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Bovine Dairy Genetics Market Update

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Report Highlights:

The challenging and dynamic development of the dairy industry in 2014 and in 2015 to date had a positive impact on the dairy genetics market. Increasing competition in the dairy market, abolishment of milk quotas, indirect effects of the Russian embargo with more imports of fresh milk from the EU, and the decline in milk prices, all have forced local dairy farmers to invest efforts, knowledge and funds in sharp improvement of their efficiency and productivity in order to compete successfully. Investment in good genetics became critical for farmers' competitiveness. Imports of bovine genetics demonstrated stable growth over the last 2 years. U.S. dairy genetics holds a well-established, positive image on the local genetics market, currently estimated at about US\$ 0.5-0.6 million per year. In 2014 and in 2015 to date, imports of U.S. dairy genetics showed record growth, both in quantity and in value.

The new political administration has announced the dairy sector as its top priority. The government is trying to allocate more funds for support of farmers and for improvement of productivity. New subsidy programs for breeding animals were introduced. Although welcome by the dairy industry, some of these

new policies, may have a controversial effect on the dairy genetics market by providing artificial advantages for select suppliers versus others.							

General Information:

Bulgarian Dairy Sector Development

The Bulgarian dairy sector is undergoing a major restructuring with a diminished role for small subsistence farms. The third and last EU derogation for quality milk expires at the end of this calendar year. An EC mission is expected to visit the country soon and verify the compliance of the industry with EU standards. Abolishment of the milk quotas led to lower milk prices over the last year which coincided with the Russian embargo and resulted in higher imports of raw milk from the EU (also powder milk and condensed milk) at competitive prices. These complex factors led to tougher competition and forced less efficient farms off the market.

While the total dairy herd declined slightly by 3.8% in 2014 compared to 2013, the structure of the industry has changed significantly with continued growth in the number of larger farms (above 50 animals) and with the inventory of dairy cows at these farms (See Table 1). At the same time the number of subsistence farms (1-9 cows) was sharply down, along with stocks. As a result, the total number of dairy farms was 26% lower at the end of 2014 compared to a year earlier. As of the end of 2014, 15% of farms (10+ dairy cows) accounted for 76% of dairy cows and 85% of farms (1-9 dairy cows) raised 24% of stocks. Due to farm concentration, the average animals per farm increased to 10.3 compared to 5.0 in 2013.

Market reports indicate that animals have been traded and moved from the smaller to larger farms and not slaughtered or exported, which proves that more efficient dairy farms are profitable and invest in expansion and growth. It is expected that the medium and large-sized farms, about 7,000 farms with 225,000 dairy cows, will become the backbone of the dairy market where productivity and efficiency will play the key role. The average annual milk yield at these farms is reportedly above 4500 liters per cow and the potential for development is significant.

Table 1. Dairy Cattle Farms and Dairy Herd, 2014 and 2013

Changes in the number of dairy cattle farms and dairy herd, 2014 vs. 2013							
Nos. of animals (dairy cows) per farm	Nos. of farms as of end-2014	Percentage Change 2014/2013	Dairy cows, 1,000 head	Percentage Change 2014/2013			
1-2	31,598	(-32.3)	40.9	(-29.7)			
3-9	6,649	(-12.0)	29.8	(-10.8)			
10-19	3,574	3.8	46.4	3.8			
20 -50	2,369	(-3.9)	72.9	(-2.9)			
50-99	740	9.1	49.1	11.3			
100 and more	278	6.1	56.3	9.1			
Total	45,208	(-26.0)	295.4	(-3.8)			
Source: Statistical Offic	e, MinAg, Bulletin 2	285, April 2015					

Bovine Genetics Market Development

The Bulgarian market for bovine genetics is currently estimated at US\$0.5-0.6 million with the potential to double in value in the next 3-4 years to US\$1.0 million.

