The U.S. Value of Agricultural Production: A Measuring Framework with Implications for WTO Monitoring and Disciplines

JOSÉ QUIROGA 1/
M.B.A., M.A., ING. COM.
Agriculture and Agri-Food Canada
Jose.Quiroga@AGR.GC.CA

Contributed Paper prepared for presentation at the International Association of Agricultural Economists Conference, Beijing, China, August 16-22, 2009

1/ The views expressed are those of the author alone and not those of Agriculture and Agri-Food Canada. Special thanks to Lars Brink for his many contributions and advice and to Brad Gilmour and May Chow for their comments.

The U.S. Value of Agricultural Production:

A Measurement Framework with Implications for WTO Monitoring and Disciplines

1. Introduction

The Agreement on Agriculture ("Agreement") of the World Trade Organization (WTO) allows a Member to exempt certain amounts of policy support from the yearly amount that counts towards the Member's ceiling commitment on certain domestic support under the Agreement. These "de minimis" allowances are calculated from the values of production (VOPs) of individual products and of the agriculture sector as a whole. The draft modalities of the Doha negotiations in the WTO would use VOPs to establish several kinds of additional ceiling limits. Estimates of VOPs are, therefore, critical in monitoring a Member's compliance with its existing commitment's and in projecting the limits that would apply under a new Agreement in line with the draft modalities. However, the data on VOPs that Members submit to the WTO Committee on Agriculture is not always reported in a transparent way.

WTO Members are required to submit an annual notification to the WTO Committee on Agriculture, detailing the amounts of support under each policy measure. This notification presents the amounts of certain support calculated as Aggregate Measurements of Support (AMSs). An AMS is the amount of support provided in favour of the producers of an individual agricultural product.[1] These AMSs are the product-specific AMSs (PS AMS). There is also an AMS that accounts for the support provided in favour of agricultural producers in general, the non-product-specific AMS (NPS AMS). As long as a PS AMS is no larger than 5% of the

[1] The Agreement stipulates the calculation of an AMS with reference to a "basic agricultural product".

product's VOP (or 5% of the total VOP for the NPS AMS), the AMS can be exempted from the calculation of the amount that counts towards the WTO ceiling commitment on Total AMS. This is what is referred to as the *de minimis* rule of the Agreement. The Doha draft modalities would establish new limits that would apply also to support that is not accounted for in Total AMS (a limit on Blue Box support and a limit on Overall Trade-Distorting Support that applies to the sum of Blue Box support, *de minimis* AMSs, and Total AMS), as well as limits on product-specific AMSs and on product-specific blue box payments. The draft modalities would also reduce the *de minimis* percentage.

The Member attracting perhaps the most attention with regard to domestic support under the WTO is the United States. This paper presents an accounting framework for reconciling the VOPs in the U.S. domestic support notifications to the WTO Committee on Agriculture with data from several data sources.[2] The reconciliation allows past VOPs to be confirmed or not and also facilitates the projection of present and future VOPs, which is useful for monitoring compliance and for assessing proposals in the Doha negotiations. The VOPs of interest are both those for individual products (corn, soybeans, etc.) and for the agriculture sector as a whole (total VOP). The United States has to some extent revealed the data sources and methods it uses to calculate the VOPs in its notifications. However, considerable work is needed to reconcile the VOPs in the notifications with the data in sources indicated in the notifications. The VOP amount for a product in the notification is only rarely found directly in the indicated source.

We reviewed in detail the U.S. domestic support notifications to verify the notified historical VOPs with U.S. data and, based on this comparison, deduced methods to

[2] The focus on U.S. notifications does not imply any assessment of the validity of the U.S. presentation of data in relation to WTO rules.

independently replicate the notified VOPs. This replication was carried out for the VOPs of individual products and for the total VOP in each year of the period 1995-2007. Using the replicative method in conjunction with U.S. projections of market and income variables to 2018, it was also possible to project these VOPs, and thus the size of the *de minimis* allowances, for each year through 2018.

