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CRITICAL LINK

April 2007 Volume 11, Number 4

Goat Milk: Udderly Healthy

Consistently, the State Laboratories ensure Marylanders get safe and nutritious milk. Maryland's Laboratories Administration, in association with the DHMH Office of Food Protection and the U.S. Food and Drug Administration (FDA), follows regulations with established milk testing protocols. The Western Maryland Regional Laboratory (WMRL) in Cumberland also conducts a testing program for goat milk. The Direct Microscopic Somatic Cell Count (DMSCC) is used by the WMRL to test udder health. Though Maryland currently has only a small number of dairy goat farms producing milk, the use of goat-milk products and the goat-milk business is growing nationwide.

Importance of Testing

Somatic cells in goat milk consist of white blood cells, cytoplasmic particles and a small number of epithelial cells from the milk secreting tissues.[1] The production of white blood cells is a defense against infection. In order to offer patrons a safe consumable product, farmers and producers have their herds' milk tested to determine the presence of mastitis or other infections. Typically, counting somatic cells in milk helps confirm clinical udder

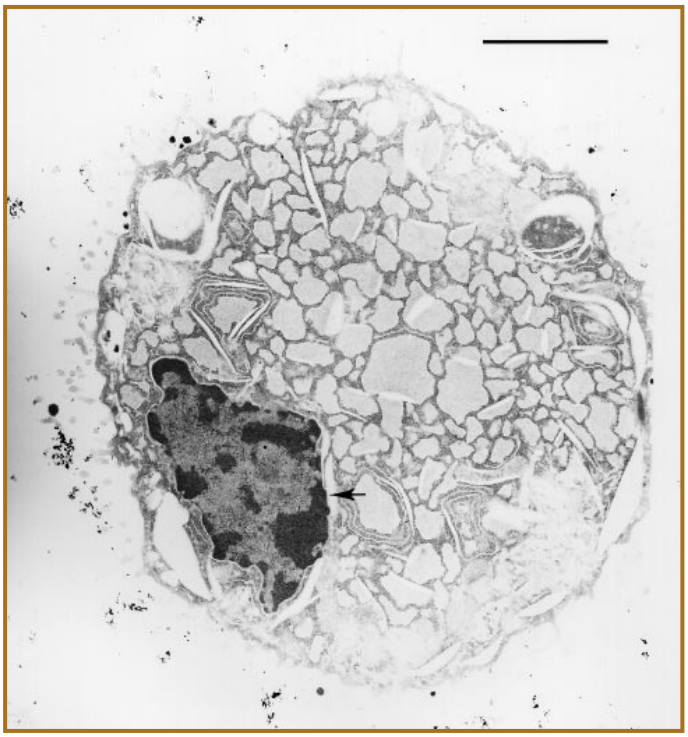

Figure 1. Electron micrograph of a "cytoplasmic particle" shed into the milk by the mammary epithelium of a goat. The particle contains nuclear material (arrow) derived from the mammary secretory cell. Bar=2µm. Photo from Journal of Animal Science, 1977.

infection (mastitis). Somatic cell counts (SCC) can also detect some sub-clinical infections. Sub-clinical infections reduce milk yields, adversely

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affect milk quality, can unknowingly infect large numbers of animals and are up to 40% more prevalent than clinical forms.[1]

There is an ongoing controversy concerning the use of SCC to determine intramammary infection in goats because there are many differences between cow and goat milk. However, most authorities agree detecting udder infection using SCC is definitive.[1]

MILK COMPARISON

	Goat*	Cow*	Human
PROTEIN %	3	3	1.1
FAT %	3.8	3.6	4
CALORIES/100 ML	70	69	68
VITAMIN A (I.U./GRAM FAT)	39	21	32
VITAMIN B1/THIAMIN (µG/100 ML)	68	45	17
RIBOFLAVIN (µG/100 ML)	210	159	26
VITAMIN C (MG ASCORBIC ACID/ 100 ML)	2	2	3
VITAMIN D (I.U./GRAM FAT)	0.7	0.7	0.3
CALCIUM %	0.19	0.18	0.04
IRON %	0.07	0.06	0.2
PHOSPHORUS %	0.27	0.23	0.06
CHOLESTEROL (MG/100 ML)	12	15	20

*pasteurized

Table 1. Comparison of nutritional values in milks.

It is important to have an accurate and reliable method to test milk quality. The DMSCC is one test, which, along with other tests, analyzes milk quality. The Laboratories Administration tests milk to ensure that it is safe for human consumption. Regular use of the DMSCC helps both dairy goat owners' and the goat-milk consumers' confidence that Maryland's goat products come from healthy animals[2] and also increases profitability for farmers and such processors as milk bottling plants.[3,4]

Nutritional and Medical Value

Goat milk has played a positive role in food culture for many years in Europe and Asia. In a time when healthy eating habits is a huge topic in the United States, there is growing consumer interest in goat milk. Dieticians and Nutritionists have determined that goat milk is a good substitute for cow milk. Qualities such as higher tolerability, higher protein, and lower cholesterol have made goat milk products (both cheese and fluid products) viable in the market place.

Goat milk is more easily digested because it has smaller curd, less lactose, is naturally homogenized and lacks the protein, agglutinin.[5] Goat milk may have medical significance because it has a unique metabolic ability to provide energy while lowering, inhibiting and dissolving cholesterol. Also, the goat milk fatty acid, caproic (or decanoic) acid, has been used to treat intestinal disorders .[6]

Researchers at the University of California at Davis are working on producing transgenic goats, as well as other transgenic animals that carry the gene for lysozyme. Lysozyme, an enzyme in human breast milk, is considered one of the main antibacterial components contributing to the health of infants.[7] Though more important in developing countries where intestinal diseases are very high, many infants and children in the United States could benefit from transgenic goat milk. The possible human nutritional and medical benefits that could come from using goat milk products indicate safe goat milk is necessary.[8]

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Testing and Results

Somatic cell count testing is one path in the process to guarantee safe goat milk. Somatic cell production is a biochemical immune response that may indicate infection. In response to invading pathogens, the innate immune system calls into play cytokines (hormone-like molecular weight proteins) that are critical in the early mobilization of white blood cells (mostly neutrophils) to the mammary gland. While intramammary infection increases SCC in goats, other non-infectious factors will also increase counts in goat milk. Some of these non-infectious factors are parity (previous number of births), season, advanced lactation, and injury.[1] To minimize the impact of these non-infectious factors, sample collection is especially important. Reliable laboratory test results depend on sanitarians collecting good samples.

Somatic cell counts for goats free from intramammary infection can range from 270 to 2,000,000 per mL.[9] The testing process Maryland's State laboratories uses helps in determining if the cells counted are actually produced from an udder infection. Milk secreting cells in goats are largely apocrine (relating to a type of glandular secretion in which the apical portion of the secreting cell is released along with the other secretory products) resulting in non-leukocytic cytoplasmic particles. These can be confused with somatic cells from infection. Only cell counting procedures specific for staining deoxyribonucleic acid (DNA) in the nucleus of a cell should be used.[9] The only reliable method for goat milk DMSCC is the Pyronin Y-methyl green stain (PGM) or "New York" modification method. This method delineates the DNA in nucleated cells.[10]

The WMRL uses the DMSCC manual method. There are electronic methods of counting somatic cells (e.g., using a Fossomatic instrument) that are equivalent to the DMSCC manual method. However, most SCC methods have procedural differences that make their cell counts non-comparable to the DMSCC. The FDA approves the DMSCC, the Fossomatic 215, and the Fossomatic 90 methods.