Imported semen accounted for about US\$ 450,000 (imports in 2014) and the remaining were sales of local semen. This represents 24% annual growth in semen imports in 2014 vs 2013, following the 30% annual increase in 2013 as compared to 2012. Imports of bovine semen (in value) in 2014 were more than double than that in 2010. Please, see the Tables 3-6 at the end of the report for details. The trend towards better quality product has been stable, with the average import price in 2014 at 6% higher than in 2013, and in 2013 at 36% more than in 2012. In terms of quantity (doses), imports in 2014 were 18% higher than in 2013. In the period 2011-2013, imports varied at 103-110,000 doses. In the first quarter of 2015, imports of bovine semen set a new record. It registered a growth of 165% in value and 25% in quantity compared to the first quarter of 2014, while the average import price increased by 111%.

The main players on the bovine genetics market are Germany, the United States, Canada, the Netherlands, and lately Austria, Spain and France. Germany was a leader with 37% percent of the value of imports in 2014, followed by the United States, and Canada with 21%. In terms of the number of imported doses, Germany led with 58% of all imports in 2014 while Canada had a 9% share. These market positions demonstrate the price sensitivity of the market. While the average price for German doses was at the bottom with US\$2.31/dose (close to the levels of Austrian and French imports), the most expensive product on the market was Dutch with US\$15.92/dose. Regardless of the differences in the average import prices, Germany, Canada and the Netherlands increased the unit import price in 2014 compared to 2013 by 25%, 59% and 166%, respectively.

In 2013 the national register for importers of semen included 4 importers of semen with 19 notifications for imports of 66, 948 doses from 163 bulls from 16 breeds (MinAg Annual Report 2014).

Reportedly, not all importers perform the duty to register imports properly, especially those who import semen from the EU market. There are about 12-15 importers of animal genetics on the market. In 2014 a new importer launched its business representing DOVEA Ireland, beef genetics from the Hereford, Aberdeen Angus and Limousine breeds. Competition is tight and despite the trend for increased demand for better quality product, the market is generally very price sensitive.

Market reports indicate that private importers sell about 150,000 to 160,000 doses annually while the government Agency for Selection and Breeding in Animal Husbandry (ASBAH) accounts for another 70,000+ doses. Market players estimate the current size of the market at about 230 - 250,000 doses. While private players have sharply increased their market shares to about 70-75% compared to 50% in 2012, the ASBAH reduced its share to 25%-30%. It is likely that this trend will be preserved in the future with more opportunities for growth in imports both in terms of higher quality (in value) and in terms of the number of doses, even if there is no expansion of the dairy herd, due to the declining share of locally produced and sold semen.

It is estimated, that over the last 2 years ASBAH has sold about 160,000 doses from the national

genetics resources. As of today, the agency has not published any official data about its sales in 2014. In 2012, the sales were 78,987 doses compared to 86,000 doses in 2011 and 84,000 doses in 2010. In 2013, the ASBAH sold 76,337 semen doses or 2,650 doses less compared to 2012 (MinAg Annual Report 2014).

Detailed data about ASBAH sales can be found here: http://www.iasrj.eu/index.php/novini/posledni-novini/280-realizirana-sperma-ot-natzionalnite-genetichni-resursi

Over the last 2 years, demand for Holsteins stayed high and farmers were looking for better quality semen from top bulls. Due to the dominant role of the dairy sector vs. meat/beef sector, the demand for quality genetics of Holstein breed over other breeds prevailed. Other dairy breeds which enjoy an increasing demand are Brown Swiss, Simmentals and Monbeliards.

Regarding beef breeds, demand is the highest for Limousine and Angus breeds as the demand has doubled for the last three years. Although beef farming is still at the emerging stage, over the last 3 years the annual growth in the number of beef cows has been double digit, and recorded a 24% increase at the end of 2014 compared to 2013 (50,000 beef cows).

According to trade sources, the breed structure of the national dairy herd is as follows: Holstein (70%); Brown Swiss (25%); and Simmental; Monbeliard, Jersey and other below 2% each.

