Global Veterinaria 15 (4): 372-380, 2015 ISSN 1992-6197 © IDOSI Publications, 2015 DOI: 10.5829/idosi.gv.2015.15.04.96211

Prevalence of Bovine Cysticercosis and Taenia saginata in Man

¹Hanan A. Fahmy, ²Nashwa O. Khalifa, ³Reham S. EL-Madawy, ⁴Jehan S.A.Afify, ⁵Nagwa S.M. Aly and ⁶Omnia M. Kandil

¹Department of Biotechnology, Animal Health Research Institute (AHRI), Giza,, Egypt
 ²Department of Zoonoses, Faculty of Veterinary Medicine, Benha University, Toukh, Egypt
 ³Department of Parasitology, Faculty of Veterinary Medicine, Benha University, Toukh, Egypt
 ⁴Department of Food Hygiene, Faculty of Veterinary Medicine, Benha University, Toukh, Egypt
 ⁵Department of Parasitology and Animal Diseases, National Research Centre, Dokki, Giza, Egypt

Abstract: The prevalence of bovine cysticercosis was established using routine postmortem inspection of 3450 carcasses of buffaloes slaughtered in 2014 in Kaliouba governorate, among which 313 (9.07%) were detected as harbouring cysticercosis lesions using meat inspection process. The cysts were examined macroscopically for description of their morphology and constituents and classified as viable or degenerating. Viable cysts were microscopically confirmed for demonstration of protoscolex. Out of 100 of patients offered taenicidal drugs examined by microscopic examination through direct and sedimentation of fecal samples, 6 (6%) were positive for Taenia saginata (T. saginata) eggs. Histological sections of 6 gravid proglottids were identified as T. saginata. We used a biomolecular assay targeting the HDP2 gene for developing PCR assay in 20 viable cysts and 6 gravid proglottids. An HDP2 gene-PCR amplification product of the taeniid samples of T. saginata is approximately 599bp. Partial sequences were generated after gel purification of PCR amplified products of HDP2 gene with sequence analysis and subsequent phylogeny to compare these sequences to those from known strains of T. saginata circulating globally and retrieved from GenBank. Most isolates with accession No. KT027580 are closely related to T. saginata based on the similarity of nucleotide sequences and phylogenetic relationships. In conclusion, this work indicated high prevalence rate of bovine cysticercosis and T. saginata, both morphological examination of the parasite and molecular analysis using bioinformatic tools identified the metacestode and revealed typical taeniid features confirmed to Taenia saginata.

Key words: Cysticercosis · Taenia saginata · Protoscolex · Gravid proglottids · Sequence · Phylogeny

INTRODUCTION

Bovine cysticercosis is one of the most important parasitic diseases caused by the metacestode stage of the human tapeworm *T. saginata*. The public health and economic consequences of this parasite may be considerable due to downgrading and the condemnation of carcasses for food safety importance [1, 2]. The annual losses in cattle feed lots in South Africa due to cysticercosis may reach 330,000 \$ per year [1-3]. In Assuit Governorate, the economic losses in cattle and buffaloes feed lots during 1989 – 1992 due to *Cysticercus bovis* (*C.bovis*) were 112,000 LE. [4].

Taenia saginata has a cosmopolitan distribution, but the infection is more important in Africa, Asia and Latin America and in some Mediterranean countries [5]. Habit of eating raw beef dishes, low level of toilet used by human population, backyard slaughter, low availability of taenicides, free access of cattle to surface water and proximity of waste water are important causes for transmission of bovine cysticercosis to a herd of cattle and taeniasis in human population [6]. Live cattle having *C. bovis* shows no symptoms, however, heavy infestation by the larvae may cause myocarditis or heart failure [7]. Human infection that occurs through consuming of infected raw or semi-cooked beef may results in epigastric

Corresponding Author: Omnia Mohamed Kandil, Department of Parasitology and Animal Diseases, National Research Center, El-Behouse Street, Dokki, P.O. Box 12622, Giza, Egypt. E-mail: kandil_om@yahoo.com.

pains, diarrhea, nausea, weakness or loss of appetite [8] Globally, there are 77 million human carriers of *T. saginata* out of which about 40% live in Africa [9].In Eastern African countries like Ethiopia up to 70% of the population reports to have been infected with a tape worm [10].

The diagnosis of bovine cysticercosis by meat inspection depends very much on the skills and motivation of the meat inspector, which results in important differences in the efficacy of the meat inspection from one slaughter house to the other [6]. In animals, ante mortem diagnosis is routinely performed in bovine, by visual inspection [11]. According to European data on meat inspection, the prevalence ranges from 0.007% to 6.8%, but the real prevalence is considered to be at least 10 times higher [12]. Usually the numbers of cysticerci are low in bovine; hence many cases remain undetected even after conscious postmortem inspection [13].

In human routine diagnosis is based on the microscopic detection of *Taenia* spp., Oncospheres. These methods have a sensitivity of around 38% to 60% [14]. The worms are identified morphologically as *T. saginata* by scolex and/or gravid proglottids [15]. Recently, highly specific PCR-methods have been developed to detect *Taenia* DNA in faeces [16,17] However, these methods have not yet been properly validated in the field. Several molecular techniques have been described for the detection and differentiation of *Taenia* species using Multiplex-PCR [16,18,19]. PCR-Restriction Fragment Length Polymorphism (RFLP) [15, 17,19]. and random amplified polymorphic DNA (RAPD) [20].

In Egypt Epidemiological data are scarce and the available literature are few; prevalence of bovine cysticercosis in cattle, buffaloes and taeniasis in human in Assuit Governorate [4], taeniasis in human in Dakahlia Governorate [21]. Phylogenetic placement of Egyptian *T. saginata* and *Cysticercus bovis* [22], have been carried out.

The main objectives of this study were to update the epidemiological knowledge of the bovine cysticercosis and human taeniasis in Kalioubia governorate and understanding of epidemiology by assessment of infection status using multiple diagnostics tools to this aim.

MATERIALS AND METHODS

Survey and Cyst Collection: Abattoirs survey was conducted from January to December 2014 in collaboration with two official slaughter houses in

Kalioubia governorate (Toukh and Benha). Three thousands, four hundred and fifty water buffaloes (*Bubalus bubalis*) aged from 2-6 years old were subjected to postmortem examination and detailed visual inspection measures for *C. bovis*. Inspection of the cyst was done in buffaloes by making deep cuts in relevant organs as tongue, neck, diaphragm, cardiac muscles, skeletal muscles, liver, lung and kidney. The cut surface was inspected visually for *C. bovis* and the cyst counts were recorded. [11, 23].

Sampling from Human: Stools were collected from 100 patients (63 males and 37 females, 20 -55 years old) suffering from gastrointestinal disturbances attended to University of Benha Hospital after offered single oral dose of praziquantel at 10mg/kg b.w. [24].

The fecal samples were taken only in the morning and analyzed macroscopically. About 10grams was collected in a clean labeled plastic container with snap on lids. Samples were kept in a special container transferred to the laboratories and stored at -20°C until examined.

Parasitological Examination

Macroscopic Detection of the Cyst Viability: The cysts were examined macroscopically and classified accordingly as viable or degenerating after pressing by fingers [25]. Fluid-filled, viable cysts were considered mature when they contained a protoscolex. Those without a distinct protoscolex were considered immature. Degenerating cysts were classified as calcified when their contents were solid, as cheesy when smooth, or dull when they contained no contents and were apparently neither viable nor degenerating.

Microscopic Identification of Viable Cysticerci: The viable cyst was submitted to 30% ox bile solution diluted in normal saline and incubated at 37°C for 1 to 2 hours. A cyst was regarded as viable if the scolex evaginated according to Gracey *et al.* [7].

Detection of *Taeniasis* in Human by Morphological Identification

Morphological Identification of *Taenia saginata* **Egg:** Direct and sedimentation methods were employed for detection of *T. saginata* viable egg contains onchosphere. Sediments were placed in microscopy slides and examined under the microscope [26].