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Laboratory samples are received from Maryland sanitarians using FDA approved collection techniques. The collection procedure must maintain the integrity of the cells and ensure the ability to correctly identify the cells of interest. Another factor that affects somatic cell counts is milking. The SCC tends to increase during milking and remains high for a few hours. Therefore, samples should be collected before milking.[1]

Mastitis control practices are effective in goats.[9] These practices include teat dipping with an appropriate cleaning agent after each milking and "drying off" (preventing lactation). Using antibiotics at dry-off and post-milking teat cleaning has been shown to decrease new intramammary infection.[8] Other practices, such as making sure milking machines are clean and culling does (females) with persistent chronic infections, also will help keep SCC lower.[8]

Milk samples are delivered to WMRL by sanitarians or shipped overnight by courier. After verifying proper collection, checking the control's temperature and assigning a lab number, the sample is ready for testing. Samples are kept refrigerated until testing. Testing must begin within 48 hours of collection time.[11] Slides are prepared using the same techniques used for cow milk. A ten microliter sample is dropped onto a clean, specially made, somatic cell slide, spread within a one centimeter square circle and heat dried. The slide is then ready for staining. Though the staining set-up must be precise, the staining execution is simple. Cornoy's solution (alcohol, acetic acid and chloroform) is used as a fixative. PGM stain follows several water and alcohol washes. After drying (a very important step), the slide is given a final butanol and then a xylene wash.[11] This FDA-approved "New York" method stains the DNA in the white blood cells' nuclei a blue color. When reading goat milk smear-slides the cells to count are stained this conspicuous blue in a field of bright pink. These cells are the somatic cells indicating an unhealthy udder and/or infection. Normal somatic cells remain pink.

Counting cells is performed the same as for cow milk. Using the special indicator slides, cells are counted either parallel across the circle or perpendicular down the circle under the microscope's oil immersion (100X) objective. Each analyst calculates and uses a single strip factor (SSF). This factor is determined by a formula and that number becomes the multiple by which the total somatic cell count per milliliters determined.

Example:
Cells counted from microscope slide = 100 cells
SSF = 4,580
Reported SCC = *460,000/mL

*only two significant digits are reported

A count of greater than 1,000,000/ml is considered a violation and the result is conveyed to the Office of Food Protection, Division of Milk Control for appropriate enforcement action.

Comparing SSC in Goat and Cow Milk

According to the University of Maryland Goat Handbook, a SCC of 1,000,000 is an indication of infection. The handbook does mention a wide-

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SGCH Cherry Glen Tristin Ayla, pictured above, from Cherry Glen Farm, located in Boyds, Maryland, won the title of National Grand Champion with Best Udder at the American Dairy Goat Association National Show this past July in Indianapolis.

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spread belief that this count is too low.[2] There are some basic differences between goat and cow milk composition that have created numerous questions and controversy regarding the validity of using SCC as an infection indicator. The non-infectious factors must be considered. Since goat milk is known as an apocrine (the secretion filled free end of a gland cell is pinched off during milking leaving behind the nucleus and most of the cytoplasm) and cow milk is a merocrine (secretion leaves cells intact during milking), the laboratory scientist must take special care in enumerating the SCC because there may be more somatic cell-like structures seen in the goat milk slide.[12]

When testing goat and cow milk for pathogenic bacteria, the goat milk measures fewer bacteria but higher SCC than cow milk. This may mean that goats respond to udder infection more actively and, if so, goats may also produce more somatic cells.[8] There also are non-pathogenic physiological characteristics unique to goats that may increase the SCC. Udder infection does increase SCC in goat milk but parity, stage of lactation, season, and milk-yield are also related to higher SCC.[9] The higher the parity, the more somatic cells are secreted in a doe's milk. Sampling milk from the last stages of lactation increases SCC. Somatic cell count levels of normal goat milk increases from spring to fall.[8] Samples taken after milking, (i.e., at times of reduced yields) contain twice as many somatic cell as do morning [pre-milking] samples.[13] Although some producers declare that SCC to determine milk quality is worthless,[14] recent investigations indicate that a high SCC not only determines infection in udders but also affects cheese and milk taste and nutrition.[8] Careful monitoring on the farm and careful interpretation in the laboratory are essential to reflect the true health of the goat's udder. The SCC is a mandatory test under Maryland law, but conscientious farmers use "good" results as a marketing tool.[14] Some farmers even have developed their own testing lab so they can monitor milk quality right on the farm.

Many factors affecting cow DMSCC have been evaluated but only a few factors concerning goat milk have had the same scrutiny. Research now underway may increase the understanding of goat-milk somatic cells. Gene expression research using goat somatic cells is under investigation to study the dynamics of the mammary gland. These studies have uncovered possible DNA transcription–infection relationships in the goat's mammary gland.[14] Cloning cows resistant to mastitis is making some progress and goats could be next. When new understanding of somatic cells in goats is recognized, changes in testing likely would occur. Correct and careful sampling is currently the most important step farmers can take to keep the SCC below the 1,000,000/mL cell violation limit. If a goat milk sample is taken at the proper time and if the teats are properly prepped, SCC is a good indicator of udder health.

For the past five years goat-milk DMSCC testing has been part of the milk testing program at WMRL. Questions concerning milk testing may be directed to the WMRL by calling 301-759-5115. Maintaining certification and performance standards, Maryland's State Public Health Laboratories continue to help the industry meet the goat-milk needs of Marylanders.

This article written by Joan Norman.

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Photo courtesy of Cherry Glen Farm, Boyd, Maryland

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Laboratory Statistics

NS – Not Speciated
VRE – Vancomycin Resistant
NG – No Growth
NT – Non-Typeable
SP – Species

* This genus has recently been given a new genus name. The genus name in parenthesis is the old name.
** Formerly a part of the *Trichosporon beigelii* complex.
***Alpha streptococci other than *S. pneumoniae* and *Enterococcus.*

REPORTED 1/01/07 - 1/31/07

ENTERIC BACTERIOLOGY

GENUS SEROVAR	SEX	AGE	#	JURISDICTION
CAMPYLOBACTER JEJUNI				
	F	60	1	BALTIMORE
	U		1	BALTIMORE CITY
ESCHERICHIA COLI O157:H7				
	F	4	2	BALTIMORE
	M	30	1	BALTIMORE
	F	18	1	OUT OF STATE
	M	45	1	OUT OF STATE
SALMONELLA ADELAIDE				
	F		1	PRINCE GEORGE'S
	M		1	PRINCE GEORGE'S
	F	59	1	BALTIMORE CITY
	M	1	1	OUT OF STATE
SALMONELLA ANATUM				
	M	34	1	ANNE ARUNDEL
	F	48	1	OUT OF STATE
SALMONELLA BAREILLY				
	F	35	1	OUT OF STATE
	M	30	1	OUT OF STATE
SALMONELLA CERRO				
	M	82	1	TALBOT
SALMONELLA DERBY				
	F	56	1	CAROLINE
SALMONELLA ENTERITIDIS				
	F	28	1	ALLEGANY
	F	41	1	BALTIMORE
	F	43	1	BALTIMORE
	F	46	1	BALTIMORE
	F	53	1	BALTIMORE
	M	51	1	BALTIMORE
	F	16	1	MONTGOMERY
	F	42	1	PRINCE GEORGE'S
	M	80	1	PRINCE GEORGE'S
	F	50	1	WASHINGTON
	F	57	1	WASHINGTON
	F	1	1	BALTIMORE CITY
	F	7	1	BALTIMORE CITY
	F	32	1	BALTIMORE CITY
	M		2	BALTIMORE CITY
	M	2	1	BALTIMORE CITY
	M	7	1	BALTIMORE CITY
	M	9	1	BALTIMORE CITY
	M	14	1	BALTIMORE CITY
	M	18	1	BALTIMORE CITY
	M	36	1	BALTIMORE CITY
	M	38	1	BALTIMORE CITY
	M	78	1	BALTIMORE CITY
	U	54	1	BALTIMORE CITY
	F	65	1	OUT OF STATE
	U	9	1	OUT OF STATE
	U	46	1	OUT OF STATE