Animal Genetics Market Stakeholders

Genetic Resources Council – The National Genetic Resources Council which was established in January 2011 based on Animal Husbandry Act art.18a 3. http://www.iasrj.eu/index.php/genetichni-resursi/natzionalen-savet-po-genetichni-resursi/pravilnik. The Council includes all Breeding Associations and plays a role of a consultative body to the Minister of Agriculture. It has the duty to expand the number of animals under selection/breeding control, and should take active part in formulating policies, projects and initiatives in the area of genetics resources. The Council works in close coordination with ASRAH. The last public data shows that between 2009 and 2013, the number of cattle under breeding programs increased 52% (52,000 animals at the end of 2013), and for other types of animals, this growth varied from 6% for swine to 23% for sheep. Since 2013, the ASBAH has maintained an information database about the status of genetic resources based on EFABIS of the European regional focal point which in turn is connected with DAD-IS system of FAO.

National Gene Bank – The ASRAH manages the National Gene Bank in Sofia and Sliven. In these two locations, the semen stocks (as of the end of 2013) total 3,117,872 doses of frozen semen from 287 bulls of 21 cattle breeds and 3 buffalo breeds. The ASRAH has two artificial insemination stations. In 2013, it produced total 50,698 doses of semen, or 5,988 more compared to the previous year (MinAg Annual Report 2014).

Reproduction activities at ASRAH are carried out by 18 licensed Centers of semen storage as 11 of them have portable lines. The ASBAH works with 525 staff -inseminators. The Agency also offers trainings for inseminators (7 courses for 30 inseminators in 2013).

Per market reports, genetics stocks from the Gene Bank are old and of questionable quality. The semen

is reportedly in granules which sales are allegedly banned by international rules. Doses from the gene bank can be sold free on the market based on the breeding plans of Breeding Associations and can be distributed and sold by the ASBAH regional offices. The list of gene bank stocks (2012- last available public data) can be found here. http://www.iasrj.eu/index.php/genetichni-resursi/natzionalna-gen-banka.

This practice is seriously affecting private importers. They have to compete with the government which sells semen at extremely low prices. In addition, private importers are controlled by the same Agency/ASRAH, which is also a competitor with importers.

National Genetics Reserve - ASRAH established the National Genetics Reserve in two locations. As of December 31, 2013, it contained 360,471 doses frozen semen from 387 bulls, 25 buffalo bulls and 29 rams from 29 cattle breeds, 4 buffalo breeds, and 9 sheep breeds. Sales from the reserve can be done by special order of the Head of the ASBAH based on a decision of the National Council for Genetic Resources. http://www.iasrj.eu/index.php/genetichni-resursi/natzionalen-gen-rezerv. According to trade sources, such sales are rare and do not distort the market.

Breeding Associations - Breeding Associations were established after Bulgaria accession to the EU in 2007. There are currently 11 Bovine Breeding Associations; however, only 3-4 are large and more proactive. The full list can be seen here: http://www.iasrj.eu/index.php/registri/razvadni-organizatzii/spisak-s-odobrenite-razvadni-organizatzii. In May 2015, 50 farmers raising about 4,000 beef cattle established the first Beef Breeds Breeding Association for Angus, Hereford, Aberdeen, Simmental and Galloway.

Associations should execute a milk recording system, implement the breeding policy, and maintain herd books. Breeding cattle stocks are about 52,000 head (2013 data) in 2,925 herds at 1,117 farms, of which about 85 percent hold Holstein breed. The full list of breeding farms can be found here (as of December 1, 2013): http://www.iasrj.eu/index.php/registri/razvadni-stada/goveda. In 2013, the annual update of the national register included 5,137 cattle bulls and 176 buffalo bulls.

Breeding Associations should be monitored and supervised by the ASBAH following Regulation #8 of March 13, 2008, which introduced the terms and condition of control over the activities of the Breeding Associations. http://www.iasrj.eu/index.php/dokumenti/2012-02-26-14-59-17/item/. The ASBAH manages 3 labs for quality analysis of animal origin products for the needs of the selection/breeding programs of the Breeding Associations. In 2013, the main milk lab in Sliven processed 234,218 samples of 5 Bovine Breeding Associations.

U.S. Bovine Genetics Exports to Bulgaria

In 2013 and 2014, U.S. exports of bovine semen to Bulgaria have increased substantially and have a leading role on the market today. In 2014 U.S. exports were 23% more in terms of doses and 4% in value compared to 2013. Due to the constant growth, 2014 exports were doubled from that in 2010 in terms of imported doses, and tripled in terms of the value imports.