Histological Identification of Taenia saginata Proglottid:

Histological sections stained were carried out to count the uterine branches of an intact gravid proglottid. The proglottid was fixed in neutral buffered 10% formalin,

embedded in paraffin and cut into longitudinal sections of 6 mm and stained with Carmine stain and mounted; then uterine branches were counted under a light microscope at a magnification of x40 and identified as *T. saginats* based upon number of uterine branches when 12 or more branches arose to each side from the central uterus branches [15].

The confirmed cysts and Tape worms were potted in 70% ethanol and kept at -70°C for later DNA isolation.

Molecular Studies: The tested cyst and proglottid fragments of individual strobila were washed with distilled water to remove any ethanol remaining.

Genomic DNA (gDNA) was extracted from the tested cyst and worm using the DNeasy Tissue Kit (Qiagen, Hilden, Germany) according to the manufacturer's instructions and used as template DNA for PCR. The design of oligonucleotide primers selected for the detection of HDP2 gene sequences according to published database by Gonza'lez *et al.* [18] and Gonza'lez *et al.* [19] and Harrison *et al.* [27]. by the HDP2F1R1-PCR protocol as the primers are PTs7S35F1 (5-CAGTGGCATAGCAGAGGA-GGAA-3) and PTs7S35R1 (5-GGACGAAGAATGGAGTTGAAGGT-3).

Purified DNA was amplified according to Gonza'lez *et al.* [18]. A total volume of 25μ l containing 5μ l template of *Taenia sp.* DNA and 20μ l of PCR mix using 2X FIREPol® Master Mix (Ready to Load) in Biometra Thermocycler. The cycling conditions of initial denaturation at 94°C for 2min, followed by 35 cycles of denaturation at 94°C for 1min, annealing at 56°C for 1min, extension at 74°C for 1min and final extension at 74°C for 7min. The products were electrophoresed on 1.5% agarose for the detection of expected band amplified gDNA at 599bp stained with ethidium bromide (0.5µg/ml) against GeneRuler 100bp plus DNA ladder (Fermintas). Negative control was included in PCR run.

Sequencing: *T. saginata* gDNA samples were separated by electrophoresis in low-melting-point agarose. Appropriate bands of the amplification products were cut out and purified using a QIAquick Gel Extraction Kit (Qiagen, Valencia, Calif.). The amplified fragments were automatically sequenced using the Big-DyeTerminator Cycle Sequencing Ready Reaction Kit (Applied Biosystems, Langen, Germany) on an automated DNA sequencer (Applied Biosystems). The nucleotide sequences were then aligned with existing sequences of known genotypes from other countries in the GenBank databases using BLAST programs and databases of the NCBI (National Center for Biotechnology Information, Bethesda, MD, USA) (www.blast.ncbi.nlm.nih.gov/ Blast.cgi).

Phylogenetic Analysis: Phylogenetic analyses were based on ClustalW computer program as cited by Thompson et al. [28]. and the extent of variation was compared by doing pairwise alignment of the nucleotides using MEGA version 5 in FASTA format [29]. Phylogenetic tree were constructed using the neighbour-joining of MegAlign program from LaserGene Biocomputing Software Package (DNASTAR, Madison, WI). The analysis of evolutionary divergence between sequences was conducted using the Maximum Composite Likelihood Model [30]. Evolutionary distance, maximum parsimony methods and evolutionary analyses were conducted in MEGA6 [31].

RESULTS

During 2014, 3450 buffaloes were slaughtered in two officials' abattoirs in Kalioubia governorate. Post mortem examination revealed that out of 3450 slaughtered buffaloes, 9.07% were infected with *C. bovis* and the prevalence of infection was higher in Toukh abattoir 9.49% than Benha abattoir 8.72% (Table, 1). Macroscopic detection of the recovered cysts revealed that out of the total 345 cysticerci collected, 211 (61.15%) were found to be viable while 134 (38.84%) were degenerated. Out of 211 viable cyst examined microscopically, 179 (84.83%) were alive contain protoscolex.

Over a 1-year period we obtained specimens of *Taenia* species from 6 patients after administration anthelminthes. In 6% of the samples, eggs identified microscopically and the prevalence of infection in male was 4 (6.34%) higher than in female 2 (5.40%) (Table, 2). Well-preserved gravid proglottids were recovered and identified by histology stained with Carmine stain identified as *T. saginata* contain more than 12 uterine lateral branches (Figure, 1).

Genomic DNA (gDNA) was extracted from the ethanol-preserved identified 20 viable cyst and 6 proglottids samples. Amplification of DNA of HDP2 gene of *T. saginata* was detected in the accurate size and gave one single band which was detected at approximately 599bp (Figure, 2).

Partial sequence of HDP2 gene PCR products of *T. saginata* produces a sequence of 535 bp has been submitted to the GenBank with the accession numbers KT027580. The obtained sequence was put to BLAST and

Global Veterinaria, 15 (4): 372-380, 2015

					Macros	copic ex. of	cysts	Microscopic ex. of viable cysts				
		Infected	d animals		Viable		Degen		Viable		Non-viable	
	No. of slaughtered			No. of								
Abattoirs	buffaloes	No.	%	examined cysts	No.	%	No.	%	No. 94	% 82.45	No.	% 17.54 12.37
Benha 1880 Toukh 1570	1880	164	8.72	176		64.77	62 72	35.22				
	1570	149	9.49	169	97	57.39		42.60	85	87.62	12	
Total	3450	313	9.07	345	211	61.15	134	38.84	179	84.83	32	15.16

Table 1: Prevalence of cy	sticercosis in slaughter	ed buffaloes in two officia	al abattoirs in Kalioubia, Egypt	

Table 2: Prevalence of <i>taeniasis</i> in patients administered praziquantel 10mg/kg.
--

		Infected humans	nfected humans				
Patients	Examined number	Number	%				
Female	37	2	5.40				
Male	63	4	6.34				
Total	100	6	6				



Fig. 1: Histological identification of *Taenia saginata* proglottid stained with Carmine stain.

compared with other available cyclophyllidean cestode sequences from GeneBank. The numbers of base substitutions per site between sequences are shown in the analysis of the new Egyptian isolates and 17 nucleotides sequences. All position containing gaps and missing data were eliminated. There were a total of 535 positions in final dataset. The BLAST hits result shows that the sequences of the Egyptian isolate is closer to those of species of *Taenia*, with maximum similarity to *Taenia saginata* (Figure, 3).

Phylogenetic analysis showed a robust tree clustering all isolates with sequences belonging to the *T. saginata* and *T.asiatica* variant with strong bootstrap values at relevant nodes. Phylogenetic tree shows the evolutionary relationship of the sequences in which the length of the horizontal line was proportional to

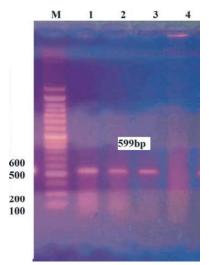


Fig. 2: Amplicon products of Egyptian (Kaluiobia) isolate of *Taenia saginata* of HDP2 gene resolved by 1.5% agarose gel electrophoresis and visualized by ethidium bromide staining at 599bp. The numbers on the left (M) indicate the sizes in bases pairs (bp) of the molecular weight DNA markers of 100bp. (Lanes 1-3): PCR amplicons of Egyptian *T. saginata*, (Lane 4): Negative control.

the estimated genetic distance between the sequences. Such tree indicated that the evolutionary distance between groups is very short (Figure, 4).