SALMONELLA HEIDELBERG			
M	7	1	MONTGOMERY
F	1	1	PRINCE GEORGE'S
M	5	1	PRINCE GEORGE'S
M	21	1	PRINCE GEORGE'S
F		1	BALTIMORE CITY
SALMONELLA I 13,23:b:-			
M	16	1	CHARLES
SALMONELLA I 4,5,12:r:-			
F	81	1	BALTIMORE
SALMONELLA I 6,7:k:-			
M	20	1	WICOMICO
SALMONELLA INFANTIS			
F	65	1	BALTIMORE
SALMONELLA IV 45:g,z51:-			
F		1	BALTIMORE CITY
SALMONELLA JAVIANA			
U		1	BALTIMORE
F	42	1	CALVERT
F	53	1	PRINCE GEORGE'S
F	28	1	ST. MARY'S
M		1	BALTIMORE CITY
SALMONELLA JOHANNESBURG			
F	51	1	BALTIMORE
SALMONELLA KENTUCKY			
F	48	1	WORCESTER
SALMONELLA KORLEBU			
M	18	1	MONTGOMERY
SALMONELLA LITCHFIELD			
F	1	1	CHARLES
M		1	BALTIMORE CITY
SALMONELLA MBANDAKA			
M	61	1	MONTGOMERY
SALMONELLA MONTEVIDEO			
F	1	1	ANNE ARUNDEL
U		1	MONTGOMERY
M	5	1	OUT OF STATE
SALMONELLA MUENCHEN			
M		1	BALTIMORE
M	59	1	CHARLES
M	13	1	WASHINGTON
SALMONELLA NEWPORT			
F	33	1	CARROLL
F	6	1	CHARLES
F	1	1	MONTGOMERY
F	19	1	WICOMICO
F	63	1	WICOMICO
SALMONELLA ORANIENBURG			
M	23	1	OUT OF STATE
SALMONELLA PANAMA			
F	35	1	CALVERT
M		1	PRINCE GEORGE'S
SALMONELLA POONA			
F		1	ANNE ARUNDEL
SALMONELLA SAARBRUECKEN			
F	39	1	MONTGOMERY
SALMONELLA SAINTPAUL			
F	50	1	HOWARD
SALMONELLA SANDIEGO			
F	13	1	ALLEGANY
SALMONELLA STANLEY			
M	60	1	FREDERICK
M	24	1	OUT OF STATE
SALMONELLA STANLEYVILLE			
M	4	1	HARFORD
SALMONELLA TENNESSEE			
F	25	1	WASHINGTON
F	50	1	OUT OF STATE
SALMONELLA TYPHI			
F	87	1	CHARLES
SALMONELLA TYPHIMURIUM			
M	1	2	HOWARD
F	25	1	MONTGOMERY
M	29	1	PRINCE GEORGE'S
M		1	WICOMICO
F	3	1	BALTIMORE CITY
M		1	BALTIMORE CITY
F	2	1	OUT OF STATE
SALMONELLA TYPHIMURIUM VAR COPENHAGEN			
M	50	1	WASHINGTON
F		1	BALTIMORE CITY
F	54	1	OUT OF STATE
SALMONELLA UGANDA			
F	8	1	MONTGOMERY
U		1	MONTGOMERY
SALMONELLA UNTYPABLE			
M	56	1	MONTGOMERY
SALMONELLA VIRCHOW			
M	23	1	PRINCE GEORGE'S
SALMONELLA 4,12:i:-			
U	4	1	ANNE ARUNDEL
M	74	1	WICOMICO
M		1	OUT OF STATE
SALMONELLA 4,5,12:i:-			
U		1	ANNE ARUNDEL
M	17	1	BALTIMORE
F	4	1	PRINCE GEORGE'S
M	1	1	PRINCE GEORGE'S
F	1	1	BALTIMORE CITY
F	15	1	OUT OF STATE
M	1	1	OUT OF STATE
SALMONELLA 6,7:-:1,5			
F	1	1	TALBOT
F	51	1	WASHINGTON
M	10	1	OUT OF STATE
SHIGELLA FLEXNERI II:3,4			
M	47	1	BALTIMORE
F		1	CHARLES
F	43	1	CHARLES
F	21	1	MONTGOMERY
M	30	1	BALTIMORE CITY
SHIGELLA FLEXNERI IV			
M	42	1	BALTIMORE
M	46	1	OUT OF STATE
SHIGELLA SONNEI			
M	3	1	MONTGOMERY
M	72	1	OUT OF STATE
U	31	1	OUT OF STATE
VIBRIO VULNIFICUS			
M		1	ANNE ARUNDEL
TOTAL		**129**	

ISOLATES – THROAT CULTURES

COUNTY	GROUP A[1]	NON-GROUP A
ALLEGANY	2	2
ANNE ARUNDEL	2	0
BALTIMORE CITY	3	3
BALTIMORE	0	1
MONTGOMERY	0	3
SOMERSET	1	0
WASHINGTON	0	0
WICOMICO	1	1
TOTAL	**9**	**10**