In 2014 the U.S. ranked second on the market after Germany with a 26% market share (in imports) in

doses sales and 27% share in value sales. In 2013, these shares were 25% and 33%, respectively. See Table 2.

Table 2. Bulgarian Imports of Bovine Semen under HS 0511.10 in Quantity and in Value 2010-2014

Bulgarian Imports of Bovine Semen under HS 0511.10 in Quantity and in Value 2010-2014							
	2010	2011	2012	2013	2014		
Total in doses	67,000	103,000	111,000	106,000	125,000		
U.S exports, doses	15,000	15,000	15,000	26,000	32,000		
Market Share,% of imports	22%	15%	14%	25%	26%		
Total in USD\$	207,000	397,000	276,000	361,000	448,000		
U.S. exports in USD\$	41,000	45,000	57,000	118,000	123,000		
Market Share,% of imports	20%	11%	21%	33%	27%		

In the first quarter of 2015, U.S. imports set a new record with 55% growth in imported quantity of doses and 299% increase in value imports compared to the first quarter of 2014. The average import price per a dose was considerably higher, at 158% more than that a year earlier. In the period 2012-2014, the average import price varied at US\$3.82-4.60/dose. The above data demonstrates the general trend for higher demand for better quality, more expensive product.

Since 2013 there are four major exporters of U.S. genetics with official distributors in Bulgaria – WWS, CRI, ABS, and Alta. Often U.S. genetics are imported not directly from the United States but through other countries such as Canada, the United Kingdom, the Netherlands or Spain. For this reason, it is believed that although no hard data is available at this point, the share of U.S. genetics on the market is likely higher, if transshipments are counted.

Animal Genetic Resources Policy and Regulations

National Program for ex situ - in vitro storage - Since 2008, ASRAH, together with the Breeding Associations, has executed a 10 year National Program for ex situ - in vitro storage. This includes collection of genetic material from commercial or endangered breeds (cattle, buffalo, sheep, goats, horses) by the government artificial insemination stations. The goal is to enrich the National Genetics Bank mainly with new endangered local breeds- 11 sheep breeds, 2 goat breeds, 4 horse breeds and 2 swine breeds. Please, see more details: http://www.iasrj.eu/index.php/novini/posledni-novini/297-sastoyanie-na-genetichnite-resursi-i-dinamika-prez-2009-2013-g

State Aid - Registered Breeding Associations have received state aid for the past several years based on Art. 29 of the Animal Husbandry Act. The state aid is provided to maintain breeding records/herd books and for determination of breeding and genetics values of animals. The Associations also has to collect milk samples and to make laboratory analysis about the quality of milk. The state aid and the membership fee are the two sources of income for Breeding Associations.

The state aid for Breeding Associations in 2012 and 2013 was at 2.943 million leva (US\$1.73 million) and at 3.151 million leva (US\$1.85 million), respectively. The number of beneficiaries (farmers) was

2,208 in 2012 and 2,246 in 2013. In 2015, the amount of this subsidy is allegedly 25 Bleva (12.5 Euro) per animal head (no public data is available yet about 2014 and 2015).

In 2014 the MinAg proclaimed the dairy and livestock sectors as a top priority for ag policy in the new program for the period 2014-2020. The country adopted 13% of the national domestic support envelope to be used for coupled support for dairy, livestock and horticulture sectors.

New subsidies were decided to be introduced for coupled support for commercial stocks and for stocks under breeding programs. The decision about the special subsidies for breeding animals was taken with the idea to improve the genetics value of the cattle herd and to increase productivity. The support targets farms which have prospects to grow and have at least 5-10 animals.

In addition, in 2015, dairy/livestock farmers are eligible for other support programs such as the transitional national state aid for cattle (please, see below) and de minimis for select regions (Haskvo, Plovdiv, Pazardjik, Kurdjali) where farmers incurred losses due to heavy snowfalls and floods in March 2015. The budget for de minimis payments and for payment for compensations as a result of calamities in 2014 is 51 million Euro (US\$59 million). Another US\$3.5 million will be paid to farmers to invest in equipment for direct milk sales.