The analysis of genetic diversity based on HPD2, DNA sequencing represented the percent of diversion and identity between the new Egyptian isolate and seventeen selected sequences *Taeniid spp.* circulating globally and retrieved from GenBank displayed. Our isolate was phylogenetically compatible (100%) with *T. saginata* from Egypt, JX265977 and 99.4%

Global Veterinaria, 15 (4): 372-380, 2015

					-									
				1					++++1++++1					****
T. seg, 168, Halioub - Sgy. HT027880	OTT6200008 0	TOMOTOTO	OCTTATOTAG	GATOGATAAT	TTACAGGACT	GRANGARANTA	AMOGNTHOUT	TADGATOTOG	GTAATAGTOG	TTATTOCATA	OCTIATIAGT	GAGATOOTAT	GTOCTOGTAC	ATTOCNANGT
T. sag. HDP2. Egy. JX268977	CTTCAOCOCA O													
T. sag, 165 (5) FME12967 T. sag, 165 (2) FME12965	CTTCAGCOCA C													
T.mmg.HDF2.3J100740	CTTC20CCCA G													
T.apist, 163(18) FM212963	CTTCROCCCA O	TCANGTETE	OCTTATCTAG	CATOCATAAT	TENCHOGNET	CAAAGAAATA	ANCENTACCT	TAOGATOTOS	GTAATACTCG	TTATTOCATA	OCITATIACT	GAGATOCTAT	GTECTOGTAC	ATTOCANAGT
T. aniau, 165(16) PM212961	CTTCAGCOCA G													
T. asiat, IG3(6) FM212954	CTTCADCCCA. C													
T.asiat, IG3(19) PM212964 T.asiat, IG5(15) PM212960	CTTCACCCA C													
T.asiat, 165(12) PM212958	CITCAGCCCA G	TEAMTER	OCTIVICIAL OF	CATOCATAAT	TTACAGOAT	CALLGRANTS	ANGENTACIT	TADGATUTOS	GTAATACTCC	TTATICCATA	CONTATINET OF	GAGATOCTAT	GIOCTOGIAC	ATTOCALAT
T.amigt, 165(9) FM212956	CTTCAOCCCA O	TEAAGTETE	OCTTATETAG	CATOCATAAT	TTACAGGACT	CAAMDAATA	AAGCATACCT	TAGGATGTEG	GTAATACTCG	TTATTOCATA	OCITATIACT	GAGATOCTAT	GTECTOGTAC	ATTECANAGT
T.amiat, 165(2) PM212971	CITCARCCA O													
T.awiat, I65(7) PM212655	CTTCAOCCCA O													
T.amiat, 165(17) PM212962 T.amiat, 165(11) PM212967	CITCAGOCCA G													
T.amiat, 163(11) PM212559	ATTCARCCCA O													
T.asiat. 165(1) 19212953	ATTEAGEDEA O	TEAOGTETT	OCITATETAG	CATOCATAAT	TTACAGGACT	CAAAGAAATA	ANGENTACET	TAGGATGTEG	GTAATACTCG	TTATTOCATA	OCITATIACT	GAGATOCTAT	GTEETGGTAE	ATTECAAAGT
	140	870		1.00	20	201	20	220	240	201	24	211	241	299
T. sag. 153. Kalicub-Ecv. HT027580							****1****1				****	****]****]		****1****1
T.sag, HDP2, Egy.JX265977	TADEAAAEAG T													
T. sag, 168(5) FM212967	TAOCAAACAO T													
T. sag, 195(2) FM212965	THOCHNICHG T	TTTTTOCCA	GOOCGNETET	ANGOCATTOC	ATCTTOCGAN	TOCTOCACTA	GAOCTGATCA	TTTGACAJCC	GAATETTGTA	TTENGATEAA	CTOCCOCGTG	GANCTTGACC	CANCENTICS	CANTIGCTTG
T.sag.HDP2_AJ133740	TAOCAAACAG T													
T. apist, 195(10) 20212903	TAOCAARCAG T													
T.asist, IGS(16) FM212961 T.asist, IGS(6) FM212954	TAGEAAACAG T													
T. amint, IGS(10) FM212064	TACCALLER T													
T. 20120, 163(15) FM212900	TAGEAANENG T													
T.asiat, IGS(12) PM212958	TAOCAANCAG T													
T.asiat, 165(9) 28212950	TAGEARACHE T													
T. asiat, IGS(3) EM212671	TACEAAACAG T													
T.amiat, IG5(7) EM212955 T.amiat, IG5(17) EM212942	TAOCAAACAG 1	TTTTTTGCCA	GOOCGOCTCT	ANGOCATTOC	ATCTTOCGAA	TOCTOCACTA	GAOCTGATCA	TTTGACARCC	GAATETTOTA	TTCAGATCAA	CTOCCOCGTG	GAACTTGACC	CAAGCATTES	CAATTOCTTG
T.asiat, 165(11) PM212957	TAGCAAACAG T													
T.awint, 165(19) 19312950	TADEAAACAG T	TTTTTOCCA	GAGEGOETET	ANDOCATTOC	OTCTTOCALA.	TOCTOTACTA	GAGETGATTA	TTTGACARCO	GAATITOOTA.	TTCAGATCAA.	CTACCOCATO	GARCTTORCC	CAROCATTOS	CAATTOCTTO
T. asiat, IGS(1) PM212953	TAOCAAACAG T	TTTTTTOCCA	GAOCGOCTCT	ANGOCATTOC	GTCTTOCANA	TOCICTACTA	GAOCTGATTA	TTTGACANCE	GAATTTOULA	TTCAGATCAA	CTACCOCATG	GAACTTGACC	CANSCATTES	CAATTOCITG
	250	200	35		30			300		*01	41		431	
T. sec. 103. Kalicub-Ecy. KT027880	TGAAGCAACT A	4000ACTT00	GTEMENTOTT	ACCANCUTAT	TEATOEACAT	CUATACCATO	CTCTCCACTT	TOCTTOTOA	TTCTAGTOOC	TOTODICAGA	ACOACTITOT	ADICTODUT	CONSTRACT	CTANCAGAAG
T. sag, HDP2, Egy. JN265977	TOMOCIMET J	ADDGACTTOO	OTCAGATOTT	ACCANCUTAT	TEATOCACAT	CUATACCATO	CTCTCCACTT	TECHTCICAA TECHTCICAA	TTCTAGTCOC TTCTAGTCOC	TOTOOTCAGA	ACOACTITOT	ADTETEODIT	CONSTRACACT	CTANCAGAAG
T.mag, HD92, Egy.JX265977 T.mag, IGS (5) FM212967	TGAAGEAACT J TGAAGEAACT J TGAAGEAACT J	ADDGACTTOD ADDGACTTOD	OTCAGATOTT OTCAGATOTT ATCAGATOTT	ACCANCUTAT ACCAACUTAT ACCAACUTAT	TEATOEACAT TEATOEACAT TEATOEACAT	CUATACCATO COATACCATO COATACCATO	CTCTCCACIT CTCTCCACIT	ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TTCTADICOC TTCTADICOC TTCTADICOC	TOTOOTCAGA TOTOOTCAGA TOTOOTCAGA	ACCACTITUT ACCACTITUT	ADTETEODIT ADTETEODIT ADTETEODIT	CONSTRUCT CONSTRUCT	CTANCAGAAG CTAACAGAAG CTAACAGAAG
T.mag, HDP2, Egy. JN265977 T.mag, IGS (5) EM212967 T.mag, IGS (2) EM212965	TOMOCIMET J TOMOCIMET J TOMOCIMET J	ADGACTTOS ADGACTTOS ADGACTTOS	OTCAGATOTT ATCAGATOTT ATCAGATOTT	ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT	TEATOEACAT TEATOEACAT TEATOCACAT TEATOCACAT	CONTRECATO CONTRECATO CONTRECATO CONTRECATO	CTCTCCACTT CTCTCCACTT CTCTCCACTT	ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TTCTAGTOCC TTCTAGTOCC TTCTAGTOCC TTCTAGTOCC	тотоотелал тотоотелал тотоотелал тотоотелал	ACOACTITOT ACOACTITOT ACOACTITOT	AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT	CONSTRANCT CONSTRANCT CONSTRANCT CONSTRANCT	СТАЛСАВАЛО СТАЛСАВАЛО СТАЛСАВАЛО СТАЛСАВАЛО
T.mag, HDB2, Egy. JX265977 T.mag. IG3(5) EM212967 T.mag.IG3(2) EM212965 T.mag.HDM2.AJ133740	TGANGEANCT J TGANGEANCT J TGANGEANCT J TGANGEANCT J	ADGACTTOC ADGACTTOC ADGACTTOC	OTCAGATOTT OTCAGATOTT ATCAGATOTT ATCAGATOTT ATCAGATOTT	ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT	TEATOEACAT TEATOEACAT TEATOCACAT TEATOCACAT	CONTRECATO CONTRECATO CONTRECATO CONTRECATO CONTRECATO	CTCTCCACTT CTCTCCACTT CTCTCCACTT CTCTCCACTT	ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TTCTAGTCOC TTCTAGTCOC TTCTAGTCOC TTCTAGTCOC TTCTAGTCOC	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACCACTITICT ACCACTITICT ACCACTITICT ACCACTITICT ACCACTITICT	AGTETEOGITT AGTETEOGITT AGTETEOGITT AGTETEOGITT	CONSTRUCT CONSTRUCT CONSTRUCT CONSTRUCT CONSTRUCT	СТАЛСАЦАНО СТАЛСАЦАНО СТАЛСАЦАНО СТАЛСАЦАНО СТАЛСАЦАНО СТАЛСАЦАНО
T.mag, HDP2, Egy. JN265977 T.mag, IGS (5) EM212967 T.mag, IGS (2) EM212965	TGANGEMET / TGANGEMET / TGANGEMET / TGANGEMET / TGANGEMET /	ADDACTTOD ADDDACTTOD ADDDACTTOD ADDDACTTOD ADDDACTTOD ADDDACTTOD	ОТСАЛАТОТТ ОТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ	ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT	TEATOCACAT TEATOCACAT TEATOCACAT TEATOCACAT TEATOCACAT TEATOCACAT	CUATINCEATO COATINCEATO COATINCEATO COATINCEATO COATINCEATO COATINCEATO	CTCTCCACTT CTCTCCACTT CTCTCCACTT CTCTCCACTT CTCTCCACTT CTCTCCACTT	TECTTCTEAA TECTTCTEAA TECTTCTEAA TECTTCTEAA TECTTCTEAA	TTCTADTOC TTCTADTOC TTCTADTOC TTCTADTOC TTCTADTOC TTCTADTOC	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACOACTITICT ACOACTITICT ACOACTITICT ACOACTITICT ACOACTITICT ACOACTITICT	AGICTCOGIT AGICTCOGIT AGICTCOGIT AGICTCOGIT AGICTCOGIT	CONSTRACT CONSTRACT CONSTRACT CONSTRACT CONSTRACT CONSTRACT	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
T.mag.HDD2.Egy.JR265977 T.mag.HDD2.Egy.JR26597 T.mag.HDD5(3)HM212065 T.mag.HDD2.AJ33740 T.mais.HD21AJ3740 T.mais.HD5(4)HM212063 T.mais.HD5(4)HM212061 T.mais.HD5(4)HM212064	TGAAGEMET 3 TGAAGEMET 3 TGAAGEMET 3 TGAAGEMET 3 TGAAGEMET 3 TGAAGEMET 3 TGAAGEMET 3	ADDACTTOD ADDACTTOD ADDACTTOD ADDACTTOD ADDACTTOD ADDACTTOD ADDACTTOD	ОТСАДАТОТТ ОТСАДАТОТТ АТСАДАТОТТ АТСАДАТОТТ АТСАДАТОТТ АТСАДАТОТТ АТСАДАТОТТ АТСАДАТОТТ	ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT ACCARCUTAT	ТСАТОСИСАТ ТСАТОСИСАТ ТСАТОСИСАТ ТСАТОСИСАТ ТСАТОСИСАТ ТСАТОСИСАТ ТСАТОСИСАТ	CONTROLATO CONTROLATO CONTROLATO CONTROLATO CONTROLATO CONTROLATO CONTROLATO CONTROLATO	CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT	ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TICTADICOC TICTADICOC TICTADICOC TICTADICOC TICTADICOC TICTADICOC TICTADICOC	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACOACTITICIT ACOACTITICIT ACOACTITICIT ACOACTITICIT ACOACTITICIT ACOACTITICIT ACOACTITICIT ACOACTITICIT	AGICTEGGIT AGICTEGGIT AGICTEGGIT AGICTEGGIT AGICTEGGIT AGICTEGGIT AGICTEGGIT	СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ СОЛОТИСИСТ	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
