National Farm Animal Identification & Records

National FAIR Status Report — Winter 2006-2007

Five years since its inception, National FAIR continues to demonstrate and educate on how a national animal ID system can work in the U.S. Thanks to Congressional Appropriations, and the support of USDA/APHIS/VS, our research of electronic ID and animal tracking has made important strides in helping protect the health of our valuable U.S. animal agriculture industry.

This report details the progress made and the viability of the methods used, to track animals in the National FAIR program. Recent milestones have been reached with the enrollment of more than 3.5 million animals from over 17,000 farms in the National FAIR system from across the country.

We are proud to have been working with the development of the US Animal Identification Plan (USAIP) and what has become known as National Animal Identification System (NAIS) today. Our experience with RFID, particularly in the state of Michigan, has been an excellent testing ground for many of the standards set in the USAIP. From our standpoint, we are proud to say we have proven it works and we are excited for the future of national animal ID.

Finally, National FAIR has continued as a leader to help educate all interested on the importance of national identification. We are encouraging all farmers to tag their bovines at birth to prepare them for the future.

FAIR
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Inside the numbers

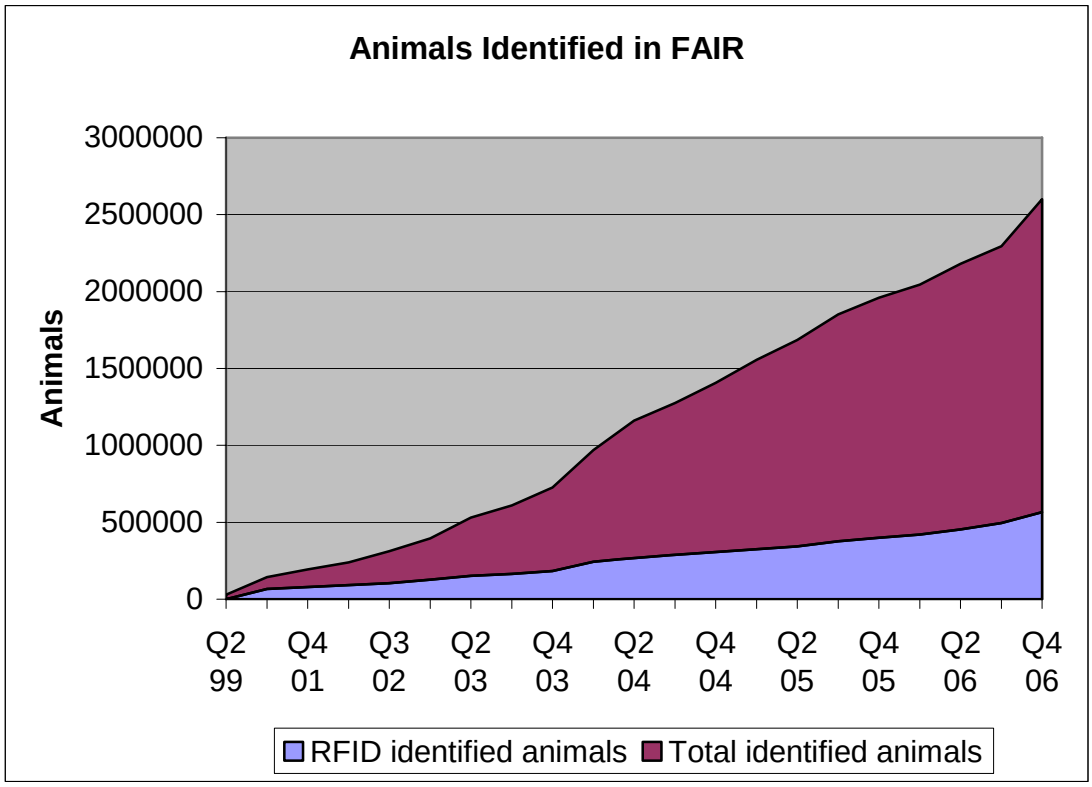
Herd enrollment

Table 1 shows the number of active premises enrolled in National FAIR by state. A total of 49 states now have herds that have been issued FAIR tags.