- Transitional national state aid for cattle, decoupled The 2015 budget is 24.6 million Euro (US\$28 million). The subsidy per head is determined depending on the number of eligible animals/farms. Eligible farmers should have had at least 10 animals as of February 28, 2009 and at least 70% of then available stocks as of June 9 2015.
- Coupled support for dairy cows eligible farms should have at least 10 dairy cows which are registered at the Bulgarian Food Safety Agency. The 2015 budget is 23.9 million Euro (US\$28 million). The subsidy per head is determined depending on the number of eligible animals/farms. As of early June, total 6,000 farmers with 177,000 dairy cows applied for this program.
- Coupled support for beef cows eligible farms should have at least 5 beef cows which are
 registered at the Bulgarian Food Safety Agency. The 2015 budget is 12.7 million Euro (US\$15
 million). The subsidy per head is determined depending on the number of eligible
 animals/farms.
- Coupled support for ewes and she-goats- eligible farms should have from 10 ewes/she goats up to 50 ewes/she-goats;
- Coupled support for buffalo- eligible farms should have at least 10 buffalo;
- Coupled support for ewes and she-goats under selection/breeding control eligible farms should have at least 50 or more ewes and/or she-goats of which at least one to be under breeding control. The 2015 budget is 6.5 million Euro (US\$7 million). The subsidy per head is determined depending on the number of eligible animals/farms
- Coupled support for dairy and beef cows under selection/breeding control eligible farms should have at least 10 dairy cows and/or beef cows of which at least one animal is under breeding control. The 2015 budget is 11.7 million Euro (US\$14 million). The subsidy per head is determined depending on the number of eligible animals/farms. The eligible animals should be written in the herd books and registers under Art. 18/6 of the Animal Husbandry Act.

Eligible farmers for subsidies for animals under breeding programs should have a contract with the respective Breeding Association and carry out its breeding program. The animals under these support programs should be written in the herd books and the registers under art.18 para (6) of the Animal Husbandry Act. Per market reports, the MinAg is not ready yet with the exact definition of the breeding animals for eligibility. There have been discussions if the animal should have a passport for pedigree. Farmers who have invested in higher value breeding animals for a longer time insist on stricter definitions in order to see faster improvement of the national herd. On the opposite side, smaller farmers with lower breeding value animals prefer to see subsidy going to more animals which however may loosen the effect of the special breeding subsidy and turn it into a general support with no effect over the breeding programs. Initial data indicates that a minimum of 65,000 cattle and 160,000-200,000 sheep will be eligible under this program. The initially estimated subsidy per head is 198 Euro (US\$232) for cattle and 31 Euro (US\$36) for sheep, however, the final figures might be lower. The expectation is that the subsidy will be paid by October 2015.

This program is likely to provide a positive impact on the animal genetics market and stimulate farmers to invest in breeding animals. Market reports, however, indicate that select Breeding Associations attempt to abuse the farmer's obligation for closing contracts since farmers with no contracts cannot access the breeding subsidies. Select Breeding Associations allegedly force farmers to buy from select genetics suppliers and/or misuse farm breeding plans. This may be a threat for independent private semen importers, including those selling U.S. genetics.

Import Regulations

There are two major regulations governing imports. The first regulation contains an example of required certificates:

- Regulation #13 of August 2, 2007, about selection, breeding activities, and trade on the market with breeding stocks and reproduction material of cattle and buffalo.
 http://www.iasrj.eu/index.php/dokumenti/2012-02-26-14-59-17/item. Article 33/2 stipulates import conditions for semen from third countries.
- Regulation #1 of January 19, 2007, stipulates government control over imports and exports of breeding stocks and breeding material on the market. The regulation was published in the Official Gazette #11 of February 2, 2007. http://www.iasrj.eu/index.php/dokumenti/2012-02-26-14-59-17/item/

This latter regulation introduced EC Directive 94/28/EO of June 24, 1994, which defines the zootechnical and genealogical import conditions applicable to imports from third countries of animals, their semen, ova and embryos and amending Directive 77/504/EEC on pure-bred breeding animals of the bovine species.