The 2008-2018 projections of VOPs are based on projections of agricultural commodity production and aggregate indicators of the sector, such as farm receipts and food prices, published in the United States Department of Agriculture (USDA) Agricultural Projections to 2018. The replications also used information from the National Agricultural Statistics Service (NASS), the Commodity Estimates Book FY 2009 President's Budget, the Economic Research Service (ERS), the World Agricultural Supply and Demand Estimates (WASDE), the Food and Agricultural Policy Research Institute (FAPRI), as well as Agriculture and Agri-Food Canada (AAFC) internal estimates.

2. How the U.S. Calculates VOPs for WTO Notifications

In principle, the total VOP measures the physical output of all crops, livestock, vegetables, fruits/nuts and other crops multiplied by their prices at the farm level. The total VOP does not reflect payments received by producers through government income support, commodity, or conservation programs, nor does it reflect economic activity associated with food processing and distribution or off-farm service and supply business (Heinz).

In its domestic support notification the United States calculates the total VOP as the sum of the VOP of a number of agricultural product. Over the 1995-2007 period the U.S. notifications calculated the VOPs for 47 AMS products. The United States usually shows a VOP

for a product for which it calculates an AMS for the year (called "AMS products" here). The number of AMS products has varied over time. For example, the 2005 notification shows VOPs of 23 AMS products, but the 2007 notification (the last year notified by the United States) only shows VOPs of 15 AMS products. The smaller number of products showing VOP in the 2007 notification is not explained but may result from the United States having found AMS for some products to be zero because of higher prices.

The VOPs of the main product-specific AMS products in 2005 were: livestock (US$39 billion); dairy (US$27 billion); corn (US$22 billion); soybeans (US$17 billion); and orchards and vineyards (US$16 billion). Some of these so-called products (i.e. "livestock" and "orchards and vineyards") are actually groupings of many individual products. Some of those individual products are also subject to their own AMS calculations. This introduces a potential for double-counting of values of production, unless attention is paid to the composition of the product groupings.

The notified VOP for most products is represented by published NASS data from its Quick Stats "Agricultural Statistics Data Base". The NASS also publishes the VOP for many products in "Agricultural Statistics", an annual USDA publication. The 2005 U.S. notification indicates that the VOPs of AMS products summed to US$145.7 billion. The notification also shows the VOP of a combination of products called "other products", i.e., products for which AMSs were below the de minimis threshold and therefore not included when calculating the year's Total AMS. This amount is effectively the difference between the sum of the VOPs of the AMS products and the total VOP. The VOP of "other products" totalled US$90.3 billion in 2005. The total VOP was US$236 billion.

The United States reports that VOP of some of the non-AMS products is represented in the notifications by the value of cash receipts from farm marketings, as published by the ERS. The ERS cash receipts data are for calendar years, while the NASS value of production data are for marketing years, which vary from product to product (WTO G/AG/R/28). The United States also reports that in 1998 cash receipts are used in the case of vegetables, fruits and nuts, horses and mules, aquaculture, and "other crops". Actual value of production data from the NASS are used to measure the value of hay, sheep and lamb meat, eggs, turkeys, broilers, and chickens (WTO G/AG/R/28).

VOP for "other crops" in the notifications is the total value of cash receipts from marketings for "other crops", as defined by the ERS, less the ERS cash receipts for cane sugar and for sugar beets (these two are represented by NASS VOP data in the total VOP). The ERS "other crops" also includes maple products, various seeds, hops, mint, Christmas trees, mushrooms, and greenhouse/nursery products.

The VOPs of AMS products is mostly represented by published NASS VOP data. The procedure has generally been to use the NASS value, if available, and otherwise, to use ERS cash receipts data (WTO G/AG/R/28). The NASS conducts national surveys that measure areas planted and harvested, yields, production, and market prices. The estimates include cash receipts from the marketing of many crop and livestock products. However, U.S. agriculture covers about 200 products. For products not included in the NASS survey, the U.S. notifications use cash receipt estimates published by the ERS.

In the section below we discuss how the approach used in the notifications leads to some instances of double-counting and omissions, making the notified VOPs less reliable than might

be desired.