[1] *Streptococcus pyogenes*

BACTERIOLOGY IDENTIFICATIONS
Referrals

GENUS SPECIES SOURCE	#	JURISDICTION
ACHROMOBACTER XYLOSOXIDANS		
SPUTUM	2	ALLEGANY
ACINETOBACTER LWOFFII		
EAR	1	ALLEGANY
URINE	1	ALLEGANY
WOUND	1	ALLEGANY
AGROBACTERIUM RADIOBACTER		
SPUTUM	1	ALLEGANY
ARCANOBACTERIUM PYOGENES		
BLOOD	1	ALLEGANY
BACILLUS CIRCULANS		
URINE	1	ALLEGANY
BACILLUS SPECIES		
URINE	1	ALLEGANY
BACTEROIDES GRACILIS		
BLOOD	1	BALTIMORE
BORDETELLA BRONCHISEPTICA		
SPUTUM	1	ALLEGANY
CHRYSEOBACTERIUM INDOLOGENES		
URINE	1	ALLEGANY
COMAMONAS ACIDOVORANS		
SPUTUM	1	ALLEGANY
EUBACTERIUM AEROFACIENS		
BLOOD	1	BALTIMORE
HAEMOPHILUS INFLUENZAE NON-TYPEABLE		
BLOOD	1	ANNE ARUNDEL
BLOOD	1	BALTIMORE
BLOOD	7	BALTIMORE CITY
BLOOD	1	MONTGOMERY
BLOOD	2	PRINCE GEORGE'S
BLOOD	2	WICOMICO
HAEMOPHILUS INFLUENZAE SEROTYPE F		
BLOOD	1	BALTIMORE
BLOOD	2	BALTIMORE CITY
HAEMOPHILUS PARAINFLUENZAE		
EYE	1	BALTIMORE
LEUCONOSTOC SPECIES		
BLOOD	1	ALLEGANY
METHYLOBACTERIUM SPECIES		
BLOOD	1	BALTIMORE CITY
MORAXELLA OSLOENSIS		
BLOOD	1	BALTIMORE CITY
MORAXELLA SPECIES		
BLOOD	1	ALLEGANY
MORGANELLA MORGANII		
LEG	1	ALLEGANY
NEISSERIA MENINGITIDIS SEROGROUP B		
CSF	1	BALTIMORE CITY
NEISSERIA MENINGITIDIS SEROGROUP Y		
BLOOD	2	BALTIMORE CITY
BLOOD	1	PRINCE GEORGE'S
PASTEURELLA MULTOCIDA		
URINE	1	ALLEGANY
WRIST	1	BALTIMORE
PEPTOSTREPTOCOCCUS PREVOTTI		
BLOOD	1	BALTIMORE
PROPIONIBACTERIUM ACNES		
BLOOD	2	BALTIMORE
PSEUDOMONAS MENDOCINA		
BLOOD	1	BALTIMORE CITY
SPHINGOBACTERIUM MIZUTAII		
BLOOD	1	MONTGOMERY
STAPHYLOCOCCUS AUREUS		
BLOOD	1	BALTIMORE CITY
FOOT	1	WICOMICO
HIP	1	WICOMICO
BLOOD	1	WICOMICO
STREPTOCOCCUS BETA-HEMOLYTIC GROUP G		
BLOOD	1	BALTIMORE
STREPTOCOCCUS PNEUMONIAE		
CSF	1	BALTIMORE
EAR	1	ALLEGANY
TOTAL	**55**	

ISOLATES – MISCELLANEOUS

GENUS SPECIES SOURCE	#	JURISDICTION
ACINETOBACTER CALCOACETICUS-BAUMANNII COMPLEX		
BLOOD	1	BALTIMORE CITY
TOE	1	FREDERICK
ACINETOBACTER LWOFFII		
WOUND	1	FREDERICK
BACILLUS SPECIES		
BLOOD	2	BALTIMORE CITY
TOE	1	FREDERICK
WOUND	2	FREDERICK
CITROBACTER FREUNDII COMPLEX		
TOE	1	FREDERICK
CLOSTRIDIUM SPECIES		
WOUND	1	PRINCE GEORGE'S
CLOSTRIDIUM SUBTERMINALE		
BLOOD	1	BALTIMORE CITY
CLOSTRIDIUM TERTIUM		
BLOOD	1	BALTIMORE CITY
CORYNEBACTERIUM AFERMENTANS		
BLOOD	1	BALTIMORE CITY
CORYNEBACTERIUM SPECIES		
TISSUE	1	BALTIMORE
G TUBE	1	CARROLL
PENIS	1	CECIL
CORYNEBACTERIUM XEROSIS		
BLOOD	1	BALTIMORE CITY
ENTEROBACTER AEROGENES		
PENIS	1	CECIL
SPUTUM	1	FREDERICK
ENTEROBACTER CLOACAE		
BLOOD	1	BALTIMORE CITY
TOE	1	FREDERICK
WOUND	1	FREDERICK
FOOT	1	FREDERICK
ENTEROBACTER GERGOVIAE		
BLOOD	1	BALTIMORE CITY
ENTEROCOCCUS FAECALIS		
FOOT	1	FREDERICK
WOUND	1	FREDERICK
ESCHERICHIA COLI		
URINE	2	ANNE ARUNDEL
BLOOD	2	BALTIMORE CITY
CSF	3	BALTIMORE CITY
URINE	1	BALTIMORE CITY
URINE	1	TALBOT
GARDNERELLA VAGINALIS		
VAGINAL	1	CECIL
GEMELLA MORBILLORUM		
BLOOD	1	BALTIMORE CITY
HAEMOPHILUS INFLUENZAE		
SPUTUM	1	FREDERICK
KLEBSIELLA OXYTOCA		
TOE	1	FREDERICK
PANTOEA AGGLOMERANS		
WOUND	1	FREDERICK
PROPIONIBACTERIUM ACNES		
BLOOD	1	BALTIMORE CITY
PROTEUS MIRABILIS		
ULCER	1	CARROLL
WOUND	2	FREDERICK

PROTEUS SPECIES		
VAGINAL	1	ANNE ARUNDEL
VAGINAL	1	SOMERSET
PSEUDOMONAS AERUGINOSA		
WOUND	2	FREDERICK
PSEUDOMONAS ORYZIHABITANS		
TOE	1	FREDERICK
STAPHYLOCOCCUS AUREUS		
WOUND	1	ALLEGANY
WOUND	4	BALTIMORE
BLOOD	1	BALTIMORE CITY
WOUND	1	BALTIMORE CITY
WOUND	2	CARROLL
SPUTUM	2	FREDERICK
FOOT	2	FREDERICK
TOE	2	FREDERICK
WOUND	3	FREDERICK
ABSCESS	1	MONTGOMERY
VAGINAL	1	PRINCE GEORGE'S
SHIN	1	WASHINGTON
STAPHYLOCOCCUS EPIDERMIDIS		
BLOOD	2	BALTIMORE CITY
STAPHYLOCOCCUS SPECIES		
TISSUE	1	BALTIMORE
BLOOD	1	BALTIMORE CITY
G TUBE	1	CARROLL
PENIS	2	CECIL
WOUND	4	FREDERICK
TOE	6	FREDERICK
WOUND	1	MONTGOMERY
WOUND	2	PRINCE GEORGE'S
STREPTOCOCCUS ALPHA-HEMOLYTIC		
BLOOD	4	BALTIMORE CITY
G TUBE	1	CARROLL
PENIS	1	CECIL
WOUND	1	FREDERICK
STREPTOCOCCUS BETA-HEMOLYTIC GROUP B		
VAGINAL	2	ANNE ARUNDEL
BLOOD	1	BALTIMORE CITY
VAGINAL	1	CECIL
WOUND	1	FREDERICK
VAGINAL	1	HOWARD
VAGINAL	1	SOMERSET
STREPTOCOCCUS MITIS		
BLOOD	1	BALTIMORE CITY
STREPTOCOCCUS NON-HEMOLYTIC		
BLOOD	1	BALTIMORE CITY
STREPTOCOCCUS ORALIS		
BLOOD	2	BALTIMORE CITY
STREPTOCOCCUS SALIVARIUS		
CSF	1	BALTIMORE CITY
TOTAL	**109**	