• GAIN report for the EU import requirements E70047 provides detailed information about import requirements for semen and embryos, along with the EU regulations and needed certification, as

follows:

SEMEN AN	ND EMBRYOS		
Bovine (semen)	2011/630/EU L247/32 Annex II-Part 1-Section A	APHIS Bovine semen, Model 1 - Health certificate for semen collected, processed, and stored after December 31, 2004, and dispatched from a collection center where the semen was collected.	Model animal health certificates for imports and transits of semen and stocks of semen of domestic animals of the bovine species Model 1 – Animal health cert.applicable to imports and transits of semen of domestic animals of the bovine species collected, processed and stored in accordance with Council Directive 88/407/EEC as amended by Directive 2003/43/EC dispatched from a semen collection centre where the semen was collected
	2011/630/EU L247/32 Annex II- Part1- Section B	APHIS Bovine semen, Model 2 - Health certificate for bovine semen collected, processed and stored before 31 December 2004 and dispatched from a collection center where the semen was collected	Model 2 – Animal health certificate applicable from 1 January 2005 to imports and transits of stocks of semen of domestic animals of the bovine species collected, processed and stored before 31 December 2004, in conformity with Council Directive 88/407/EEC applying until 1 July 2004 and imported after 31 December 2004 in accordance with Article 2(2) of Directive 2003/43/EC, dispatched from a semen collection centre where semen was collected
	2011/630/EU L247/32 Annex II- Part1 Section C	APHIS Bovine semen, Model 3 - Health certificate for bovine semen dispatched from a semen storage center	Model 3- Animal health certificate for imports and transits of semen of domestic animal of the bovine species collected, processed and stored in accordance with Council Directive 88/407/EEC, as amended by Directive 2003/43/EC, and of stocks of semen of domestic animals of the bovine species collected, processed and stored before 31 December 2004 in accordance with Article 2(2) of Directive 2003/43/EC, dispatched from a semen storage centre
Bovine (embryos)	2006/168/EC/ L57 <u>Annex II</u>	APHIS Bovine embryos Annex II	Veterinary Certificate for in vivo derived embryos of domestic animals of the bovine species for import collected in accordance with Council Directive 89/556/EC

2006/168/EC/ L57 Annex III	APHIS Bovine embryos Annex III	The certificate published in Decision 2012/414/EU (L194) becomes mandatory for all certificates issued after May 31, 2013. The deadline for imports with the certificate of Decision 2006/168/EC is June 30, 2013. Veterinary Certificate for In vitro produced embryos of domestic animals of the bovine species for import, conceived using semen complying with Council Directive 88/407/EEC The certificate published in Decision 2012/414/EU (L194) becomes mandatory for all certificates issued after May 31, 2013. The deadline for imports with the certificate of Decision 2006/168/EC is
2006/168/EC/ L57 <u>Annex IV</u>	APHIS Bovine embryos Annex IV	Veterinary certificate for In vitro produced embryos of domestic animals of the bovine species conceived using semen coming from semen collection or storage centers approved by the competent authority of the exporting country The certificate published in Decision 2012/414/EU (L194) becomes mandatory for all certificates issued after May 31, 2013. The deadline for imports with the certificate of Decision 2006/168/EC is June 30, 2013.

In addition, U.S. exporters may find useful to be aware about Decree 325 of December 28, 2010, about fees collected by ASBAH for laboratory and breeding activities related services. http://www.iasrj.eu/images/tarifazataksite.pdf.

Table 3. Bovine Semen Imports in U.S. Dollars, 2010-2014 and the First Quarter of 2015

Bulgaria Import Statistics						
Commodity: 051110, Bovine Semen						
Annual Series: 2010 – 2014 and 2015 1st Quarter						
Dowtman Commtens			Unite	d States Do	llars	
Partner Country	2010	2011	2012	2013	2014	2015 (March)