2.1 The Framework

Our framework consists of 65 linked spreadsheets, which are grouped into two sets of tables: 1) Data tables, and 2) Results tables. The information flows from the Data tables to the Results tables (Annex 1), using approaches consistent with the structure of the U.S. data sets and the notification requirements and formats of the WTO Committee on Agriculture (G/AG/2).

1) ***Data tables***. There are 54 data tables grouped into three different types: a) cash receipt tables; b) product tables; and, c) calculation tables.

a) *Five cash receipt tables*. The cash receipt tables are published by the ERS for the periods 1990-1999, 2000-2006 and 2000-2007. Farm receipts from 2006-2017 and 2007-2018 are taken from the 2008-09 USDA Agricultural Projections.

b) *Forty five product tables*. For corn, for example, we used data from the NASS Quick Stats database for the period 1995-2007. For 2009-2018, we used data from the USDA Agricultural Projections to 2018. However, we modified the price for 2008 using data published in the March 2009 WASDE report to reflect updated market conditions (the Agricultural Projections were published in February 2009). Prices for 2009-2018 were projected using corn prices from WASDE and percentage increases reported in the 2009 USDA Agricultural Projections (Table 3).

Sometimes the downloaded data from the Quick Stats database does not match the VOP shown in the notifications. This may happen when the NASS updates the database after the notification has been issued. For this reason, the Quick Stats data needs to be downloaded at least two or three times each year. Alternatively, other reports are available. We used, for

example, the NASS Crop Values 2007 Summary Report, dated February 2008, to verify the VOP for corn in 2007 (Table 3).

For cotton, we used data from the NASS Quick Stats database for cotton and cotton seeds for 1997-2008. For 2009-2018, we used the quantities projected in the Commodity Estimates Book for Upland and ELS cotton. For prices we used the Quick Stats 2008 price and then applied FAPRI's percentage price increases. Cotton seeds prices and quantities were obtained from FAPRI. The VOP of cotton is the sum of the VOP of cotton and cotton seeds.

The VOP of most other individual agricultural products was projected using the same methodology as applied to corn and cotton.

c) *Four calculation tables*. These include calculation tables for livestock, orchards and vineyards, all other crops and non-AMS products.

The United States began to report the VOP for a product called "livestock" with its 2002 domestic support notification. The United States notified that the Livestock Compensation Program provided financial assistance to producers of beef and dairy cattle, beefalo, sheep and goats. However, the United States did not disclose which products were included in the VOP for livestock. We found that the VOP for livestock in the U.S. notifications matches the sum of the NASS VOP of beef and veal, sheep and lamb and all other livestock reported in the ERS cash receipts for selected commodities (Table 4). However, VOP data was reported differently in the 2006 and 2007 notifications. In the 2006 notification the United States showed the VOP for beef cattle and sheep. No VOP was shown for livestock or beef in the 2007 notification.

The United States started to report a VOP for orchards and vineyards with the 2004 notification. The United States reported that the Tree Assistance Program compensates

orchardists for trees, bushes or vines that have been lost as a result of a natural disaster. However, it did not disclose which products were included in the VOP for orchards and vineyards. We can come close to the reported VOP for orchards and vineyards by subtracting the cash receipts of avocados, grapes and pecan trees from the fruits and nuts cash receipts in the ERS tables. A rationale for this subtraction could be that the U.S. notifications actually report VOP for pecan trees in 2004 and VOPs for avocados and grapes in 2005. No VOP was shown in the 2006 or 2007 notifications for orchards and vineyards.

The VOP for "other crops" was taken from the ERS cash receipts tables and projected using information from the 2008 USDA Agricultural Projections.

The average VOP for "other products" (i.e., non-AMS products) from 2008 to 2018 is defined as the total VOP for vegetables minus dry peas and lentils plus the VOP for fruits and nuts, hay, eggs, broilers, chickens, turkeys, hogs and pigs, flaxseed, mustard seed, rapeseed, safflower, sunflower, canola, rye, horses and mules, aquaculture, other crops minus sugar beets and sugarcane, tobacco, chickpeas, beef & veal, sheep & lamb, and wheat (Table 5).

