULLED 65	065-500	PENICILLIN G PROCAINE AQUE...	150
11	NERV 45	200-324	DEXAMETHASONE SOLUTION	10
11-1	NERV 45	101-479	BANAMINE	15
1-1	MAST 325	055-030	POLYFLEX®	40
7	TERR_INF			
12	INFUSE 56	065-071	AUREOMYCIN® SOLUBLE PO...	30
13	PEN - CALVES	065-500	PENICILLIN G PROCAINE AQUE...	0
14	Solu Delta Cortef			

PROMAZINE GRANULES: 012
 PROPYLENE GLYCOL: LRC-01
 QUARTERMASTER: 055-028
 RECOVR INJECTABLE: 006-41
 ROMPUN® INJECTABLE (100 I
 SELETOC® INJECTION: 030-3
SOLU-DELTA CORTEF® STER
 SPECTAM® INJECTABLE: 093

Delete

veSync



Completed Table

Edit Protocols Dialog				
#	Protocol	NADA	TradeName	Dose
3-1	LUNGS 85	041-245	SULFADIMETHOXINE	380
4	DA 6	055-030	POLYFLEX®	60
5-1	PEN_SULF	065-500	PENICILLIN G PROCAINE AQUE...	200
6-1	PEN-BAN	065-500	PENICILLIN G PROCAINE AQUE...	150
1-2	MAST 325	141-036	PIRSUE	3
1-3	MAST 235	101-479	BANAMINE	15
3-2	LUNGS 85	101-479	BANAMINE	15
5-2	PEN_SULF	015-102	ALBON® TABLETS	12
6-2	PEN-BAN	101-479	BANAMINE	15
8	QTRMSTR	055-028	QUARTERMASTER	4
9	COLI 385	041-245	SULFADIMETHOXINE	260
9-1	COLI 325	141-036	PIRSUE	2
9-3	COLI_325	101-479	BANAMINE	15
10-1	PULLED 65	101-479	BANAMINE	15
10	PULLED 65	065-500	PENICILLIN G PROCAINE AQUE...	150
11	NERV 45	200-324	DEXAMETHASONE SOLUTION	10
11-1	NERV 45	101-479	BANAMINE	15
1-1	MAST 325	055-030	POLYFLEX®	40
7	TERR_INF			
12	INFUSE 56	065-071	AUREOMYCIN® SOLUBLE PO...	30
13	PEN - CALVES	065-500	PENICILLIN G PROCAINE AQUE...	0
14	Solu Delta Cortef	011-593	SOLU-DELTA CORTEF® STERI...	1

Exit Add Delete

Inventories

Inventories need to be added and edited to the Drug Watch program. The NADA number is the key between this and the Protocol table that brings data to the inventory when a treatment is processed.

Adjusting Inventories

“Receive” is used to receive drugs

“Edit Inventory” to get started or modify inventory settings

“Make Correction” is to fix mistakes that have occurred.



Corrections

Include deleting wrong purchases, treatments or changing dosage amounts.

When editing, buttons appear to "Cancel" or "Save" data changes.

Stock Unit / Reorder Unit

Edit Inventory Dialog								
Nada	TradeName	Reorder Pt	Reorder Qt	SU:RU	Stock Units	Reorder Units	Stock Qt	Stock in Reord...
015-102	ALBON® TABLETS	100	100	50.0	bolus	jars	26.0	0.5
055-030	POLYFLEX®	100	100	200.0	cc	bottle	-200.0	-1.0
065-500	PENICILLIN G PROCAINE A...	100	100	500.0	cc	bottles	2392.0	4.75
101-479	BANAMINE	100	100	250.0	cc	bottles	-30.0	0.0
141-036	PIRSUE	100	100	12.0	tube	box	-128.0	-10.5
097-222	TODAY	100	100	12.0	tube	box	-27.0	-2.25
055-028	QUARTERMASTER	100	100	144.0	tube	case (144 tub...	160.0	1.0
041-245	SULFADIMETHOXINE	100	100	250.0	cc	bottles	1730.0	6.75
200-324	DEXAMETHASONE SOLUT...	100	100	100.0	cc	bottles	200.0	2.0
117-973	PREDNISOLONE SODIUM S...	100	100	100.0	cc	bottle (100cc)	200.0	2.0
065-071	AUREOMYCIN® SOLUBLE ...	100	100	250.0		bottle (250)	640.0	2.5
011-593	SOLU-DELTA CORTEF® S...	100	100	0.0			0.0	0.0

Stock Unit / Reorder Unit

The SU:RU value must be put in along with a description of the Stock Units and Reorder Units

At this point, Reorder Point and Reorder Amount are not implemented.

