FOREWORD

This is the second issue of statistics on the extent of milk performance recording activity in buffalo, collected and published by the Working Group on Buffalo Recording of ICAR, in order to allow all ICAR member countries to be aware of buffalo milk productivity worldwide.

The difficulty in collecting these information emerged three years ago, when we first tried to ask for them. Despite of these difficulties, we are insisting in this action because our short-term purpose is to promote cooperation among countries, and we believe that this exchange of information is the first milestone in improving international communication, cooperation and standardization of recording activities. Difficulties depend on the fact that most buffalo recording organizations are not accustomed to show their data, and to compare them with the data of other countries. Moreover, we have realised that often the collected data through the recording activity are used only to progeny test AI bulls, therefore they go directly to the data processing system and to the AI stations. In this way, even in the countries where the recording activity has been implemented many years ago, most of the benefits of the activity are lost: on one side, farmers do not receive any advice for managing their herds – no results on productivity, reproduction patterns to help culling and feeding decisions; on the other side, the data do not enter into a regional/national database, that would be the best tool for allowing policy makers to understand production systems and to make national strategies for livestock development.

Therefore, here we are with the second issue of statistics on the "Results of the Milk Recording Activity in Buffaloes". We decided to publish the data, even if some information are partial or unsatisfactory. At least, we have some printed information, and anybody might realise how important is to be aware of the productivity of livestock in other countries. We would like to point out here the most relevant items of this second issue. First of all, it refers the data of three more countries: Turkey, Syria and Brazil. In these countries, the three local organizers of milk performance recording of buffalo belong to the academic world and have regularly participated to ICAR activities during the past years. We are therefore proud to show the data they have collected; on this occasion, we emphasize that scientists can play a very important role in the promotion of animal recording through the organization of the system in a pilot group of herds, and performing milk analyses and data processing using academic facilities.

A second item to be made evident is the change in the animal recording systems in the transition countries. The countries of Eastern Europe and Former Soviet Union are facing difficulties in continuing the recording and selection activity that was fully organized and supported by the government: for us, it was not possible to obtain data from Romania; in Azerbaijan less and less animals are recorded and a private Buffalo Breeders' Association was created which is actively promoting buffalo improvement and would be happy to have the opportunity to participate to international programmes; in Bulgaria, the organization of the recording/selection system has moved from the Ministry of Agriculture to a Research Institute, and it is fully paid by private farmers.

The third important item, that was made evident in this new set of statistics, is the increase in numbers of recorded buffaloes in Egypt, Iran and Italy. Moreover, it seems that the system in Egypt is well settled now after a few years of running in: the owners of large herds fully pay for this activity while the small farmers get the system free of charge. Also several output information sheets are now available to the Egyptian farmers who receive advice for managing their herds through results on individual productivity and reproduction patterns of their animals, allowing comparison with other similar farms.

Finally, we have added a new table, showing the extent of artificial insemination, the costs of the recording activity and the provided output to the farmers.
We hope that these data will be commented and discussed. We ask everybody to provide suggestions to allow a better publication in two year time: do please mail suggestions to bianca.moioli@isz.it.
We thank all experts who provided these information and who participate in the activity of the International Committee for Animal Recording.

ICAR Working Group on Buffalo Rome, May 2002

Table 1. Recording Organizations

Country	Recording organization	Telephone	Telefax	e-mail	Contact person
Azerbaijan	Azerbaijan Buffalo Association, Baku str. Najaf Narimanov Azerbaijan State Academy, Ataturk Ave. 262, 374700 Ganja City	994503662824		vugar@lol.azeurotel.com g_gbg@azeurotel.com	Vugar Ahmadov Abbasov Suliddin
Brazil	Universidade Estadual Paulista, Facultade de Ciencias Agrarias e Veterinarias de Jaboticabal, SP	16 32092678	16 32024275	tonhati@fcav.unesp.br milthon@fcav.unesp.br	Humberto Tonhati Milthon Munoz
Bulgaria	Agricultural Institute, 3 Simeon Veliki blvd., Shumen 9700		359 5462832	tzonkapeeva@dir.bg	Tzonka Peeva
Egypt	Cattle Information Systems/Egypt (CISE)	202 5683188	202 7745574	Cise@main-ssc.cairo.eun.eg	R.R. Sadik
Greece	Greek Ministry of Agriculture - Directorate for Inputs to Animal Production, Kapnokoptiriou 6, 10176 Athina	30 108235428	30 108230730	ka6u011@minagric.gr	Aggelos Baltas
Gujarat	Meshana District Cooperative Milk Producers Union Ltd.			Krt@anand.nddb.ernet.in	Kamlesh Trivedi
Gujarat	SAG and Sabarkantha, Panchmahals, Baroda, Surat District Cooperative Milk Producers Union Ltd.			Krt@anand.nddb.ernet.in	Kamlesh Trivedi
Iran	Animal Breeding Centre of Iran p.o. box 31585-963, Karaj, Iran	998261 661874-5	998261 661873	Krj-abc-i@abdnet.com	Davood Kianzad
Italy	Associazione Italiana Allevatori Via Tomassetti 9, 00161 Roma, Italy	3906 85451315		Aleandri.a@aia.it	Riccardo Aleandri
Nepal	Nepal Agricultural Research Council p.o. box 1, Pokhara, Kaski, Nepal	977 61 29399 (29456)	977 61 22653	Dirlarc@mos.com.np	Drona Rasali
Pakistan (Punjab)	1. Livestock Production Research Institute, Okara, Bahadurnagar 2. Directorate of Livestock Farms, 16 Cooper Rd., Lahore	1. 92 442661281 2. 92 429201126	92 426366368	Gtzpe@brain.net.pk	1. Director LPRI 2. Director, farm