2) Results Tables. There are 11 results tables. Table 1 reports the VOP for 47 AMS products, the sum for non-AMS products and the total VOP for 1986-1988 and from 1995 to 2007. Based on the 2007 U.S. notification to the WTO, we provide estimates for 15 AMS products, the total for non-AMS products and the total VOP from 2008 to 2018. The total for other products involves estimates for 26 products.

Ten results tables validate data provided in the notifications with data provided from U.S. sources for the period 1998 to 2007. For example, the validation for the 2004 total VOP is carried out by comparing the VOP data shown in the 2004 notification with data from the NASS

or ERS (Table 2).

For the 2004 VOPs, we matched the VOP reported by the NASS with the 2004 notification for barley, chickpeas, corn, dry peas, honey, canola, flaxseed, lentils, livestock (beef and veal plus sheep and lamb and plus other livestock cash receipts), oats, peanuts, rice, sheep and lamb, sorghum, soybeans, tobacco, wheat and wool.

There are small differences for cotton, dairy, mohair, orchards and vineyards (fruits and nuts minus the VOP for pecan trees), pecan trees and sugar. We were not able to find the VOP for crambe and lychee. However, the VOP for these products is very small.

The US$411.278 million shown as the VOP for sheep and lamb in 2004 appears also to have been included in the VOP for livestock. Therefore, it seems to have been double counted in the calculation of the total VOP. Such double counting would artificially increase the de minimis allowance.

Regarding products for which AMSs are not calculated in 2004, we compared the sub-total for these products with the amounts reported by the NASS for hay, eggs, broilers, chickens, turkeys, hogs and pigs, mustard seed, rapeseed, safflower, and rye. We also used cash receipts reported by the ERS for vegetables (cash receipts for vegetables minus cash receipts for dry peas and lentils), horses and mules, aquaculture and other crops (less sugar cane and sugar beets). Our estimate was US$92.025 billion compared to US$90.812 billion notified by the United States (Table 2). Transparency would improve if the United States reported the VOPs for these products as well.

Overall, our estimates using published data track the VOPs notified for the AMS products and the total for “other products” (non-AMS products) quite well.

3. Main Results

1. The U.S. total VOP for WTO notification purposes is projected to increase from US$307 billion in 2007 to US$317 billion in 2008 as agricultural commodity prices and yields continue to rise. As prices are expected to decline in 2009, the total VOP is projected to drop to US$309 billion. However, production increases in 2010 and 2011 would raise it to US$312 billion and US$315 billion, respectively (Table 1).

2. In 2009, the VOPs of major U.S. AMS products are projected to be: corn (US$47 billion); dairy (US$30 billion); soybeans (US$26 billion); cotton (US$6 billion, including cotton seed); and rice (US$3 billion) (Table 1). The VOP of corn, which averaged about US$20 billion from 1995 to 2005, is now projected to average about US$48 billion from 2009 to 2018. This represents about 15 percent of the total VOP and makes corn the main product in the total VOP.

3. The U.S. total VOP is projected to increase from US$216 billion in 2003 to about US$359 billion in 2018 (Table 1). Under a continued de minimis percentage of 5%, this VOP would increase the non-product-specific *de minimis* allowance from US$11.8 billion in 2005 to US$18 billion in 2018, as well as the same amount for individual products, totalling US$36 billion in *de minimis* allowances by 2018.[3]

4. There is a yearly US$8 billion gap in 2009-2018 between our estimate of the total VOP and the cash receipts published in the 2009 Agricultural Projections (Table 1). However, cash receipts and total VOP by definition measure different variables. As well, cash receipts are on a calendar year basis while some of the VOPs are on a marketing

[3] To put this amount in context, the U.S. ceiling commitment on Total AMS is US$19.1 billion.

year basis. Compared to the US$22 billion difference in 2007, the US$8 billion difference, which amounts to some 3 percent of total VOP, seems reasonable enough.