<pre>T.mag.HDD2.Egg.JR265977 T.mag.HDD2.Egg.JR265977 T.mag.HD25391H412065 T.mag.HD21.N33740 T.main.HD2.N333740 T.main.HD21.N5316119H4212661 T.main.HD21.661(6)H4212661 T.main.HD21.66(1)H212064</pre>	TGNAGENET 3 TGNAGENET 3 TGNAGENET 3 TGNAGENET 3 TGNAGENET 3 TGNAGENET 3 TGNAGENET 3 TGNAGENET 3		ОТСАЛАТОТТ ОТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ АТСАЛАТОТТ	HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT HOUNDOITHT	TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT	CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS	CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT	ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА	TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACALCETTO ACALCETTO ACALCETTO ACALCETTO ACALCETTO ACALCETTO ACALCETTO TOCALCETTO	АЛГСТООЛТ ЗАГСТООЛТ АЛГСТООЛТ ЗАГСТООЛТ ЗАГСТООЛТ ЗАГСТООЛТ ЗАГСТООЛТ ЗАГСТООЛТ ЗАГСТООЛТ	СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
T.mag.HD92.Egg.7X26597 T.mag.105(5)HM212967 T.mag.105(2)HM212965 T.mag.105(2)HM212965 T.maim.105(10)M212963 T.maim.105(10)M212964 T.maim.105(6)HM212964 T.maim.105(6)HM212964 T.maim.105(10)HM212964	TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3 TGANGENET 3		отежалтотт отежалтотт атежалтотт атежалтотт атежалтотт атежалтотт атежалтотт атежалтотт атежалтотт атежалтотт	НОСАНОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ ЭССАЛОСТАТ	TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT	CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS CONTINUENTS	CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT	ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА	TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE TTCTAGTOGE	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT COACITTOT	АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ	СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
T.mag.ND92.Egg.N226597 T.mag.105(5)HM212967 T.mag.105(2)HM212965 T.mag.ND92.AJ33740 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212966 T.maim.705(17)HM212966	ТОЛИССИСТ // ТОЛИССИСТ //		отехалтотт отехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт хтехалтотт	НОСАНОСТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛССТАТ ЭССАЛСТАТ ЭССАЛСТАТ	TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT TEATOEXEAT	CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS CONTINCENTS	CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT	ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА	TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT ACACITTOT COACITTOT	АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ	СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
T.seg.1002.Egg.NZL6507 T.seg.1003(5)PMIII200 T.seg.1003(2)PMII206 T.seg.1003(2)PMII2066 T.seg.1003(2)PMII2066 T.seg.1003(2)PMII2066 T.seg.1003(2)PMII2066 T.seg.1007(2)PMII2066 T.seg.1007(2)PMII2066 T.seg.1007(2)PMII2066	Тамасалет з тамасалет з		GTCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT ATCMAATGTT	ИССАНОЦТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ ЭССІЛЕСТАТ	TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT TEATOENEAT	CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO CONTINCIATO		ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА	TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC TTCTAGTOSC	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT TCCACITTOT TCCACITTOT TCCACITTOT	АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ АЛТСТСОЛТ	CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR CONSTRUCTOR	СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО СТАНСКОМО
T.mag.ND92.Egg.N226597 T.mag.105(5)HM212967 T.mag.105(2)HM212965 T.mag.ND92.AJ33740 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212964 T.maim.705(16)HM212966 T.maim.705(17)HM212966	ТОЛИССИСТ // ТОЛИССИСТ //	AGGACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO ADDACTTO	GTCMAATGIT GTCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT ATCMAATGIT	ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT ACCANEGTAT	TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA TEATORIAGA	COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO COATACCATO	CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT CTCTOCACTT	ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА ТОСТТСТСАА	TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE TTCTAGTOSE	TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA TOTODICAGA	ACCACITICIT ACCACITICIT ACCACITICIT ACCACITICIT ACCACITICIT ACCACITICIT ACCACITICIT CCACITICIT TCCACITICIT TCCACITICIT TCCACITICIT CCACITICIT	AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT AGTETEOGIT	СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ СОЛОТИСЛСТ	СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА СТАНСКАНА
T. mag. 1002. By: .N265077 T. mag. 1005 (1) HMI12047 T. mag. 1003 (1) HMI12047 T. mag. 1003 (1) HMI12040 T. mag. 1003 (1) HMI12040 T. maints, 1003 (1) HMI12040	талмасаласт з талмасаласт з	MUGANCTTOL KODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL NODENCTTOL	GTEAGATOFT GREAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT ATEAGATOFT	HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT HECKNOUTAT	TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT	CUATINGCATU COATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU CUATINGCATU	CICICOLOTI CICICOLOTI	Терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела терттетела	TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE	TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA TOTODITEADA	ACAACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT ACCACITTOT TCCACITTOT TCCACITTOT TCCACITTOT TCCACITTOT TCCACITTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT	CUATIONET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET CONSTIGNET	СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ СТАЛСНАНИ
T. ===9, HOD2. Byr. NI265077 T. ===9, IC02 (1) HOL21046 T. ===9, IC0 (1) HOL21046 T. ===9, IC0 (1) HOL21046 T. ===165 (10) HOL2046 T. ===165 (10) HOL2046 T. ===165 (10) HOL2046 T. ===165 (10) HOL2047 T. ===165 (10) HOL2047	талмасляет з тазлаезлет з	MUGALETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL MODELETTOL	GTEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY	ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT	TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT			Тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела тесттетела	TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE	TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA TOTORTCADA	ACALCITTOT ACCALTTOT ACCALTTOT ACCALTTOT ACCALTTOT ACCALTTOT ACCALTTOT TCCALCTTOT TCCALCTTOT TCCALCTTOT TCCALCTTOT TCCALCTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ СТАЛСКОЛИВ