Table 1. (continue)

Romania					
Syria	Ghab Research Centre, Ministry Agriculture, Damascus	963 116440521	963 116440520	dapr@mail.sy	Aiman Daba
Turkey	Mustafa Kemal University, Faculty Agriculture, Dept. Animal Science, Tayfur Sokmen Kampusu, 31034 Antakya Kocatepe Agricultural research Institute, Afyon	90 245 5498 90 272 2149112	90 245 5832	sekerden@mku.edu.tr	Ozel Sekerden
United Kingdom	Water Buffalo Association, Upper Niniveh farm, Shipston on Stour, CV36 5EH, United Kingdom	44 1608685161	44 1608685001	buffaloUK@aol.com	Robert Palmer

Table 2. Results 2000: Numbers of Recorded Buffaloes

Country	Breed	No. total buffaloes	No. recorded buffaloes	% recorded buffaloes	No. recorded herds	% recorded herds	No. recorded buffaloes per herd
Azerbaijan	Azari	135,000	8,000	<1	150		
Brazil	Murrah and crossbred	52,000	426	<1	4 (small); 5 (medium); 4 (big)	-	16; 50; 135
Bulgaria	Bulgarian Murrah	5,880	470	8.0	23	-	20.4
Egypt	Egyptian	1,444,000	1,733	<1	50	-	35
Greece	European	1,115	41	4	1	<1	41
Gujarat	Meshana	3,900,000	3,285	<1.0			
Gujarat	Murrah cross		1,346				
Iran	Azari	195,000	4,500	2.5	660	0.5	6.8
Iran	Khuzestani	62,500	3,700	5.9	340	7.8	10.8
Iran	Mazandarani	17,500	800	4.5	155	2.5	4.8
Italy	Italian	150,000	32,806	22	284	-	115.5
Nepal	Lime	400	220	56	10	-	22
Nepal	Parkote	400	173	44	11	-	15.7
Pakistan (Punjab)	Nili-Ravi	7,900,000.	501	<1	6	<1	
Romania	European	97,000	n.a				
Syria	Ghab	-	640	-	35	-	18.2
Turkey	Anatolian	85,000	277	<1	3	<1	90
United Kingdom	European	-	338	-	5	-	67

Table 3. Results 2000: Milk production of recorded buffaloes

Country	Breed	Number of recorded lactations	Length of the lactation (days)		Milk production in total lactation (kg)		Length of the standard lactation (days)	Milk production in standard lactation (kg)	
			Average	St. Dev.	Average	St. Dev.		Average	St. Dev.
Azerbaijan	Azari		266	5.1	1,500	65.5			
Brazil	Murrah and crossbred	426	241	46	1,289.57	540.29	305	1,632.02	520
Bulgaria	Bulgarian Murrah	412	278.4	60.3	1,874	396	305	1,840	392
Egypt	Egyptian	3,380	328	93	2,010	652	305	1,900	511
Greece	European	18	240		1,020	490	305	1,394	560
Gujarat	Meshana	5,471	300	29.7	1,971	475	305	2,041	488
Gujarat	Murah cross	1,677	292	54	1,694	541	305	1,742	492
Iran	Azari	2000	215	45	1484	480	200	1420	460
Iran	Khuzestani	1,500	234	58	1,985	463	200	1,925	433
Iran	Mazandarani	500	237	41	1,265	463	200	1,215	416
Italy	Italian	22,445	274				270	2.145	599
Nepal	Lime	234	351	10	-		305	1,048	
Nepal	Parkote	93	354	14	-		305	1,031	
Pakistan (Punjab)	Nili-Ravi	518	257	83	1,823	732	305	2,070	502
Romania	European								
Syria	Ghab	140	254	41	1,191	338	-	-	-
Turkey	Anatolian	136	268	47.5	1,247.1	349.7	305	1,148	287.6
United Kingdom	European	86	270	50	2,090	825	270	1,995	750