5. The way the U.S. notifies the VOP of beef and veal plus sheep and lamb and plus other livestock as the VOP of one product, “livestock”, raises questions about the product definitions in U.S. notifications. For example, in 2004 the VOP for sheep and lamb was US$411 million and the *de minimis* allowance US$20.5 million. In 2004, however, the notified VOP for livestock was US$37,209 million and the *de minimis* allowance US$1,860 million. The overlapping product definitions seem to allow scope for AMS support in favour of producers of a single livestock species under two or more programs to be reported in separate AMSs of different species specificity. For example, in 2002, the United States reported separate VOPs for “cattle and calves” and “sheep and lamb” which by 2006 had been merged into one VOP for “beef and sheep” (no mention of calves and lambs). While transparency obviously suffers through such practices, they might also facilitate management to take advantage of the de minimis allowances.

6. Reporting the VOP of orchards and vineyards also raises questions about product definitions. Fruits and nuts number over 60 products but the VOP of any individual fruit and nut is relatively small. Some products may have been supported above their 5 percent of the VOP while others were supported well below that threshold or not at all.

7. Transparency would improve if the United States also reported the VOPs of the non-AMS products.

8. Finally, several anomalies were detected in the VOP calculation in U.S. notifications. One is the double counting of US$411 million in the 2004 VOP for sheep

and lamb. Secondly, a misattribution appears in the 2001 VOPs of tomatoes and tobacco where the VOPs of tomatoes and tobacco were interchanged. This does not affect the total VOP but it does affect the *de minimis* allowances for these two products in 2001 (however, reported support was low enough to be below each product's de minimis threshold in any case). Third, the United States appears to have under-notified the VOP for cotton from 2005 to 2007 by omitting the VOP for cotton seeds when calculating the VOP of cotton. Correcting for this would increase the de minimis allowance for cotton but not by enough to change the U.S. characterization of the reported cotton AMS as de minimis or not.

4. Conclusion

The framework outlined in this paper facilitates the scrutiny of data reported in U.S. domestic support notifications and the estimation of the U.S. total VOP and of individual products' VOPs. It is particularly useful for analysis relating to U.S. domestic support notifications, compliance with WTO rules and commitments, and identification of irregularities and double counting. Given that data is available at the product level, implications in the context of future product-specific limits can be analyzed in a straightforward and transparent manner.

References

FAPRI, 2009. U.S. and World Agricultural Outlook Database.

(http://www.fapri.iastate.edu/tools/outlook.aspx)

Heinz III, John, Center for Science, Economics and the Environment, 2002. The State of the Nation's Ecosystems. Measuring the Lands, Water, and Living Resources of the United States.

(http://books.google.ca/books?id=6m0lMjyme7YC&printsec=frontcover&source=gbs_summary_r&cad=0#PPT257,M1)

Orden, David, 2008. An Overview of WTO Domestic Support Notifications, IFPRI.

(http://www.ifpri.org/events/conferences/2008/20080314/20080314OrdenIntro.pdf.)

Quiroga, Jose, 2006. A Framework for Estimating U.S. Domestic Support to 2015". Poster paper presented at the tri-annual International Association of Agricultural Economists, Gold Coast, Australia.

(http://ageconsearch.umn.edu/bitstream/25412/1/pp062627.pdf)

USDA, 2009 a. USDA Agricultural Projections to 2018.

(http://www.usda.gov/oce/commodity/archive_projections/USDAAgriculturalProjections2018.pdf)

USDA, 2009 b. National Agricultural Statistics Service. Quick Stats Agricultural Statistics Database.

(http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats/index.asp)

USDA, 2009 c. World Agricultural Supply and Demand Estimates.

(http://www.usda.gov/oce/commodity/wasde/latest.pdf)

USDA, 2008 d. Commodity Estimates Book for Fiscal Year 2009 President's Budget.

(http://www.fsa.usda.gov/Internet/FSA_File/pb09_comm_est_ebook_r1.pdf)

USDA, 2008 e. National Agricultural Statistics Service. Agricultural Statistics Book by Year.

(http://www.nass.usda.gov/Publications/Ag_Statistics/index.asp).