T. mag. 1002. Egg. NZL26697 T. mag. 1005 (S 1MX12047 T. mag. 1005 (S 1MX12046 T. mag. 1007 (S 1MX12046) T. mag. 1007 (S 1MX12046) T. math. 1007 (S 1MX12046)	Талисськат з талисськат з	MUGANCTTOD KODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC	GTEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY	ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT	TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT			ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТТАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ===9, HOD2. Byr. NI265077 T. ===9, IC02 (1) HOL21046 T. ===9, IC0 (1) HOL21046 T. ===9, IC0 (1) HOL21046 T. ===165 (10) HOL2046 T. ===165 (10) HOL2046 T. ===165 (10) HOL2047 T. ===165 (10) HOL2047 T. ===165 (10) HOL2047	талмасляет з тазлаезлет з	MUGANCTTOD KODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC	GTEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY	ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT	TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT TEATECHEAT			ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТТАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. mag. 1002. Egg. NZL26697 T. mag. 1005 (S 1MX12047 T. mag. 1005 (S 1MX12046 T. mag. 1007 (S 1MX12046) T. mag. 1007 (S 1MX12046) T. math. 1007 (S 1MX12046)	Талисськат з талисськат з	MUGANCTTOD KODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC MODE/CITOC	GTEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY	ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT	TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT TEATUEREAT			ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТТАА ТЕСТТСТСАА ТЕСТТСТСАА ТЕСТТСТСАА	TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE TICTADIOUE	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ====, HOD2. Egg. NL266077 T. ===, ICS (1) HOL12067 T. ====, ICS (1) HOL12067 T. ====, ICS (1) HOL12063 T. ====, ICS (1) HOL12063 T. ====, ICS (1) HOL12063 T. ====, ICS (1) HOL12064 T. ====, ICS (1) HOL12064 T. ====, ICS (1) HOL12065 T. ====, ICS (1) HOL12065 T. ====, ICS (1) HOL12065 T. ====, ICS (1) HOL12067 T. ====, ICS (1) HOL12067	Талиссиат з талиссиат з		GTEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY ATEADATOTY	ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT ACCANCUTAT	TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT TEATIENCAT					TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag, HOD2, Egg. NZL65697 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2046 T. = mainter, ISO (NZL0064 T. = mainter, ISO (S)	TUMACENET 1 TUMACENET 2 TUMACENET 2 TUMACENET 2		GTCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY ATCARANTOTY		TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT TCATUCHCAT			TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN TECTTOTEAN	TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = e.g. HOD2. Egg. NIL266977 T. = e.g. 100 (91 HM121047 T. = e.g. 100 (21 HM121047) T. = e.g. 100 (21 HM121046) T. = e.g. 100 (21 HM121046) T. = e.g. 100 (10 HM121046) T. = e.g. (91 HM121046) T. = e.g. (90 (11 HM121046)	Талиссилст з талиссилст з		CTCARANTOTY CTCARANTOTY ATCCARATOTY ATCCA		TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT TEATUEACAT			TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA TECTTOTICAA	TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGTORE TTCTAGCORE	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag, HOD2, Egg. NZL65697 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2097 T. = mag, ISO (S) FMEI2046 T. = mainter, ISO (NZL0064 T. = mainter, ISO (S)	TUMACENET 1 TUMACENET 2 TUMACENET 2 TUMACENET 2		апсалатат апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалататататата апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалатататата апсалататататата апсалататататата апсалататататата апсалататататататата апсалататататата апсалататататата апсалататататата апсалатататататата апсалататататата апсалататататата апсалататататата апсалататататата апсалатататататататататататататататататата						TTCTANFORC TTCTANFORC	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. mag. 1002. Egg. NZL26097 T. mag. 1005 (S 1MX12097 T. mag. 1005 (S 1MX12097 T. mag. 1007 (S 1MX12096 T. mag. 1007 (S 1MX12096) T. match. 1007 (S 1MX12096) T. mag. 1007. Egg. NTO27500 T. mag. HDD2. Egg. NTO27500	Талисськат з талисськат з талистькат з талисськат з тали		ditaAnTorr orea.aron AttaAnTorr AttaAntorr A					TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION TECTITUTION		TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ==eg. HOD2. Egg. NIL266077 T. ==eg. IC02 (S) HNIL207 T. ==eg. IC02 (S) HNIL207 T. ==eg. IC02 (S) HNIL207 T. ==eg. IC02 (S) HNIL2040 T. ==eg. IC02 (S) HNIL2040 T. ==eg. (S) H	Талиссилст з талиссилст з тали		IIICAANTOTT IIICAANTOTT ATCHANTGT ATCHANTG			CANTECRATE CONTROLOTES CONTROL		ТССТТЕТСТВА ТССТТЕТСТВА ТССТТЕТСВА		TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ====_H, HOP2., EggRL266077 T. ====_U, EGS (2) HGL1204 T. ===_U, EGS (2) HGL1204	Талисанат з талисанат з талис		dicampart ancount anco					ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОТОВАН ТОСТТОГОВАН ТОСТТОГОВАН ТОСТТОГОВАН ТОСТТОГОВАН ТОСТТОГОВАН ТОСТТОГОВАН ТОСТТОГОВАН	TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL TICTARTOL CLATT COLITI COLITI COLITI COLITI COLITI COLITI COLITI COLITI COLITI	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag. HOD2. Egg. NIZ456977 T. = mag. ISO 15 HII1207 T. = mag. ISO 15 HII1207 T. = mag. ISO 12 HII1207 T. = mag. ISO 12 HII1207 T. = mainty ISO 10 HII1207 T. = mainty, ISO 10 HII1207 T. = mag. ISO 10 HII1207 T. = mainty, ISO 10 H	Талисанат з талисанат з талис		IICEANTOFT IICEANTOFT ATCHANTGFT ATCHAN			CANTECCATE CONTROLOGIES				TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag. HOD2. Egg	TURNACENET 3 TODAGENACE 3 TODAG			ACCANDUTATI ACCANDUTATI					TICTARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL TICLARTOL COLT TICLARTOL COLT TICLARTOL COLT COLT COLT COLT COLT COLT COLT C	TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag. HOD2. Egg. NIZ456977 T. = mag. ISO 15 HII1207 T. = mag. ISO 15 HII1207 T. = mag. ISO 12 HII1207 T. = mag. ISO 12 HII1207 T. = mainty ISO 10 HII1207 T. = mainty, ISO 10 HII1207 T. = mag. ISO 10 HII1207 T. = mainty, ISO 10 H	Талисанат з талисанат з талис		dicaaknorr ancaaknorr Ancaaknorr					TECTTOTICAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN TECTTOCAN		TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
<pre>Tseg. HOD2. Egg. NL265077 Tseg. ICO2 (1) FMC12007 Tseg. ICO2 (1) FMC1207 Tseg. ICO2 (1) FMC1207 Tseg. ICO2 (1) FMC12070 Tseg. ICO2</pre>	ТОЗАВСЬКАТ / ТОЗАВСЬКАТ / СОЗАВСЬКАТ / СОЗАВСЬКАТ / ТОЗАВСЬКАТ / СОЗАВСЬКАТ / СОЗАВСВСКАТ / СОЗАВСВС		IICLANTOFT OFCALATOFT ATCALA							TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ==========EUC = Log = T. = Log = DD2. Log = DD2 = D										TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. = mag. HOD2. Egg										TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
<pre>Tseg. HOD2. Byr. NIL266977 Tseg. 100 (19 HD11204) Tseg. 100 (19 HD11204) Tseg. 100 (19 HD1104) Tstat. HOS (19 HD1104) Tstat. H</pre>										TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
T. ==eg. HOD2. Egg. NL266977 T. ==eg. ICO2 (S) FMIL207 T. ==eg. ICO2 (S) FMIL207 T. ==eg. ICO2 (S) FMIL207 T. ==eg. ICO2 (S) FMIL207 T. ==eg. ICO2 (S) FMIL2076 T. ==eg. ICO2 (S) FMIL2077 T. ==eg. ICO2 (S) FMIL2076 T. ==eg. ICO2 (S) FMIL2077 T. ==eg. ICO2 (S) FMIL2076 T. ==eg. ICO2 (S) FMIL2			GICLARNOFT GICLARNOFT AICHARGEN AICH							TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG
<pre>Tseg. HOD2. Byr. NIL266977 Tseg. 100 (19 HD11204) Tseg. 100 (19 HD11204) Tseg. 100 (19 HD1104) Tstat. HOS (19 HD1104) Tstat. H</pre>										TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA TOTODITENDA	ACARCITTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT ACCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT TCCACTTTOT ACCACTTTOT ACCACTTTOT	ASTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT AGTETEORT		CTANCASANG CTANCASANG