Table 4 - Results 2000: Milk quality

Country	Breed	Fat percent			Protein percent		
		No. Recorded lactations	Avg. %	St. Dev.	No. Recorded lactations	Avg. %	St. Dev.
Azerbaijan	Azari	270	8.4	0.03	270	4.95	0.03
Brazil	Murrah and crossbred	306	7.04	1.36	306	4.25	0.40
Bulgaria	Bulgarian Murrah		7.56	0.69		4.51	0.41
Egypt	Egyptian	249	8.0	1.95	-	-	-
Greece	European	-	-	-	-	-	-
Gujarat	Meshana	-	7.01	0.60	-	-	
Gujarat	Murrah cross	-	6.68	0.55			
Iran	Azari	All	6.7	1.8		-	
Iran	Kuhzestani	All	6.4	1.5		-	
Iran	Mazandarani	All	6.8	1.3		-	
Italy	Italian	22,445	8.35	0.74	22,445	4.74	0.30
Nepal	Lime	-	-	-	-	-	-
Nepal	Parkote	-	-	-		-	-
Pakistan (Punjab)	Nili-Ravi	-	-	-	-	-	-
Romania	European						
Syria	Ghab	-	6.7	1.0	-	-	-
Turkey	Anatolian	All	6.5	0.65	All	4.3	0.44
United Kingdom	European	All	7.75	0.64	All	4.51	0.29

Table 5 - Results 2000: Reproduction parameters

Country	Breed	Calving interval (days)			Age at first calving (months)			Avg. lactation number
		No. records	Avg.	St. Dev.	No. records	Avg.	St. Dev.	
Azerbaijan	Azari					36	0.9	
Brazil	Murrah and crossbred	386	424	46	82	36.1	4.1	6
Bulgaria	Bulgarian Murrah		475.3	120		39.6	9	4.3
Egypt	Egyptian	-	427	76	-	-	-	1.95
Greece	European	-	450	-	-	40	-	9
Gujarat	Meshana	1312	435			44.6		1.46
Gujarat	Murrah cross					50		1.23
Iran	Azari		465	49		32	6	6.5
Iran	Khuzestani		454	33		29.5	2.3	6.5
Iran	Mazandarani		413	31		27.5	2.3	9.5
Italy	Italian		-		5,656	41.8	17.2	3.46
Nepal	Lime	168	535		131	51.6	-	-
Nepal	Parkote	169	529		74	55.2	-	-
Pakistan (Punjab)	Nili Ravi		534	171		56.5	9	3.9
Romania	European							
Syria	Ghab	-	476	32	-	32	6	4
Turkey	Anatolian	-	387.2	37.23	-	43.7	7.8	2.4
United Kingdom	European	69	397	77	52	34	5.9	3.15

Table 6. Artificial insemination, costs of recording activity and provided output

Country	Total born calves	Calves born from AI	No. AI sires	Cost and staff	Output
Bulgaria	340	120	4	55 kg milk; 100% paid by the farmer	Monthly report: for each buffalo: parity, milk yield, fat %, 305 days yield, no. services/conception, days open, herd average ; breeding values
Egypt	1,300	-		6 kg milk; if herd size > 50 head, herd owner pays full cost; government pays for small herds. Governmental staff	Monthly report: for each buffalo: parity, milk yield, fat %, 305 days yield, no. services/conception, days open, herd average For each herd: animals to be inseminaed; to be checked for pregnancy; to be dried off; problem animals.
Greece	18	-	-	42 kg milk; the government pays the full cost. Governmental staff	
Gujarat	1,262	1,262	43	Farmers through cooperative	
Iran	5,000	270	34	11.6 kg milk; all costs are supported by the government. Governmental staff	Monthly: last event, productive/reproductive parameters, lactation-pedigree certificate, culling/replacement animals, net income/year, age grouping. Yearly, quarterly, biannual: list of best/worse buffaloes in herd, town, city and province. Regional reports: culling frequency, dystocia, calving conditions, milk productivity, reproductive patterns. For pedigreed animals: Milk LSM or BV.

Table 6. (continue)

Country	Total born calves	Calves born from AI	No. AI sires	Cost and staff	Output
Italy	22,445	885	35	30 kg milk; 80% supported by the government. Staff appointed by farmers cooperative	Monthly report: for each buffalo: parity, milk yield, fat %, 270 days yield, no. services/conception, days open, herd average For each herd: animals to be inseminaed; to be checked for pregnancy; to be dried off; problem animals.
Nepal				30 US$; development project (UK). Governmental staff	Advice to farmers; feed supplements; vaccination; milk production of each herd and village for comparison.
Pakistan (Punjab)	543	380	40	Government	-
Syria		-		10 kg milk; all supported by government. Governmental staff	No output yet
Turkey		-		Research staff	Calving date, daily milk yield at test day, 305-day milk yield
United Kingdom	300	2	2		