World	207,336	396,662	276,423	361,072	448,072	184,806
Germany	106,941	250,644	92,538	105,077	166,079	34,071
Canada	0	57,346	62,496	62,194	95,262	67,478
United States	41,286	44,696	57,395	118,196	122,978	43,150
Netherlands	18,699	0	31,718	31,035	47,801	27,354
United Kingdom	7,111	0	14,813	0	0	0
Sweden	4,104	9,031	9,945	0	0	0
Croatia	0	0	3,866	2,137	0	0
Switzerland	0	0	3,654	0	0	0
France	17,172	18,957	0	2,596	7,207	0
Denmark	0	0	0	21,797	0	0
Belgium	2,591	15,988	0	0	0	0
Norway	0	0	0	16,711	0	0
Italy	9,432	0	0	0	0	0
Spain	0	0	0	1,330	1,858	2,404
Austria	0	0	0	0	6,887	10,349

Source of Data: WTA, Eurostat

Table 4. Bovine Semen Imports in Doses, 2010-2014 and the First Quarter of 2015

	Bulgaria Import Statistics						
	Commodity: 051110, Bovine Semen						
	Annual S	eries: 2010	– 2014 an	d 2015 1 st (Quarter		
Partner Country			Quantity (Number of	Doses)		
rarther Country	2010	2011	2012	2013	2014	2015 (March)	
World	66,621	102,791	110,635	106,302	124,921	38,698	
Germany	38,782	49,237	53,870	57,133	72,013	17,533	
Canada	0	22,500	25,200	11,795	11,384	8,492	
United States	14,799	14,554	15,015	25,707	32,072	9,201	
Netherlands	540	0	3,330	5,188	3,002	2	
United Kingdom	3,000	0	5,420	0	0	0	
Sweden	2,500	4,000	4,000	0	0	0	
Croatia	0	0	2,800	1,350	0	0	
Switzerland	0	0	1,000	0	0	0	
France	5,000	7,000	0	1,214	3,500	0	
Denmark	0	0	0	1,000	0	0	
Belgium	1,000	5,500	0	0	0	0	
Norway	0	0	0	2,900	0	0	
Italy	1,000	0	0	0	0	0	
Spain	0	0	0	15	50	70	
Austria	0	0	0	0	2,900	3,400	

Source of Data: WTA, Eurostat

Table 5. Bovine Semen Imports in U.S. Dollars and Doses, First Quarters of 2013-2015

Bulgaria Import Statistics								
Commodity: 051110, Bovine Semen								
Quarterl	y Series 1	$^{\rm st}/2013 - 1^{\rm st}/$	2015 (Jan	uary-March	1)			
	2	013	2	014	20	015		
Annual Series: 2007 – 2012	USD	Quantity	USD	Quantity	USD	Quantity		
World	97,801	23,918	69,817	30,849	184,806	38,698		
United States	46,247	7,050	10,795	5,930	43,150	9,201		
Germany	18,889	8,518	47,986	20,019	34,071	17,533		
Switzerland	0	0	3,654	1,000	0	0		
United Kingdom	0	0	14,813	5,420	0	0		
Canada	30,517	7,000	0	0	67,478	8,492		
The Netherlands	0	0	0	0	27,354	2		
Spain	0	0	0	0	2,404	70		
Austria	0	0	6,887	2,900	10,349	3,400		
France	0	0	4,148	2,000	0	0		
Croatia	2,137	1,350	0	0	0	0		
Source: WTA, Eurostat	•	-	-	-	-	-		

Table 6. Bovine Semen Imports, Average Import Price Per Unit, 2013-2015

Bulgaria Import Statistics								
Commodity: 051110, Bovine Semen								
	Year	· To Date	: January	- March				
Partner Country	Unit	Unit Va	lue(United	l States Dollars)	% Change			
		2013	2014	2015	2015/2014			
World	NO	4.09	2.26	4.78	111.01			
Canada	NO	4.36	0	7.95	0.00			
United States	NO	6.56	1.82	4.69	157.61			
Germany	NO	2.22	2.4	1.94	- 18.93			
Netherlands	NO	0	0	13676.75	0.00			
Austria	NO	0	2.37	3.04	28.17			
Spain	NO	0	0	34.35	0.00			
Croatia	NO	1.58	0	0	0.00			
France	NO	0 2.07 0 - 100.00						
Source: WTA, Euro	ostat		•					