USDA, 2008 f. ERS Annual Cash Receipts, 1924-2006.

(http://www.ers.usda.gov/Data/FarmIncome/FinfidmuXls.htm)

USDA, 2008 g. NASS Crop Values 2007 Summary.

(http://usda.mannlib.cornell.edu/usda/nass/CropValuSu//2000s/2008/CropValuSu-02-14-2008.pdf)

WTO, 2009. U.S. domestic support notifications.

(http://docsonline.wto.org/gen_search.asp?searchmode=simple)

WTO, 2001. Committee on Agriculture. Summary Report of the Meeting held on 27 September 2001 (G/AG/R/28).

Table 1. U.S. Total Value of Agricultural Production (US$ million)

	Notified (Marketing Years)														Calculations (Marketing Years)										
Products	**1986-88**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008e**	**2009e**	**2010e**	**2011e**	**2012e**	**2013e**	**2014e**	**2015e**	**2016e**	**2017e**	**2018e**
Apples (and pears)						1,564	1,326	1,448	1,828																
Apricots							32	27																	
Avocados												354													
Barley	989	1,027	1,091	862	687	597	649	537	606	755	698	528	499	852	1208	1029	993	978	953	961	973	986	1006	1006	1027
Blueberries, wild									18																
Beef and Veal	20,989	24,822	22,259	24,893	24,153	26,051	28,392	29,293																	
Beef cattle & sheep													35,935												
Chickpeas									1	1	1	2													
Corn	12,507	23,145	25,312	22,352	18,922	17,104	18,499	18,888	20,882	24,477	24,381	22,198	32,095	52,090	49,615	47,280	47,261	47,200	46,527	46,460	47,682	48,903	49,777	50,353	50,947
Cotton	2,753	7,281	7,323	6,811	4,807	4,369	4,928	3,789	4,393	6,296	5,731	5,695	5,013	5,197	4,531	6,267	6,467	6,555	6,689	6,656	6,852	6,966	7,113	7,218	7,324
Cranberries						109	96	110																	
Dairy	18,025	20,127	23,057	21,191	24,332	23,400	20,771	24,894	20,720	21,381	27,568	26,874	23,558	35,653	34,828	30,161	30,335	30,092	30,149	30,631	31,093	31,489	32,067	32,564	33,511
Dry peas									37	39	66	66	86	167	180	210	214	222	229	238	246	255	264	273	280
Grapes										2,609		3,489													
Hogs and pigs					8,674	7,766	10,818	11,430																	
Honey	108	135	180	148	147	126	133	132	228	256	196	158	162	158	227	232	238	244	250	256	262	269	276	282	289
Minor Oilseeds																									
Canola		61	62	88	160	107	134	175	163	160	144	152													
Crambe						3	4	2	2	1	0														
Flaxeed		11	10	14	34	30	36	49			84														
Mustard		2	2	9	11	5	4	5																	
Rapeseed		0	0	0	1	0	1	0																	
Safflower		60	76	60	58	55	30	26	32																
Sesame							2	2																	
Sunflower		446	418	427	537	340	247	326	295	316		488													
Lentils									37	41	61	54	40	74	87	72	69	66	69	71	74	76	79	81	84
Livestock									29,429	34,573	37,209	39,238													
Lychee										6	4														
Mohair	40	22	15	15	13	10	11	4	3	3	3	5	5	4	4	5	5	5	5	5	5	5	5	6	6
Oats	536	266	319	273	200	175	176	196	212	225	178	195	181	229	279	238	233	228	223	230	235	235	235	235	235
Onions							736	698																	
Olives										48															
Orchards and vineyards											15,495	16,433													
Peaches							489	493																	
Peanuts	1,070	1,018	1,030	1,003	1,126	972	896	1,001	600	799	814	843	613	763	1052	1115	1100	1131	1133	1157	1163	1183	1198	1213	1229
Pears							250	272																	
Pecan trees											400														
Potatoes						2,746	2,591	3,066		2,686															
Rice	496	1,514	1,687	1,756	1,687	1,231	1,050	925	980	1,629	1,702	1,742	1,983	2,274	3,260	2,663	2,463	2,369	2,326	2,429	2,504	2,581	2,700	2,784	2,868
Rye	28	28	33	30	30	25	22	20																	
Sheep and Lamb						349	361	298			411														
Sorghum	1,323	1,408	2,004	1,409	905	937	847	980	855	965	843	737	885	1,951	1,682	1,353	1,246	1,235	1,184	1,173	1,176	1,201	1,210	1,216	1,200
Soybeans	9,274	14,564	17,455	17,373	13,494	12,205	12,467	12,606	15,253	18,014	17,895	17,269	20,416	26,752	27,668	26,126	25,748	25,707	25,601	25,552	25,931	26,330	26,562	26,828	27,232
Sugar	1,851	2,135	2,044	2,050	2,126	2,145	2,055	2,028	2,104	2,268	1,928	1,948	2,424	2124	1889	2049	2002	2006	2015	2044	2072	2099	2127	2155	2188
Tomatoes							1,809	1,940																	
Tobacco	1,770	2,444	2,852	3,217	2,701	2,356	1,955	1,628	1,687	1,576	1,750														
Wheat	5,042	9,744	9,815	8,287	6,781	5,594	5,782	5,440	5,637	7,929	7,283	7,171	7,710												
Wool	86	66	40	45	29	18	15	15	22	28	30	26	25	30	32	32	33	34	35	36	36	37	38	39	40
Other Products (not in AMS calculations)	66,122	79,779	88,614	91,571	79,272	74,344	71,908	75,757	88,548	89,395	90,812	90,336	114,796	178,724	190,500	190,397	193,316	197,386	203,405	207,552	212,220	216,199	220,773	225,286	230,334
Total VOP	143,010	190,110	205,701	203,884	190,886	184,735	189,520	198,503	194,572	216,478	235,688	236,001	246,424	307,041	317,043	309,227	311,722	315,457	320,793	325,449	332,525	338,813	345,429	351,539	358,795
Cash rec. →													240,828	284,844	321,535	302,960	303,791	310,060	314,845	319,267	325,141	330,547	336,319	341,571	347,592
													246,424	307,041	317,043	309,227	311,722	315,457	320,793	325,449	332,525	338,813	345,429	351,539	358,795
Diff.													-5,596	-22,197	4,492	-6,267	-7,931	-5,397	-5,949	-6,182	-7,385	-8,266	-9,110	-9,968	-11,203