Fig. 3: Nucleotide sequence alignment of *Taenia saginata* Egyptian isolate and compared by doing pairwise alignment of the nucleotides of other isolates in GenBank using ClustalW multiple alignments.

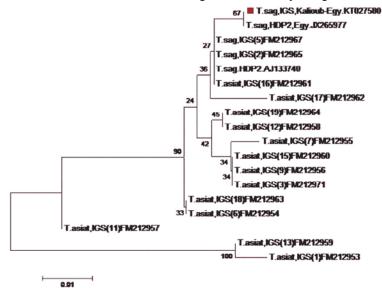


Fig. 4: Phylogenetic tree of T. *saginata* based on nucleotide partial sequences of the HDP2 gene. It is closer to T. *saginata* than T. *asiatica* using the entire nucleotide sequences of *Taenia* species retrieved from GenBank by MEGA5. Genetic distance is indicated below the tree.

Global Veterinaria, 15 (4): 372-380, 2015

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
1			100.0	99.4	99.4	99.4	99.3	99.3	99.3	99.1	99.1	99.1	99.1	98.9	98.9	98.3	98.3	95.5	95.3	1	T.seg, K3S, Kelloub-Egy, KT027580
2	1	0.0		99.4	99.4	99.4	99.3	99.3	99.3	99.1	99.1	99.1	99.1	98.9	98.9	98.3	98.3	95.5	95.3	2	T.sag,HDP2,Egy,JX265977
3	1	0.6	0.6		100.0	100.0	99.8	99.8	99.8	99.6	99.6	99.6	99.6	99.4	99.4	98.9	98.9	96.1	95.9	3	T_sag, IGS(5)FM212967
4	1 0	9.6	0.6	0.0		100.0	99.8	99.8	99.8	99.6	99.6	99.6	99.6	99.4	99.4	98.9	98.9	96.1	95.9	4	T.seg, IGS(2)FM212965
5	1	0.6	0.6	0.0	0.0		99.8	99.8	99.8	99.6	99.6	99.6	99.6	99.4	99.4	98.9	98.9	96.1	95.9	5	T.sag.HDP2.AJ133740
6		8.0	0.8	0.2	0.2	0.2		99.6	100.0	99.4	99.8	99.4	99.8	99.6	99.6	98.7	99.1	96.3	96.1	6	T.adiat, IGS(18)FM212963
7		8.0	0.8	0.2	0.2	0.2	0.4		99.6	99.8	99.4	99.8	99.4	99.6	99.3	98.7	98.7	95.9	95.7	7	T.asiat, IGS(16)FM212961
8	1 1	9.8	0.8	0.2	0.2	0.2	0.0	0.4		99.4	99.8	99.4	99.8	99.6	99.6	98.7	99.1	96.3	96.1	8	T.asiat, IGS(6)FM212954
9		9.9	0.9	0.4	0.4	0.4	0.6	0.2	0.6		99.6	100.0	99.6	99.8	99.4	98.5	98.5	95.7	95.5	9	T.esiet, IGS(19)FM212964
1	0 (9.9	0.9	0.4	0.4	0.4	0.2	0.6	0.2	0.4		99.6	100.0	99.8	99.8	98.5	98.9	96.1	95.9	10	T.asiat, IGS(15)FM212960
1	1 (9.9	0.9	0.4	0.4	0.4	0.6	0.2	0.6	0.0	0.4		99.6	99.8	99.4	98.5	98.5	95.7	95.5	11	T.asiat, IGS(12)FM212958
1	2 (9.9	0.9	0.4	0.4	0.4	0.2	0.6	0.2	0.4	0.0	0.4		99.8	99.8	98.5	98.9	95.1	95.9	12	T.asiat, IGS(9)FM212956
1	3	1.1	1.1	0.6	0.6	0.6	0.4	0.4	0.4	0.2	0.2	0.2	0.2		99.6	98.3	98.7	95.9	95.7	13	T.asiat, IGS(3)FM212971
1	4	1.1	1.1	0.6	0.6	0.6	0.4	0.8	0.4	0.6	0.2	0.6	0.2	0.4		98.3	98.7	96.3	96.1	14	T.asiat, IGS(7)FM212955
1	5	1.7	1.7	1.1	1.1	1.1	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.7	1.7		97.8	97.0	96.8	15	T.asiat, IGS(17)FM212962
1	5	1.7	1.7	1.1	1.1	1.1	0.9	1.3	0.9	1.5	1.1	1.5	1.1	1.3	1.3	2.3		97.2	97.0	16	T.esiet, IGS(11)FM212957
1	7 .	1.7	4.7	4.1	4.1	4.1	3.9	4.3	3.9	4.5	4.1	4.5	4.1	4.3	3.9	3.1	2.9		99.8	17	T.asiat, IGS(13)FM212959
1	8 4	9.9	4.9	4.3	4.3	4.3	4.1	4.5	4.1	4.6	4.2	4.6	4.2	4.4	4.0	3.3	3.1	0.2		18	T.asiat, IGS(1)FM212953

Table 3: The percent of diversion and identity between T. saginata sample from Egypt and seventeen selected sequences circulating globally from GenBank

to T. sag IGS(5)FM212967, T. sag IGS(5)FM212965 and T.sag HDP2AJ133740 with diversion 0.6%, while the percentage of identity reached its lowest degree 95.3% to T.asiat IGS(1)FM212953 (Table, 3).

DISCUSSION

Bovine cysticercosis is an infection of bovine caused by the larval stage, *C. bovis*, of the human intestinal cestode, *T. saginata*. This parasite is universally distributed in developing as well as in developed countries [32]. Post mortem inspection is the most common method in use to detect bovine cysticercosis. *C. bovis* is round or oval in shape and when fully developed consists of scolex invaginated into small fluid filled vesicle [32,23]. Meat inspection remains the cornerstone for the control of *T. saginata* [33].

Cysticercosis was carried out in slaughtered buffaloes in Benha and Touhk abattoirs in Kalioubia, Egypt in order to determine the infection rate during a one-year period, 2014. Buffaloes were examined by routine meat inspection. The results showed that 313 (9.07%) were infected with *Cysticercus bovis* and the prevalence of infection is (8.72%) in the first abattoir lower than (9.49%) in the second abattoir (Table, 1).