SEXUALLY TRANSMITTED DISEASES

GENUS SPECIES		
SEX	#	JURISDICTION
NEISSERIA GONORRHEAE		
F	1	ANNE ARUNDEL
M	4	ANNE ARUNDEL
F	3	BALTIMORE
M	4	BALTIMORE
F	1	CALVERT
F	2	CARROLL
F	1	CECIL
M	1	CECIL
M	2	CHARLES
F	1	HARFORD
M	2	HARFORD
F	1	HOWARD
M	1	HOWARD
M	1	KENT
F	4	MONTGOMERY
M	6	MONTGOMERY
F	14	PRINCE GEORGE'S
M	40	PRINCE GEORGE'S
F	1	QUEEN ANNE'S
M	0	QUEEN ANNE'S
M	1	ST. MARY'S
F	0	SOMERSET
M	1	SOMERSET
F	2	TALBOT
M	0	TALBOT
M	1	WASHINGTON
F	4	WICOMICO
M	2	WICOMICO
F	2	WORCESTER
M	1	WORCESTER
M	8	BALTIMORE CITY
TOTAL	**112**	
SYPHILIS SEROLOGY		
M	1	ALLEGANY
F	5	ANNE ARUNDEL
M	9	ANNE ARUNDEL
F	18	BALTIMORE
M	18	BALTIMORE
M	3	CALVERT
F	1	CAROLINE
M	1	CAROLINE
F	1	CARROLL
M	1	CARROLL
M	2	CHARLES
F	2	DORCHESTER
F	3	FREDERICK
F	1	GARRETT
F	2	HARFORD
M	3	HARFORD
M	2	HOWARD
F	1	KENT
F	13	MONTGOMERY
M	8	MONTGOMERY
F	18	PRINCE GEORGE'S
M	37	PRINCE GEORGE'S
M	2	ST. MARY'S
F	1	SOMERSET
F	2	WASHINGTON
F	6	WICOMICO
M	1	WICOMICO
M	1	WORCESTER
F	13	BALTIMORE CITY
M	56	BALTIMORE CITY
U	1	BALTIMORE CITY
M	2	OUT OF STATE
TOTAL	**235**	
CHLAMYDIA TRACHOMATIS		
M	2	ALLEGANY
F	22	ANNE ARUNDEL
M	15	ANNE ARUNDEL
F	27	BALTIMORE
M	12	BALTIMORE
F	6	CALVERT
M	2	CALVERT
F	5	CAROLINE
M	2	CAROLINE
F	2	CARROLL
M	2	CARROLL
F	2	CECIL
M	2	CECIL

F		7	CHARLES
M		8	CHARLES
F		1	DORCHESTER
M		4	DORCHESTER
F		8	FREDERICK
F		1	GARRETT
M		1	GARRETT
F		6	HARFORD
M		11	HARFORD
F		2	HOWARD
F		3	KENT
F		21	MONTGOMERY
M		21	MONTGOMERY
F		57	PRINCE GEORGE'S
M		21	PRINCE GEORGE'S
F		3	ST. MARY'S
M		7	ST. MARY'S
F		5	SOMERSET
M		3	SOMERSET
F		2	TALBOT
M		3	TALBOT
F		6	WASHINGTON
M		5	WASHINGTON
F		15	WICOMICO
M		5	WICOMICO
F		1	WORCESTER
M		3	WORCESTER
F		11	BALTIMORE CITY
M		25	BALTIMORE CITY
F		2	OUT OF STATE
M		4	OUT OF STATE
TOTAL		**373**	

MYCOBACTERIOLOGY

GENUS SPECIES	SEX	AGE	#	JURISDICTION
MYCOBACTERIUM TUBERCULOSIS				
	F	39	1	BALTIMORE
	M	91	1	BALTIMORE
	M	25	1	HARFORD
	F	76	1	MONTGOMERY
	M	38	1	MONTGOMERY
	F	60	1	PRINCE GEORGE'S
	M	23	1	PRINCE GEORGE'S
	M	66	1	PRINCE GEORGE'S
	M	51	1	BALTIMORE CITY
	M	30	1	OUT OF STATE
MYCOBACTERIUM TUBERCULOSIS COMPLEX				
	F	21	1	ANNE ARUNDEL
	M	34	1	ANNE ARUNDEL
	F	35	1	BALTIMORE
	F	39	1	BALTIMORE
	M	36	1	BALTIMORE
	M	30	1	CARROLL
	M	49	1	CECIL
	F	40	1	HARFORD
	M	25	1	HARFORD
	F	36	1	MONTGOMERY
	F	45	1	MONTGOMERY
	F	76	1	MONTGOMERY
	F	78	1	MONTGOMERY
	F	86	1	MONTGOMERY
	M	24	1	MONTGOMERY
	M	26	1	MONTGOMERY
	M	39	1	MONTGOMERY
	M	40	1	MONTGOMERY
	M	54	1	MONTGOMERY
	F	50	1	PRINCE GEORGE'S
	F	60	1	PRINCE GEORGE'S
	M	20	1	PRINCE GEORGE'S
	M	28	2	PRINCE GEORGE'S
	M	63	1	PRINCE GEORGE'S
	M	80	1	WASHINGTON
	F	87	1	WICOMICO
	F	65	1	BALTIMORE CITY
	M	41	1	BALTIMORE CITY
	M	51	1	BALTIMORE CITY
	U		1	BALTIMORE CITY
	F	28	1	OUT OF STATE
	M	42	1	OUT OF STATE
	M	71	1	OUT OF STATE
	U	71	1	OUT OF STATE
MYCOBACTERIUM ABSCESSUS				
	M	60	1	OUT OF STATE
MYCOBACTERIUM AVIUM COMPLEX				
	M	50	1	ALLEGANY
	F	66	1	ANNE ARUNDEL
	F	77	1	BALTIMORE
	F	85	1	BALTIMORE
	M	43	1	BALTIMORE
	M	61	1	CALVERT
	F	52	2	CARROLL
	M	71	1	CARROLL
	M	59	1	CECIL
	M	81	1	CECIL
	F	72	1	FREDERICK
	F	93	1	FREDERICK
	M	47	1	FREDERICK
	F	44	1	MONTGOMERY
	F	60	1	MONTGOMERY
	F	84	1	MONTGOMERY
	F	33	1	PRINCE GEORGE'S
	M	48	1	WICOMICO
	M	66	1	WICOMICO
	M	83	1	WICOMICO
	U	52	1	WICOMICO
	F	31	1	BALTIMORE CITY
	F	52	1	BALTIMORE CITY
	M	37	1	BALTIMORE CITY
	M	45	1	BALTIMORE CITY
	M	53	1	BALTIMORE CITY
	M	87	1	BALTIMORE CITY
MYCOBACTERIUM FORTUITUM				
	M	69	1	PRINCE GEORGE'S
	M	71	1	PRINCE GEORGE'S
	F	74	1	WICOMICO
	M	51	1	BALTIMORE CITY
	M	42	1	OUT OF STATE
MYCOBACTERIUM FORTUITUM COMPLEX				
	M		1	ANNE ARUNDEL
	F	38	1	BALTIMORE CITY
	M	49	1	BALTIMORE CITY
	M	51	1	BALTIMORE CITY
MYCOBACTERIUM GORDONAE				
	F	82	1	MONTGOMERY
	M	27	1	MONTGOMERY
	F	59	1	PRINCE GEORGE'S
	M	65	1	PRINCE GEORGE'S
	F	64	1	OUT OF STATE
MYCOBACTERIUM KANSASII				
	F	39	1	BALTIMORE CITY
	M	59	1	BALTIMORE CITY
MYCOBACTERIUM MARINUM				
	M	69	1	ANNE ARUNDEL
	M	37	1	BALTIMORE
	M	61	1	FREDERICK
	M	69	1	QUEEN ANNE'S
	M	60	1	TALBOT
TOTAL			**95**	