Notes
e: estimates
Sources:
1986-1988 and from 1995 to 2007: U.S. domestic support notifications
2008 to 2018: NASS, FAPRI, ERS, WASDE,
Commodity Estimates Book FY 2009 President's Budget, USDA Agricultural Projections to 2018 and own estimates

"May 11, 2009

Table 2. 2004 U.S. Average Total Value of Agricultural Production (US$million)

Product	2004 notification	Data from sources					
Barley	698.184	698.184					
Beef and veal			34,830.872				
Chickpeas	1.078	1.078					
Corn	24,381.294	24,381.294					
Cotton	5,731.102	5,866.361					
Dairy	27,567.726	27,410.672					
Dry peas	66.476	66.476					
Honey	196.259	196.259					
Minor Oilseeds							
Canola	143.853	143.853					
Crambe	0.058	0.058	Not available				
Flaxseed	83.767	83.767					
Lentils	60.893	60.893					
Livestock	37,208.820	37,208.820	34,830.872	411.278	1966.67	37,208.820	Sum of beef and veal plus sheep and lamb and other livestock (cash receipts)
Lychee	3.665	3.665	Not available				
Mohair	3.345	3.832					
Oats	178.327	178.327					
Orchards and vineyards	15,494.622	15,208.937					
Peanuts	813.551	813.551					
Pecan trees	400.441	326.924					
Rice	1,701.822	1,701.822					
Sheep and lamb	411.278	411.278					
Sorghum	843.464	843.464					
Soybeans	17,894.948	17,894.948					
Sugar	1,927.996	1,930.390					
Tobacco	1,749.856	1,749.856					
Wheat	7,283.324	7,283.324					
Wool	29.921	29.921					
Sub-total	**144,876.070**	**144,497.954**					
Vegetables *		16,062.481					
Fruits and nuts *			15535.861	326.924	15,208.937		
Hay		12,211.868					
Eggs		5,303.244					
Broilers		20,446.086					
Chickens		58.010					
Turkeys		3,065.417					
Hogs and pigs		13,072.025					
Mustard seed		8.550					
Rapeseed		1.528					
Safflower		23.092					
Sunflower		272.732					
Rye		26.551					
Horses and mules *		1,161.400					
Aquaculture *		894.996					
Other crops *		19,417.464					
Sub-total	**90,812.325**	**92,025.444**					
Total	**235,688.395**	**236,523.398**					