State	# Premises w/ Visible tags	# Premises w/ Visible & RFID tags	# Premises Market	# Premises Slaughter
Alabama	4	1		
Arkansas	12	1		
Arizona	3			
California	261	136	3	1
Colorado	11			
Connecticut	19			
Delaware	18			
Florida	8	2		
Georgia	26			
Hawaii	1	1		
Iowa	208	11		
Idaho	46	6		
Illinois	153	27		1
Indiana	98	4		
Kansas	55	7		
Kentucky	45	1		
Louisiana	6			
Massachusetts	20	2		
Maryland	107	4		
Maine	27	1		
Michigan	12,416	6,547	15	33
Minnesota	295	31		
Missouri	78	11		
Mississippi	7			
Montana	6			
North Carolina	31			
North Dakota	20			
Nebraska	31	2		
New Hampshire	25			
New Jersey	18			1
New Mexico	21	2		
Nevada	4	1		
New York	507	56	2	
Ohio	258	19		
Oklahoma	35	4		
Oregon	44	4		
Pennsylvania	789	48	1	4
Rhode Island	2			
South Carolina	12			
South Dakota	56	6		
Tennessee	34			
Texas	74	11		
Utah	32	2		
Virginia	74	1		
Vermont	117	7		
Washington	76	4		
Wisconsin	1016	89	2	6
West Virginia	15			
Wyoming	1			
Total	**17,222**	**7,049**	**23**	**46**

Animal enrollment

The number of animals identified in the National FAIR database continues to increase substantially. In 2006, FAIR identified* 477,082 animals. Total number of animals identified since the start of the FAIR program is up to 2,035,848, of which 565,490 have an RFID tag. The animals identified in FAIR represent animals from 87 different breeds, which include the 7 major dairy breeds and 78 beef breeds including purebred and crossbreds.



Number of animals identified in the four pilot states

State	# Animals identified	# Animals identified with RFID
Wisconsin	219,254	72,017
California	294,114	87,778
New York	145,253	50,851
Pennsylvania	149,092	19,148
Total	807,713	229,777

* Any animal identification information beyond the FAIR tag numbers will constitute an animal as identified.

Market and Slaughter Plant Update

Existing RFID readers:

The readers at all the markets and slaughter plants are fully operational, and files are being transmitted on a regular basis. With every RFID reader set-up being unique, National FAIR has been continually trying to improve upon the file transmission process – finding an ideal mix of automation and human oversight to keep the RFID readers, laptop equipment, phone lines up and running, and the file transfer occurring regularly and seamlessly.

RFIDs read at markets

Quarter	Dryden (NY)	Pavilion (NY)	Reedsville (WI)	Northern MI Lvstk (MI)	St Louis (MI)	Clare (MI)	Cass City (MI)	Farmers (MI)	Napoleon (MI)	Bonduel (WI)	Manchester (MI)	Martella (CA)	Total
Q2 '99	15												15
Q3 '99	146												146
Q4 '99	99		2										101
Q1 '00			34										34
Q2 '00	40	28	22										90
Q3 '00	47	91	51										189
Q4 '00	93	43	62										198
Q1 '01	70	22	121										213
Q2 '01	53	86	88										227
Q3 '01	34	57	92										183
Q4 '01	29	100	121										250
Q1 '02	49	140	116										305
Q2 '02	76	169	93										338
Q3 '02	63	176	126	174	39								578
Q4 '02	103	N/A	133	1327	162	49	49						1823
Q1 '03	65	94	20	983	295	150	5						1612
Q2 '03	56	27	9	1727	442	28	80	1	22				2392
Q3 '03	11	0	69	1154	419	68	54	15	10	3			1803
Q4 '03	0	0	107	3242	548	131	0	24	48	6	13		4041
Q1 '04	9	0	6	1244	323	144	1	11	38	122	22	7	1866
Q2 '04	0	48	0	2134	380	181	83	53	54	109	6	14	2984
Q3 '04	0	143	16	2046	238	294	75	71	85	138	6	18	3130
Q4 '04	0	0	19	4254	281	239	0	75	37	69	9	24	5001
Q1 '05	0	163	21	1867	233	0	26	0	77	31	0	15	2417
Q2 '05	53	63	40	4159	243	167	104	0	35	16	0	42	4779
Q3 '05	90	0	55	2569	250	275	60	34	91	0	5	2	3431
Q4 '05	144	76	14	5870	266	467	250	78	8	0	10	77	7260
Q1 '06	156	174	22	2621	175	172	88	20	3	60	14	59	3564
Q2 '06	123	77	21	4080	50	69	192	115	80	45	53	387	5292
Q3 '06	144	107	23	3118	490	333	78	163	187	223	15	312	5193
Q4 '06	165	33	0	6322	302	282	305	0	204	83	98	0	7794
Total	1933	1917	1503	48,891	4776	3049	1450	660	979	906	251	957	