MYCOBACTERIUM SUSCEPTIBILITY RESULTS

DURING THE MONTH OF JANUARY, 2007, WE REPORTED SUSCEPTIBILITY RESULTS ON 23 ISOLATES OF *M. TUBERCULOSIS* COMPLEX.*

7 DRUG RESISTANT STRAINS WERE IDENTIFIED:

#	JURISDICTION DRUG RESISTANCE
1	CARROLL ® to STREPTOMYCIN
1	MONTGOMERY ® to STREPTOMYCIN, ISONIAZID and PARA AMINOSALICYLIC ACID
1	PRINCE GEORGE'S ® to STREPTOMYCIN
1[A]	PRINCE GEORGE'S ® to PYRAZINAMIDE
2[B]	BALTIMORE CITY ® to STREPTOMYCIN and RIFAMPIN
1	WASHINGTON CO ® to STREPTOMYCIN

[A] Probable M. bovis
[B] Two isolates from the same patient

* *Mycobacterium tuberculosis* complex consists of:
M. tuberculosis
M. bovis
M. bovis, BCG
M. africanum
M. microti
M. canettii

® RESISTANT

MYCOLOGY

GENUS SPECIES	SEX	AGE	#	JURISDICTION
ALTERNARIA SP				
	M	29	1	CECIL
ASPERGILLUS FLAVUS				
	F	74	1	PRINCE GEORGE'S
ASPERGILLUS FUMIGATUS				
	F	78	1	CALVERT
	F	84	1	CECIL
	M	53	1	PRINCE GEORGE'S
	F	81	1	TALBOT
	M	62	1	BALTIMORE CITY
	F	47	1	OUT OF STATE
ASPERGILLUS NIGER				
	M	71	1	CHARLES
	F	55	1	PRINCE GEORGE'S
	M	41	1	TALBOT
ASPERGILLUS OCHRACEUS				
	F	36	1	TALBOT
ASPERGILLUS SP				
	F	64	1	ANNE ARUNDEL
ASPERGILLUS VERSICOLOR GROUP				
	F	55	1	PRINCE GEORGE'S
CANDIDA ALBICANS				
	F	18	1	ANNE ARUNDEL
	F	22	1	ANNE ARUNDEL
	F	79	1	ANNE ARUNDEL
	F	16	1	CALVERT
	F	50	1	CALVERT
	F	63	1	CALVERT
	F	18	1	CECIL
	M	43	1	CECIL
	F	91	1	FREDERICK
	M	81	1	FREDERICK
	M	82	1	FREDERICK
	F	22	1	HOWARD
	F	24	1	HOWARD
	F	29	1	HOWARD
	F	67	1	MONTGOMERY
	F	75	1	MONTGOMERY
	F	82	1	MONTGOMERY
	M	73	1	MONTGOMERY
	M	78	1	MONTGOMERY
	F	22	1	PRINCE GEORGE'S
	F	42	1	PRINCE GEORGE'S
	F	51	1	PRINCE GEORGE'S
	F	55	1	PRINCE GEORGE'S
	F	78	1	PRINCE GEORGE'S
	M	24	1	PRINCE GEORGE'S
	M	52	1	PRINCE GEORGE'S
	M	73	1	PRINCE GEORGE'S
	M	76	1	PRINCE GEORGE'S
	M	82	1	PRINCE GEORGE'S
	F	21	1	SOMERSET
	F	21	1	TALBOT
	F	26	1	WICOMICO
	F	49	1	BALTIMORE CITY
	F	56	1	BALTIMORE CITY
	F	59	1	BALTIMORE CITY
	M	46	1	BALTIMORE CITY
	M	50	1	BALTIMORE CITY
	M	51	1	BALTIMORE CITY
	M	55	1	BALTIMORE CITY
	M	57	1	BALTIMORE CITY
	M	76	1	BALTIMORE CITY
	F	40	1	OUT OF STATE
	F	47	1	OUT OF STATE
CANDIDA GLABRATA				
	F	83	1	BALTIMORE
	M	81	1	FREDERICK
	F	75	1	MONTGOMERY
	M	76	1	BALTIMORE CITY
CANDIDA GUILLIERMONDII				
	F	87	1	BALTIMORE
CANDIDA PARAPSILOSIS				
	F	65	1	FREDERICK
	M	57	1	PRINCE GEORGE'S
	M	54	1	OUT OF STATE
CANDIDA TROPICALIS				
	F	69	1	ALLEGANY
	F	69	1	MONTGOMERY
	F	75	1	MONTGOMERY
CHRYSOSPORIUM SP				
	M	29	1	ANNE ARUNDEL
CLADOSPORIUM SP				
	F	2	1	ALLEGANY
CRYPTOCOCCUS NEOFORMANS				
	M	55	1	CARROLL
CURVULARIA SP				
	U		1	ANNE ARUNDEL
	F	79	1	TALBOT
FUSARIUM SP				
	M	48	1	BALTIMORE
	F	20	1	TALBOT

M	83	1	TALBOT
U	78	1	BALTIMORE CITY
GEOTRICHUM PENICILLATUM			
F	86	1	TALBOT
METARRHIZIUM SP			
M	55	1	TALBOT
NOCARDIA FARCINICA			
M	60	1	FREDERICK
F	83	1	BALTIMORE CITY
NOCARDIA NOVA			
F	69	1	WICOMICO
PAECILOMYCES LILACINUS			
M	61	1	TALBOT
PENICILLIUM SP			
M	30	1	CECIL
U	61	1	MONTGOMERY
M	44	1	PRINCE GEORGE'S
U		1	TALBOT
TRICHODERMA SP			
F	25	1	HOWARD
M	61	1	PRINCE GEORGE'S
TRICHOPHYTON TONSURANS			
F	6	1	BALTIMORE
M	9	1	BALTIMORE
F	3	1	TALBOT
TSUKAMURELLA SP			
F	49	1	OUT OF STATE
TOTAL		**93**	

PARASITOLOGY

GENUS SPECIES	#	JURISDICTION
PROTOZOA		
CHILOMASTIX MESNILI	3	BALTIMORE CITY
ENTAMOEBA COLI	2	HOWARD
	2	PRINCE GEORGE'S
TOTAL	**7**	
NEMATODES		
ENTEROBIUS VERMICULARIS	1	CARROLL
TOTAL	**1**	

ARTHROPOD IDENTIFICATION

NO STATISTICS RECEIVED

TICK IDENTIFICATION

NO STATISTICS RECEIVED

WATER MICROBIOLOGY

	# TESTED	**# NON-COMPLIANT**
COMMUNITY	2	0
NON-COMMUNITY	444	69
TOTAL	**446**	**69**

FOOD SAFETY

FOOD AND SHELLFISH MICROBIOLOGY

	# OF SAMPLES	**NOTABLE PATHOGENS**
FOOD	5	0
		# STANDARDS EXCEEDED *
CRABMEAT	0	0
		# STANDARDS EXCEEDED **
SHELLFISH	0	0
SHELLFISH GROWING WATERS	106	
OTHER***	2	
TOTAL	**113**	**0**