The prevalence of *Cysticercosis* in buffaloes in this study is higher than those recorded by Abdo *et al.* [4]. (0.8%) in Assuit, Egypt. The available literatures of *Cysticercosis* in buffaloe are rare so we obliged to compare the obtained result with *C. bovis* in slaughterd cattle.

Our findings are higher than *C. bovis* recorded in African countries 0.2% in North West Province of South Africa from 2000 to 2010 [34]. 19 (3.6%) in Addis Ababa municipal abattoir [35], 0.25%) [36], 315 (2.67%) in Nigeria

[37], 96 (2.09%) [38] and 24 (5.6%) at Elfora abattoir, Bishoftu, Ethiopia [39]. On the contrary, the occurrence of *Cysticercosis* in this study was lower than reordered bovine cysticercosis in Ethiopia 13.3% [10]. in Hawassa Municipal 22.9% [40] and 26% [41]. The variation in the reported prevalence rates may be due to several factors such as climate change, variation in sanitation habit between localities, number of the collected sample as well as control measures and eradication programs [38].

Out of the 345 cysticerci collected and submitted to macroscopic examination, 211 (61.15%) were found to be viable (mature) while 134 (38.84%) were degenerated (immature). Table (1) declared that the prevalence of the viable cysts higher than the degenerated. A notice disagree with those previously observed by Abdo *et al.* [4], who detected most of the cysticerci (90%) were degenerated.

Concerning microscopic detection of the viability of the cysticerci, out of the 211 cysts microscopically examined, 179 (84.83%) were alive contain protoscolex. A result in agreement with Emiru *et al.* [39] and Belachew and Ibrahim [40].

Cysticerci can remain alive in cattle anywhere from weeks to years and such infection in cattle is a public health problem as the infected raw or undercooked beef causes taeniasis in human. It has economic significance as well as the economic losses accruing from the condemned and downgraded carcasses and due to treatment of carcasses before human consumption is substantial [42].

The occurrence of *taeniasis* among the 100 examined patients in this study shows 6 out of 100 (6%) infections. In Egypt our result is higher when compared with those [4] 0.6% and El-Shazly *et al.* [21],0.1% in Assiut and Dakahlia respectively.

Taenia saginata infections were determined microscopically through direct and sedimentation of fecal samples. Infection rate was 6.34% in male higher than 5.40 % in females (Table, 2). A finding was differ with Usip *et al.*[38]. diagnosed *T. saginata* eggs with 2.47% infection rate in males lower than 3.07% infection rate in females in Uyo, capital city of Akwa Ibom State, Nigeria. Moreover [4], did not detect infection in female. The differences may be due to differences in location of study as well as personal hygiene, educational level, control and eradication programmes in such localities [38].

Praziquantel treatment resulted in recuperation of adult tapeworms from 6 hosts. Gravid proglottids examined histologically and stained with Carmine stain were identified as *T. saginata* (Figure, 1). The morphological examination of the parasite revealed typical *taeniid* features of gravid segment based upon number of uterine lateral branches [15].

Bovine cysticercosis and taeniasis are common where hygienic conditions are poor and the inhabitants traditionally eat raw or insufficiently cooked or sun-cured meat [25] Preventing animal to have contact with human feces by construction of latrines, detection and treatment of *Taenia* carriers were recorded [6].

A PCR- protocol was developed from the HDP2 sequence-based specific oligonucleotoid primers to establish a *T. saginata* DNA band of approximately 599bp. In the present study the identified 20 viable cysts and 6 proglottids were confirmed by PCR. The genomic DNA of the parasite was isolated and amplified based on a sequence of *T. saginata* 599bp DNA fragment generated from the parasite gDNA using HDP2F1R1 (Figure, 2). The similar resulting in amplification of DNA fragment specific for *T. saginata* was performed by Gonza'lez *et al.*[18] and Nunes *et al.* [17] with oligonucleotide primers of HDP2 gene.

The nucleotide sequence data of HDP2 PCR products of *T. saginata* has been submitted to the GenBank with the accession numbers KT027580 (Figure, 3). Phylogenetic analysis showed that our isolates clustered with *Taeniid spp.* and revealed that KT027580 Egypt put in the same category with JX265977, T. sag IGS(5)FM212967, T. sag IGS(5)FM212965 and T.sagHDP2AJ133740 Figure (4). Phylogenetic tree indicated that the evolutionary distance between groups is very short, suggesting that the genetic divergence is recent.

The percent of diversion and identity between *T. saginata* sample from Egypt and seventeen selected sequences circulating globally from GenBank (Table, 3), our isolate was phylogenetically compatible (100%) with

T. saginata from Egypt, JX265977 and 99.4% to T. sag IGS(5)FM212967, T. sag IGS(5)FM212965 and T.sag HDP2AJ133740 with diversion 0.6%, while the percentage of identity reached its lowest degree 95.3% to T.asiat IGS(1)FM212953.

CONCLUSION

The result obtained in this study confirmed the present of high percent 9.1% of cysticercosis in slaughtered buffaloes accompanied with overall infestation rate of 6% of taeniasis in human in Kalioubia, Egypt. Therefore, to reduce the transmission of taeniasis/ bovine cysticercosis, public education to avoid consumption of raw meat, use of latrines and improved standards of human hygiene were recommended [10]. Eradication of infection requires co-operation between the Public Health and Veterinary authorities.

REFERENCES

- Boone, I., E. Thys, T. Marcotty, J. De Borchgrave, E. Ducheyne and P. Dorny, 2007. Distribution and risk factors of bovine cysticercosis in Belgian dairy and mixed herds. Preventive Veterinary Medicine, 82: 1-11.
- Hashemnia, M., Y. Shahbazi and E.A.A. Safavi, 2015. Bovine Cysticercosis with Special Attention to Its Prevalence, Economic Losses and Food Safety Importance in Kermanshah, West of Iran. Journal of Food Quality and Hazards Control, 2: 26-29.
- Dorny, P., 2002. A sero-epidemiological study of bovine cysticercosis in Zambia. Vet. Parasitol., 104(3): 211-215.
- Abdo, B.R.N., S.M. Sayed, A.A. Hussein and M.I. Arafa, 2009. Occurrence of Cysticercosis in cattle and buffaloes and *Taenia saginata* in man in Assiut Governance of Egypt. Veterinary World, 2(5): 173-176.
- Murrel, K., 2005. Epidemioloy of taeniosis and cysticercosis. In: Murrel, K. (Ed.), Guidelines for the surveillance, prevention and control of teniosis/cysticercosis. WHO/FAO/OIE, pp: 27-43.
- 6. Kumar, A. and G. Tadesse, 2011. A review Bovine cysticercosis in Ethiopia. Ethiop. Vet. J., 15(1): 15-35.
- 7. Gracey, J.F., D.S. Collins and J. Hily, 2009. Meat Hygiene. 10th Ed.W.B. Saunders Co. pp: 669-678.
- Lees, W., J. Nightingale, D. Brown B. Scandrett and A. Gajadhar, 2002. Outbreak of *Cysticercus bovis* (*Taenia saginata*) in feedlot cattle in Alberta. Canadian Veterinary Journal, 43: 227-228.