Notice the Reorder Units column is a description to help explain the SU:RU ratio.

Stock Units / Reorder Units

If one want to enter the starting inventory amount when doing the initial inventory edit, it must be entered as Stock Units – cc of Penicillin or tubes of mastitis medicine.

If it is done by the Receive inventory menu choice, it should be entered as Reorder Units – bottles or Penicillin, cases or boxes of mastitis tubes, etc

Running Drug Watch

DrugWatch should run at all times
(StartUp)

If it is not running, data will not be
lost.

However, it is best to have it going at
all time to be able to have the data
be as accurate and up-to-date as
possible.

Treatments

In most cases, treatments are entered as events into the cows' records and this data is sent to DrugWatch for each animal treated.

If the events is subsequently deleted from the cow record in DC305, it is not deleted from DrugWatch.

Thus, this program will provide a complete record of all activity that has happened to the cow.

Treatments, continued

Notice in the history section that, if available, the cow's permanent ID is sent to Drug Watch along with the other information about her treatment.

This is especially important to note for dairies that re-use ID numbers.

The permanent ID is the only way to know exactly which cow got what drug.

Non-event Treatments

There are some cases when protocols are not directly tied to the protocol table in DC305. This should only be used when the drug has no milk or meat withdrawals and is being put into DrugWatch for inventory purposes.

Examples

PGF, GnRH – not entered as an event.

In these cases the entry command in DC305 would have a “\P” with the protocol number after it that wasn't associated with any protocol in the Alter>Protocol table.

This will be passed to DrugWatch and deducted when it is used.

NB: Vaccines

They used to fit the “No withhold”.

But some MLV might now have 28 days now.

Reports:

There are three basic reports currently possible in Drug Watch. These include:

1. Lists of treatments given to a certain cow or cows
2. Lists of all or specific used during a specified date range
3. Lists of drug purchases

Additionally protocol and inventory reports can be printed.

Print vs. Screen

Notice the icon in the upper left had corner of the screen. If it is a monitor screen the report will be put to the screen and can be printed from there. If it is a printer, the report will go directly to the printer. Clicking on this icon will change it.



The Export menu choice will make a CSV or an Excel file of the cow histories.

Adobe Acrobat Reader

Reports are managed by Acrobat Reader[®] which must to be installed to make the DrugWatch installation complete.

Adobe

Adobe Reader - [InventoryReport.pdf]

File Edit View Document Tools Window Help

Open Save a Copy Print Email Search Select Text 150% eBooks Simplify your review cycle

Zoom Out

Nada	TradeName	Reorder Pt	Reorder Qt	SU:RU	Stock Units	Reorder Units	Stock Qt
015-102	ALBON® TABLETS	100	100	50	bolus	jars	26.0
055-030	POLYFLEX®	100	100	200.0	cc	bottle	-200.0
065-500	PENICILLIN G PROCAINE AQUEOUS	100	100	500	cc	bottles	2392.0
101-479	BANAMINE	100	100	250	cc	bottles	-30.0
141-036	PIRSUE	100	100	12.0	tube	box	-128.0
097-222	TODAY	100	100	12	tube	box	-27.0
055-028	QUARTERMASTER	100	100	144.0	tube	case (144 tubes)	160.0
041-245	SULFADIMETHOXINE	100	100	250	cc	bottles	1730.0
200-324	DEXAMETHASONE SOLUTION	100	100	100.0	cc	bottles	200.0
117-973	PREDNISOLONE SODIUM SUCCINATE FOR INJECTION	100	100	100.0	cc	bottle (100cc)	200.0
065-071	AUREOMYCIN® SOLUBLE POWDER	100	100	250.0		bottle (250)	640.0
011-593	SOLU-DELTA CORTEF® STERILE POWDER	100	100	1.0	vials	vials	0.0
LRC-008	CA GLUCONATE 23%	100	100	12.0	bottles	boxes of 12	24.0

Reports



Reports

The reports pull down menu displays the currently available reports.

Protocols and Inventory are printouts of those tables.