STANDARDS

*CRABMEAT-FRESH
ESCHERICHIA COLI = LESS THAN 36 MPN/100 GRAM
STANDARD PLATE COUNT = LESS THAN 100,000 PER GRAM

** SHELLFISH
FECAL COLIFORMS = LESS THAN 230 MPN/100 GRAM
STANDARD PLATE COUNT = LESS THAN 500,000 PER GRAM

***2 INFANT **CLOSTRIDIUM** BOTULINUM,
1 POSITIVE FOR TYPE B, 1 NEGATIVE

VIRUS ISOLATION

ISOLATE	SEX	AGE	#	JURISDICTION
INFLUENZA A				
	F	22	1	MONTGOMERY
	F	5	1	BALTIMORE CITY
SUBTOTAL			**2**	
INFLUENZA B				
	F	25	1	CALVERT
SUBTOTAL			**1**	
ADENOVIRUS				
	M		1	BALTIMORE CITY
SUBTOTAL			**1**	
HERPES SIMPLEX UNTYPABLE				
	M	29	1	GARRETT
	M	20	1	PRINCE GEORGE'S
	M	18	1	ST. MARY'S
	M	20	1	WICOMICO
	F	34	1	BALTIMORE CITY
	M	21	1	BALTIMORE CITY
SUBTOTAL			**6**	
HERPES SIMPLEX I				
	F	18	1	ANNE ARUNDEL
	F	19	1	ANNE ARUNDEL
	F	16	1	BALTIMORE
	F	20	1	BALTIMORE
	F	22	1	BALTIMORE
	F	28	1	BALTIMORE
	M	24	1	BALTIMORE
	F	26	1	CALVERT
	M	20	1	CALVERT
	F	20	1	HOWARD

F	17	1	PRINCE GEORGE'S
F	18	1	PRINCE GEORGE'S
F	21	1	PRINCE GEORGE'S
F	26	1	PRINCE GEORGE'S
F	26	1	WICOMICO
F	16	2	BALTIMORE CITY
F	17	1	BALTIMORE CITY
SUBTOTAL		**18**	
HERPES SIMPLEX II			
M	17	1	ALLEGANY
F	30	1	ANNE ARUNDEL
F	32	2	ANNE ARUNDEL
F	42	1	ANNE ARUNDEL
F	24	1	BALTIMORE
F	28	1	BALTIMORE
F	30	1	BALTIMORE
M	25	1	BALTIMORE
M	31	1	BALTIMORE
M	36	1	BALTIMORE
F		1	CARROLL
F	20	1	CARROLL
M	30	1	CARROLL
F	25	1	CHARLES
F	31	1	CHARLES
M	24	1	CHARLES
M	26	1	CHARLES
F	20	1	HARFORD
F		1	MONTGOMERY
F	21	2	PRINCE GEORGE'S
F	22	1	PRINCE GEORGE'S
F	26	1	PRINCE GEORGE'S
F	28	1	PRINCE GEORGE'S
F	31	1	PRINCE GEORGE'S
F	34	1	PRINCE GEORGE'S
F	35	1	PRINCE GEORGE'S
F	44	1	PRINCE GEORGE'S
F	17	1	WASHINGTON
F	18	1	WICOMICO
F	22	1	WICOMICO
F	16	1	BALTIMORE CITY
F	17	1	BALTIMORE CITY
F	18	2	BALTIMORE CITY
F	19	1	BALTIMORE CITY
F	20	1	BALTIMORE CITY
F	22	2	BALTIMORE CITY
F	23	2	BALTIMORE CITY
F	26	1	BALTIMORE CITY
F	27	1	BALTIMORE CITY
F	37	1	BALTIMORE CITY
M	20	1	BALTIMORE CITY
M	23	1	BALTIMORE CITY
M	24	1	BALTIMORE CITY
M	36	1	BALTIMORE CITY
M	37	1	BALTIMORE CITY
M	46	1	BALTIMORE CITY
M	57	1	BALTIMORE CITY
U	28	1	BALTIMORE CITY
SUBTOTAL		**53**	
TOTAL		**81**	

VIRAL HEPATITIS

ORGANISM	# OF SPECIMENS	POSITIVES	JURISDICTION
HEPATITIS A			
	1	0	ANNE ARUNDEL
	7	0	BALTIMORE
	3	0	HARFORD
	1	0	HOWARD
	2	0	PRINCE GEORGE'S
	4	0	BALTIMORE CITY
SUBTOTALS	**18**	**0**	
HEPATITIS B			
	42	0	ALLEGANY
	132	4	ANNE ARUNDEL
	81	2	BALTIMORE
	7	0	CALVERT
	9	0	CAROLINE
	28	0	CARROLL
	126	1	CECIL
	7	0	CHARLES
	3	0	DORCHESTER
	78	0	FREDERICK
	25	0	GARRETT
	70	0	HARFORD
	62	0	HOWARD
	2	0	KENT
	304	3	MONTGOMERY
	295	3	PRINCE GEORGE'S
	7	0	QUEEN ANNE'S
	3	0	ST. MARY'S
	8	0	SOMERSET
	12	0	TALBOT
	73	1	WASHINGTON
	121	1	WICOMICO
	4	0	WORCESTER
	403	5	BALTIMORE CITY
	9	0	OUT OF STATE
	3	0	UNKNOWN
SUBTOTALS	**1,914**	**20**	
HEPATITIS C			
	38	4	ALLEGANY
	132	32	ANNE ARUNDEL
	96	18	BALTIMORE
	7	0	CALVERT
	9	1	CAROLINE
	33	7	CARROLL
	49	4	CECIL
	6	2	CHARLES
	1	1	DORCHESTER
	78	5	FREDERICK
	26	2	GARRETT
	22	3	HARFORD
	30	4	HOWARD
	2	0	KENT
	47	4	MONTGOMERY
	174	3	PRINCE GEORGE'S
	7	1	QUEEN ANNE'S
	4	1	ST. MARY'S
	13	3	SOMERSET
	12	1	TALBOT
	94	32	WASHINGTON
	26	0	WICOMICO
	4	1	WORCESTER
	386	100	BALTIMORE CITY
	8	0	OUT OF STATE
	2	0	UNKNOWN
SUBTOTALS	**1,306**	**229**	
TOTALS	**3,238**	**249**	

The services and facilities of the Maryland Department of Health and Mental Hygiene (DHMH) are operated on a non-discriminatory basis. This policy prohibits discrimination on the basis of age; ancestry; color; creed; marital status; mental or physical disability; national origin; race; religious affiliation, belief, or opinion; sex; or sexual orientation and applies to the provisions of employment and granting of advantages, privileges and accommodations. The Department, in compliance with the Americans with Disabilities Act, ensures that qualified individuals with disabilities are given an opportunity to participate in and benefit from DHMH services, programs, benefits, and employment opportunities.