- Megersa, B., E. Tesfaye, A. Regassa, R. Abebe and F. Abunna, 2010. Bovine cysticercosis in cattle slaughtered at Jimma Municipal Abattoir, South Western Ethopia: Prevalence, cyst viability and its Socio-economic importance. Vet. World, 3(6): 257-262.
- Kebede, N., G. Tilahun and A. Hailu, 2009. Current status of bovine cysticercosis of slaughtered cattle in Addis Ababa Abattoir, Ethiopia. Trop. Anim. Health Prod., 41: 291-294.
- Abuseir, S., C. Epe, T. Schnieder, G. Klein and M. Kühne, 2006. Visual diagnosis of *Taenia saginata* cysticercosis during meat inspection: is it unequivocal? Parasitol. Res., 99: 405-409.
- Chiesa, F., A. Dalmasso, A. Bellio, M. Martinetti, S. Gili and T. Civera, 2010. Development of a Biomolecular Assay for Postmortem Diagnosis of *Taenia saginata* Cysticercosis. Foodborne Pathogens and Disease, 7(10): 1171-1175.
- Gonzalez, A.E., M. Castro, R.H. Gilman, G. Vargas, C.R. Sterling, H.H. Garcia, F. Diaz, E. Miranda, J. Naranjo, G. Herrera, C. Carcamo, M. Verastegui, T. Montenegro, M. Alvarez, M.P. Torres, V. Tsang, J. Pilcher, A. Chavera, A. Delgado, J. Lozano, P. Henderson, F. Armas, T. Rodriguez, C. Evans, L.E. Vasquez and V. Cama, 1993. The marketing of cysticercotic pigs in the Sierra of Peru. Bulletin of the World Health Organization, 71: 223-228.
- 14. Sarti, E., 1997. Taeniasis and cysticercosis due to *Taenia solium*. Salud Publica Mexicana, 39: 225-231.
- Mayta, H., A. Talley, R.H. Gilman, J. Jimenez, M. Verastegui, M. Ruiz, H.H. Garciia and A.E. Gonzalez, 2000. Differentiating *Taenia solium* and *Taenia saginata* infections by simple hematoxylin/eosin staining and PCR - restriction enzyme analysis. J.Clin. Microbiol., 38: 133-137.
- Yamasaki, H., J.C. Allan, M.O. Sato, M. Nakao, Y. Sako, K. Nakaya, D. Qiu, W. Mamuti, P. S. Craig and A. Ito, 2004. DNA differential 3....3.diagnosis of Taeniasis and cysticercosis by multiplex PCR. J. Clin. Microbiol., 42: 548-553.
- Nunes, C.M., A.K.K. Dias, F.E.F. Dias, S.M. Aoki, H.B. de Paula, L.G.F. Lima and J.F. Garcia, 2005. *Taenia saginata*: Differential diagnosis of human taeniasis by polymerase chain reaction restriction fragment length polymorphism assay. Experimental Parasitology, 110: 412-415.
- Gonza'lez, L.M., E. Montero, L.J. Harrison, R.M. Parkhouse and T. Garate, 2000. Differential diagnosis of *Taenia saginata* and *Taenia solium* infection by PCR. J. Clin Microbiol., 38: 737-744.

- Gonza'lez, L.M.E. Montero, S. Puente, R. Lopez-Velez, M. Hernandez, E. Sciutto, L.J. Harrison, R.M. Parkhouse and T.Garate, 2002. PCR tools for the differential diagnosis of *Taenia saginata* and *Taenia solium* taeniasis/cysticercosis from different geographical locations. Diagn Microbiol Infect. Dis., 42: 243-249.
- Vega, R., D. Pinero, B. Ramanankandrasana, M. Dumas, B. Bouteille, A. Fleury, E. Sciutto, C. Larralde and G. Fragoso, 2003. Population genetic structure of *Taenia solium* from Madagascar and Mexico: implications for clinical profile diversity and immunological technology. International Journal for Parasitology, 33: 1479-1485.
- El-Shazly, A.M, H.A. el-Nahas, M. Soliman, D.M. Sultan, A.H. Abedl Tawab and T.A Morsy, 2006. The reflection of control programs of parasitic diseases upon gastrointestinal helminthiasis in Dakahlia Governorate, Egypt. Journal of the Egyptian Society of Parasitology, 36(2): 467-480.
- Kandil, O.M., H.A. Fahmy, K.A. Abdelrahman and A.E. El Hakim, 2014. Phylogenetic Placement of Egyptian *Taenia saginata* and *Cysticercus bovis*. Global Veterinaria, 13(5): 779-786.
- Gracey, J. F., D.S. Collins and R.J. Huey, 1999. Meat Hygiene. 10th Ed. Harcourt Brace and Company Limited, 24-28 Oval Road, London NW17DX, pp: 673-678.
- 24. Jeri, C., R.H. Gilman and A.G. Lescano, 2004. Species identification after treatment for human taeniasis. Lancet, 363: 949-950.
- Minozzo, J.C., R.L.F.Gusso, E.A. Castro, O. Lago and V.T. Soccol, 2002. Experimental bovine infection with *Taenia saginata* eggs: recovery rates and cysticerci location. Braz. Arch. Biol. Technol., 45: 451-455.
- Urguhart, G.M., 1994. Veterinary Parasitology, Longman Singapore Publishers Pte Ltd. Singapore pp: 269-271.
- Harrison, L.J., J. Delgado and R.M. Parkhouse, 1990. Differential diagnosis of *Taenia saginata* and *Taenia solium* with DNA probes. Parasitology, 100: 459-461.
- Thompson, J.D., D.G. Higgins and T.J. Gibson, 1994. CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice. Nucl. Acid Res., 22: 4673-80.
- 29. Tamura, K.D., N. Peterson, G. Stecher, M. Nei and S. Kumar, 2011. MEGA5: molecular evolutionary genetic analysis using maximum likelihood, evolutionary distance, maximum parsimony methods. Mol. Biol. Evol., 28: 2731-2739.

- Tamura, K., M. Nei and S. Kumar, 2004. Prospects inferring very large phylogenies by using neighbor joining method. Proceedings of the National Academy of Sciences (USA), 101: 11030-11035.
- Tamura, K., G. Stesher, D. Peterson, A. Filipeski and S. Kumar, 2013. MEGA6: Molecular Evolutionary Genetics Analysis version 6.0. Molecular Biology and Evolution, 30: 2725-2729.
- Cabaret, J., S. Geerts, M. Madeline, C. Ballandonne and D.Barbier, 2002. The urban sewage sludge on pastures: the cysticercosis threat. Vet. Res., 33: 575-597.
- 33. Dorny, P. and N. Praet, 2007. *Taenia saginata* in Europe. Vet. Parasitol., 149: 22-24.
- Dzoma, B.M., E.K. Setlhodi, M.M.L.E. Molefe, Motsei, F.R. Bakunzi, R.V. Ndou and M. Nyirenda, 2011. Prevalence of Bovine Cysticercosis in the North West Province of South Africa from 2000 to 2010. J. Hum. Ecol., 36(1): 9-12.
- Ibrahim, N. and F. Zerihun, 2012. Prevalence of *Tania* Saginata Cysticercosis in Cattle Slaughtered in Addis Ababa Municipal Abattoir, Ethiopia. Global Veterinaria, 8(5): 467-471.
- Khaniki, G.R., M. Raei, E.B. Kia, M.A. Haghi and M. Selseleh, 2010. Prevalence of bovine cysticercosis in slaughtered cattle in Iran. Trop. Anim. Health Prod., 42: 141-143.

- Rabi'u, B.M. and O.C. Jegede, 2010. Incidence of bovine cysticercosis in Kano state, north western Nigeria. Bayero Journal of Pure and Applied Sciences, 3(1): 100-103.
- Usip, L.P.E., L. Isaac, E.C. Amadi, E.Utah and U. Akpaudo, 2011. The occurrence of cysticercosis in cattles and taeniasis in man in UYO, CAPITAL CITY OF AKWA IBOMSTATE, NIGERIA. Nigerian Journal of Agriculture, Food and Environment, 7(2): 47-51.
- Emiru, L., D. Tadesse, T. Kifleyohannes, T. Sori and Y. Hagos, 2015. Prevalence and public health importance of bovine cysticercosis at Elfora abattoir, Bishoftu, Ethiopia. Journal of Public Health and Epidemiology, 7(2): 34-40.
- Belachew, M. and N. Ibrahim, 2012. Prevalence of *Cysticercus Bovis* in Hawassa Municipal Abattoir and its Public Health Implication. American-Eurasian Journal of Scientific Research, 7(6): 238-245.
- Opara, M.N., 2006. Cysticercosis of slaughter cattle in southeastern Nigeria. Ann. NY Acad. Sci., 1081: 339-346.
- 42. Giesecke, W.H., 1997. Prevalence and economic implications of taeniasis/cysticercosis in South Africa. In: Cysticercosis. Report on a Workshop held at the Onderstepoort Veterinary Institute, Onderstepoort, South Africa, August 18-19, pp: 19-70.