Cow History can be for all cows or specific cows for the life of the program or a specified date range.

Drug Treatment and Purchase Histories can be for any or all drugs for a specified date range.

Cow History

Changing the dates at the top will select the desired date range.

Removing the check mark in the "Select All Cows" and typing the number(s) of the desired cow(s) will make the report as specific as one can get.

The Drug Treatment and Drug Purchase reports use a similar format to select the date range and the desired drug(s).

Select Cows Dialog

Select Cows Dialog

Start Date: 05/23/03

End Date: 01/28/04

Select All Cows

Accept Cancel

Making Corrections

Data entry goes into Drug Watch easily once the protocols and commands are set up in DC305 and the Drug Watch Protocol and Inventory tables have been made.

Making corrections requires more effort. Unlike when deleting a BRED or PREG event in DC305, we cannot assume that deleting an event that has a protocol associated with it should always mean the entry is wrong

Adjust Inventory

The Adjust Inventory menu choice has three options:

Receive

Edit Inventory

Make Corrections

Receive a Delivery

When running this function, one enters the number of REORDER units received, selects the drug and hits the enter key.

Enter received shipment [X]

Hints: Use tab key to jump to next component, up and down arrows to select drug, and enter to accept.

Units Received:

Drug:

- ALBON® TABLETS 015-102
- POLYFLEX® 055-030
- PENICILLIN G PROCAINE AQUEOUS 065-500
- BANAMINE 101-479
- PIRSUE 141-036
- TODAY 097-222

Accept Clear Exit

NB: Inventory Accuracy


Inventories are useless if deliveries are not accurately recorded.

Physical inventory is still necessary.

Edit Inventory

Edit Inventory is use to set up a new drug and make corrections in that set up. For example, if Penicillin reorder units changed from 250 cc bottles to 500 bottles, on would use this procedure to change that.

Correction

 Enter a correction to inventory

Drug	015-102 ALBON® TABLETS
	055-030 POLYFLEX®
	065-500 PENICILLIN G PROCAINE AQUEOUS
	101-479 BANAMINE
	141-036 PIRSUE
	097-222 TODAY
	055-028 QUARTERMASTER
	041-245 SULFADIMETHOXINE

Change in stock units: -500

Reason: Bottle dropped

Accept Cancel

Deleting Entries

It is possible to delete whole entries using this also.

However, whenever a trail of changes made to the inventory are needed, the "Make Correction" choice should be used.

Corrections

Such a correction looks like the following:



The screenshot shows the 'Drug Watch' application window. The title bar reads 'Drug Watch'. The menu bar includes 'Treatments', 'Adjust Inventory', 'Reports', 'Export', and 'Help'. Below the menu bar is a toolbar with a computer icon. There are three tabs: 'Inventory', 'History', and 'Protocols'. The 'Inventory' tab is active, displaying a table with the following data:

Date	Type	Drug	TradeName	Units	rema
02/05/04 1...	055-028	055-028	QUARTERMASTER	4.0	Cow 2670 not really dried

Updates

Drug Watch may be updated to the latest version via the Internet, Go to the Help menu and select the Update via Internet item.



The screenshot shows the 'Drug Watch' application window. The title bar is blue with the text 'Drug Watch' and a small icon. Below the title bar is a menu bar with the following items: 'Treatments', 'Adjust Inventory', 'Reports', 'Export', and 'Help'. The 'Help' menu is open, showing a list of options: 'User Manual', 'Update via Internet' (which is highlighted in blue), and 'About'. Below the menu bar, there is a toolbar with a laptop icon and three buttons: 'Inventory', 'History', and 'Protocols'. At the bottom of the window is a data table with the following columns: 'Nada', 'TradeName', 'Reorder Pt', 'Reorder Qt', 'SU:RU', and 'Stock Units'. The table contains one row of data: '015-102', 'ALBON® TABLETS', '100', '100', '50.0', and 'bolus'.

Nada	TradeName	Reorder Pt	Reorder Qt	SU:RU	Stock Units
015-102	ALBON® TABLETS	100	100	50.0	bolus

Summary

Protocols help a farm:

- More easily record diseases
- Properly treat cows
- Obey withholds
- Monitor people and processes

Drug Watch

Provides these benefits:

Thorough historical record

Inventory if deliveries are recorded

Reconcile/summarize drug use

Potential of auto-ordering

Thank You

- **Questions ???**