CHLAMYDOPHILIA (CHLAMYDIA) PSITTACI

REPORTED QUARTERLY
NO SPECIMENS RECEIVED FROM 07/01/06 TO 09/30/06

CD4 FLOW CYTOMETRY WORKLOAD

REPORTED QUARTERLY
NO REPORT THIS MONTH

RABIES

SOURCE	#	JURISDICTION
BAT	1	GARRETT
	1	TALBOT
CAT	1	WASHINGTON
FOX	1	CHARLES
	1	MONTGOMERY
	1	UNKNOWN
RACCOON	2	CAROLINE
	2	CHARLES
	2	DORCHESTER
	1	FREDERICK
	2	HARFORD
	4	MONTGOMERY
	3	PRINCE GEORGE'S
	1	SOMERSET
	4	WASHINGTON
	1	WORCESTER
	2	UNKNOWN
SKUNK	2	FREDERICK
	1	WASHINGTON
	1	UNKNOWN
TOTAL POSITIVES	**34**	
TOTAL SPECIMENS	**288**	

NEWBORN & CHILDHOOD SCREENING

STATISTICS FOR JANUARY 2007

PRESUMPTIVE POSITIVES	
DISORDERS	**#**
PHENYLKETONURIA	10
MAPLE SYRUP URINE DISEASE	12
HOMOCYSTINURIA	9
TYROSINEMIA	8
ARGININEMIA	0
CITRULLINEMIA	0
GALACTOSEMIA	1
BIOTINIDASE DEFICIENCY	0
HYPOTHYROIDISM	66
HEMOGLOBIN -DISEASE	15
HEMOGLOBIN -BENIGN	278
CONGENITAL ADRENAL HYPERPLASIA (CAH)	39
CYSTIC FIBROSIS	6
FATTY ACID OXIDATIONS	19
ORGANIC ACIDEMIAS	41
ACYLCARNITINE - BORDERLINE	19
ACYLCARNITINE - OTHERS	24

MONTHLY TOTALS	
# OF SPECIMENS SCREENED	11,690
NUMBER OF TESTS	857,259
% OF UNSATISFACTORY SPECIMENS	6.7

YEAR-TO-DATE CONFIRMED CASES	
CONDITIONS	**# CONFIRMED**
MCAD	0
3MCC	0
SCAD	0
VLCAD	0
GA-I	1
MAPLE SYRUP URINE DISEASE	0
PKU- CLINICALLY SIGNIFICANT VARIANT	0
GALACTOSEMIA- CLASSICAL GALT DEFICIENCY	0
GALACTOSEMIA - VARIANT	0
BIOTINIDASE DEFICIENCY	0
GALACTOSE EPIMERASE DEFICIENCY	0
PARTIAL BIOTINIDASE DEFICIENCY	0
CAH- CLASSICAL SALT WASTING	1
CAH-NON-CLASSICAL	0
HYPOTHYROIDISM - PRIMARY	2
OTHER HYPOTHYROIDISM	2
SICKLE CELL DISEASE -SS	2
SICKLE CELL DISEASE -SC	0
SICKLE CELL DISEASE -S BETA THALASSEMIA	1
CYSTIC FIBROSIS	1

LEAD SCREENING - BLOOD LEAD

CLASS		RANGE ug/dl	TESTS # of
MARYLAND			
	I	<10	176
	IIA	10-14	17
	IIB	15-19	8
	III	20-44	12
	IV	45-69	0
	V	>69	0
TOTAL			**213**
WASHINGTON DC			
	I	<10	0
	IIA	10-14	0
	IIB	15-19	0
	III	20-44	0
	IV	45-69	0
	V	>69	0
TOTAL			**0**

ENVIRONMENTAL CHEMISTRY

SAMPLES	# NON-COMPLIANT	# TESTED
ASBESTOS		
AIR	14	23
BULK	0	0
AIR QUALITY		
$PM_{2.5}$	0	469
PM_{10}	0	0
RADIATION		
AIR/CHARCOAL FILTERS	0	80
MILK	0	4
WIPES	0	41
RAW WATER	0	13
VEGETATION	0	0
OTHER	0	0
DRINKING WATER		
METALS		
COMMUNITY	3	17
NON-COMMUNITY	0	3
PRIVATE WELLS	70	216
PESTICIDES & PCBs		
COMMUNITY	0	112
NON-COMMUNITY	0	20
PRIVATE WELLS	0	0
VOLATILE ORGANIC COMPOUNDS		
COMMUNITY	1	265
NON-COMMUNITY	0	51
PRIVATE WELLS	0	108
RADIATION		
COMMUNITY	21	46
NON-COMMUNITY	0	0
PRIVATE WELLS	0	7
INORGANICS		
COMMUNITY	1	9
NON-COMMUNITY	10	315
PRIVATE WELLS	11	306
FOOD CHEMISTRY		
SUSPECTED TAMPERING	0	0
MICROSCOPIC FILTH	0	1
LABELING	0	0
SURVEILLANCE	0	0
CHEMICAL CONTAMINATION	0	3
TOTAL	**131**	**2,109**

LEAD ENVIRONMENTAL

TEST	#	ELEV	BRL	UNSAT
TOTAL PAINT	**12**	**3**	**1**	**0**
TOTAL SOIL	**4**	**1**	**2**	**0**
DUST				
FLOOR	360	40	283	0
SILL	657	21	435	0
WELL	254	15	149	0
OTHER	16	3	12	0
TOTAL DUST	**1,287**	**79**	**879**	**0**
GRAND TOTAL	**1,303**	**83**	**882**	**0**

INTERPRETATION OF RESULTS:

# = Number of Samples Received
ELEV= Elevated
BRL= Below Reporting Limit
UNSAT = Unsatisfactory
PAINT Positive in excess of 0.5%
SOIL Action level 400 - 5,000 ppm
DUST Clearance limits: Floor/Other 40 ug/sq ft
Window Sill 250 ug/sq ft
Window Well 400 ug/sq ft

VIRAL LOAD SPECIMENS (JANUARY 2007)

	HIV–1 RNA COPIES/ML				
JURISDICTION	**$<10^3$**	**10^3-10^4**	**10^4-10^5**	**$>10^5$**	**TOTALS**
ALLEGANY CO	12	0	1	0	**13**
BALTIMORE CO	0	1	1	0	**2**
CLIFTON T PERKINS	1	0	0	0	**1**
DYER/CLINTON CTR	20	0	2	2	**24**
FREDERICK CO	0	0	2	0	**2**
MONTGOMERY CO	73	14	9	8	**104**
PRINCE GEORGE'S CO	38	4	5	4	**51**
SOMERSET CO	2	0	0	0	**2**
SPRINGFIELD HOSP	2	1	0	0	**3**
WASHINGTON CO	4	1	2	1	**8**
WICOMICO CO	3	0	1	1	**5**
SUBTOTAL	**155**	**21**	**23**	**16**	**215**
DEPT. OF CORRECTIONS	119	30	44	16	**209**
TOTAL	**274**	**51**	**67**	**32**	**424**

HIV ANTIBODY SCREENING – BLOOD (JANUARY 2007)

SPECIMEN SOURCES	TOTAL	POSITIVE EIA	%	POSITIVE WB	%
HEALTH DEPARTMENTS AND CLINICS	2,779	114	4.10%	107	93.86%
HOSPITALS	139	2	1.44%	2	100.00%
DETENTION CENTERS	551	11	1.99%	11	100.00%
PRIVATE PHYSICIANS	16	0	0.00%	0	0.00%
STUDENT HEALTH CLINICS	185	0	0.00%	0	0.00%
EMPLOYEE HEALTH CLINICS	1	0	0.00%	0	0.00%
AUTOPSIES	388	29	7.47%	20	71.34%
ORGAN/TISSUE DONORS	90	0	0.00%	0	0.00%
TOTAL	**4,149**	**156**	**3.76%**	**140**	**89.74%**

MAILING LABEL

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