RFIDs read at slaughter plants

Quarter	Taylor (PA)	Cargill (WI)	Packerland (MI)	Packerland (WI)	Moyers (PA)	Tyson/IBP (IL)	Dress Beef (WI)	Beef Packers (CA)	Total
Q2 ‘99	2								17
Q3 ‘99	193								339
Q4 ‘99	206								307
Q1 ‘00	167								201
Q2 ‘00	176	194							460
Q3 ‘00	281	250							720
Q4 ‘00	265	21							484
Q1 ‘01	352	99							664
Q2 ‘01	452	170							849
Q3 ‘01	1,072	179							1,434
Q4 ‘01	602	290							1,142
Q1 ‘02	690	362							1,357
Q2 ‘02	3,458	317	237						4,350
Q3 ‘02	4,399	431	563	157					6,128
Q4 ‘02	6,910	556	633	136	857				10,796
Q1 ‘03	6,571	614	872	573	1,664	930	1083		12,307
Q2 ‘03	3.983	596	1,168	321	2,227	1,437	1,156		11,509
Q3 ‘03	1,316	654	502	153	993	103	495		4,216
Q4 ‘03	960	328	194	603	519	255	661	73	3,593
Q1 ‘04	990	31	208	184	792	300	945	198	3,648
Q2 ‘04	935	0	388	374	15	444	1,036	126	3,337
Q3 ‘04	1,390	449	628	540	9	988	1,378	133	5,515
Q4 ‘04	1,401	779	705	286	0	840	1151	80	5,262
Q1 ‘05	1,103	348	580	153	3	932	1,341	1,443	5,903
Q2 ‘05	1,258	493	1,166	304	6	696	890	1,839	6,652
Q3 ‘05	942	629	1,191	564	86	616	50	2,468	6,546
Q4 ‘05	3,306	154	1,271	585	233	1,466	1,021	2,596	10,632
Q1 ‘06	2,701	139	1,259	465	100	1,364	1,352	2,939	10,319
Q2 ‘06	2,666	195	63	2,164	266	1,345	1,218	4,297	12,151
Q3 ‘06	3,061	1,213	1,322	1,479	483	475	1,644	5,086	14,763
Q4 ‘06	3,752	1,679	4,134	2,629	301	534	2,303	7,952	23,284
Total	55,560	11,190	17,084	14,305	4,153	13,996	17,460	29,230	

RFID Tracking

Beyond the RFID information collected directly from the Taylor, Embers, Murco, Packerland, Moyers, Tyson/IBP and the American Foods (Dress Beef) processing plants, RFID tags have been returned to the FAIR office from animals that moved through other processing plants such as the Nichols, PA, and various small processing plants in Michigan. The number of RFID reads at Taylor, Murco, Moyers and Dress Beef have been relatively higher then other plants due to a large number of Canadian animals read until the ban on Canadian cattle in the US. FAIR has been collecting RFID reads at all the packing plants from cattle originally tagged in Canada and shipped to the US.

Animals tracked from state of origin to slaughter

Plant	VT	MI	NY	CA	WI	PA
Taylor	1045	6,940	10,690	3	7	21,299
Cargill (WI)	3	1,919	107	5	7,760	15
Packerland (WI)		390	1		1,994	2
Packerland (MI)	2	10,395	246		40	26
Moyers	85	1,503	686			2,413
Dress Beef		9,316	12	2	12,993	5
Tyson/IBP		3,159	11		6	
Nickels			228			832
BPI	27	1		11,094	5	3
Abbeyland		630			634	
Total	1162	34,253	11,981	11,104	23,439	24,595

(NOTE: Excludes all Canadian and animals that were not identified by FAIR)

Validation

The FAIR pilot program checks animals for proper tag location and tag retention and codes each animal accordingly:

1) Animal has an RFID in the ear; verify the RFID can be read
2) Animal has an RFID in the ear; measure the location in the ear
3) Animal does not have an RFID; however it could not be established that the animal was ever tagged with an RFID
4) Animal does not have an RFID in the ear, however a hole in the ear is visible from tagging with an RFID that appears to have been lost

Results:

Herd reviews on FAIR pilot herds include checks on 9577 animals with RFID eartags to date. From these, 5050 have data on the tag's location in the ear. As shown in the table below, 69 (0.7%) RFID's could not be read, 155 (1.6%) animals lost the RFID, and 217 (2.3%) animals did not have an RFID with no evidence of having been tagged initially. The tag location data shows that from the 5050 animals that have location data, 4581 (90.7%) are properly tagged close to the head, while 413 (8.2%) animals had a location that was more central in the ear, and 56 (1.1%) animals had the RFID tag placed on the outside of the ear which could be the major cause for tag loss at a later date. When comparing these numbers to the initial numbers reported in previous newsletters, the numbers remained about the same.

RFID tags observed/read on the farm

	# Animals	%
RFID read correctly	9136	95.4%
RFID does not read	69	0.7%
RFID lost	155	1.6%
Animals with no RFID	217	2.3%
Total:	9577	
Tagged properly	4581	90.7%
Tagged in the middle	413	8.2%
Tagged on the outside	56	1.1%
Total:	5050	

Processing Plant Stationary Readers

National FAIR is receiving tags back from a few slaughter plants in order to validate the accuracy of the stationary RFID reader. All RFID readers have been collecting data for the most of this year. The accuracy of the RFID readers will continue to be monitored throughout the year.

Processing Plant RFID Reader Accuracy

Quarter	Plant	Read	Returned w/o Read	% RFID tags Read
Q4 '01	Taylor	602	59	91%
Q1 '02	Taylor	637	53	92%
Q1 '02	Embers	358	4	99%
Q2 '02	Taylor	3100	193*	94%
Q2 '02	Embers	194	123**	--
Q3 '02	Taylor	2907	1492*	--
Q3 '02	Embers	395	36	92%
Q4 '02	Taylor	5285	1784*	--
Q4 '02	Embers	551	5	99%
Q1 '03	Taylor	5742	829*	--
Q1 '03	Embers	517	97*	--
Q2 '03	Taylor	3570	452	89%
Q2 '03	Embers	596	11	92%
Q2 '03	Packerland	333	6	98%
Q2 '03	Dress Beef	1124	33	97%
Q 3 '03	Taylor	1331	129	90%
Q 4 '03	Taylor	960	90	91%
Q1 '04	Taylor	990	87	92%
Q2 '04	Taylor	935	93	91%
Q3 '04	Taylor	1390	60	96%
Q4 '04	Taylor	1401	29	98%
Q1 '05	Taylor	1103	125	90%
Q2 '05	Taylor	1258	67	95%
Q3 '05	Taylor	922	223*	81%*
Q4 '05	Taylor	3306	1777	94%
Q1 '06	Taylor	2701	377	88%
Q2 '06	Taylor	2666	232	89%
Q3 '06	Taylor	3061	227	93%
Q4 '06	Taylor	3752	604	86%

* Includes RFIDs that were sent back for days no RFID's files were available or sent

** Includes all RFIDs returned for the quarter, including the 8 weeks the reader was not operational

NEW with FAIR

RFID Readers

Reader technology upgrades are being planned for several installations at markets and processing plants. A market and processing plant in California will be updated in February along with all the current readers in Michigan. The new technology allows for remote diagnosis of problems and performance issues.

South West Animal ID project

The South West Animal ID project completed funding in December, however the majority of producers have continued on with the program at their own expense. The project tracks calves from birth to calf ranches and back to the dairies. Producers are using the information for calf inventory control and have begun using the latest herd management software that integrates the RFID technology into their everyday uses of the software.

IDairy

The IDairy group selected National FAIR as their primary ATD for storing AIN information. In addition to the Holstein Association storing AIN information in the IDairy database the American Jersey Association became the first external supplier of information into the IDairy database. National DHIA and Minnesota DHIA are in the process of moving their information into the IDairy database as well.

California DHIA, by becoming a reseller of RFID tags through the Holstein Association, will be utilizing the FAIR database as their ATD repository for AIN events.

FAIR APPLIED

The National FAIR project was started in 1999, and as the system was developed, other industry groups and entities were contacted and asked to participate in the FAIR project. As of March 2005, the following groups are using the FAIR system:

- Southwest Animal ID Pilot Project
- Michigan Department of Agriculture TB Eradication Project
- New York State Cattle Health Assurance Program (NYSCHAP)
- Ohio State Department Johne's Program
- Alta Genetics Progeny Test herds
- American Veal Association
- US Ayrshire Association