Notes
* cash receipts

Yellow colour highlights differences between notification and quoted sources
Blue color denotes that the value of production was subtracted from vegetables

Sources:
NASS from http://www.nass.usda.gov/Publications/Ag_Statistics/index.asp
ERS from http://www.ers.usda.gov/data/farmincome/finfidmu.htm

March 2008

Table 3. U.S. Corn statistics (thousand dollars)

Commodity	MY	Planted	Planted (UNIT)	Harvested	Harvested(UNIT)	Yield	Yield(UNIT)	Production	Production(UNIT)	Price	Price per Unit(	VOP	VOP (UNIT)	MY
Corn For Grain	1995	71479	thousand acres	65210	thousand acres	113.5	bushel	7400051	thousand bushels	3.24	dols / bu	24202234	thousand dollars	1995
Corn For Grain	1996	79229	thousand acres	72644	thousand acres	127.1	bushel	9232557	thousand bushels	2.71	dols / bu	25149013	thousand dollars	1996
Corn For Grain	1997	79537	thousand acres	72671	thousand acres	126.7	bushel	9206832	thousand bushels	2.43	dols / bu	22351507	thousand dollars	1997
Corn For Grain	1998	80165	thousand acres	72589	thousand acres	134.4	bushel	9758685	thousand bushels	1.94	dols / bu	18922084	thousand dollars	1998
Corn For Grain	1999	77386	thousand acres	70487	thousand acres	133.8	bushel	9430612	thousand bushels	1.82	dols / bu	17103991	thousand dollars	1999
Corn For Grain	2000	79551	thousand acres	72440	thousand acres	136.9	bushel	9915051	thousand bushels	1.85	dols / bu	18499002	thousand dollars	2000
Corn For Grain	2001	75702	thousand acres	68768	thousand acres	138.2	bushel	9502580	thousand bushels	1.97	dols / bu	18878819	thousand dollars	2001
Corn For Grain	2002	78894	thousand acres	69330	thousand acres	129.3	bushel	8966787	thousand bushels	2.32	dols / bu	20882448	thousand dollars	2002
Corn For Grain	2003	78603	thousand acres	70944	thousand acres	142.2	bushel	10089222	thousand bushels	2.42	dols / bu	24476803	thousand dollars	2003
Corn For Grain	2004	80929	thousand acres	73631	thousand acres	160.4	bushel	11807086	thousand bushels	2.06	dols / bu	24381294	thousand dollars	2004
Corn For Grain	2005	81779	thousand acres	75117	thousand acres	148.0	bushel	11114082	thousand bushels	2.00	dols / bu	22198472	thousand dollars	2005
Corn For Grain	2006	78327	thousand acres	70648	thousand acres	149.1	bushel	10534868	thousand bushels	3.04	dols / bu	32094586	thousand dollars	2006
Corn For Grain	2007	93600	thousand acres	86542	thousand acres	151.1	bushel	13073893	thousand bushels	4.00	dols / bu	52090108	thousand dollars	2007
Corn	2008	85982	thousand acres	78640	thousand acres	153.9	bushel	12101238	thousand bushels	4.10	dols / bu	49615076	thousand dollars	2008
Corn	2009	88000	thousand acres	80800	thousand acres	157.0	bushel	12685000	thousand bushels	3.73	dols / bu	47280455	thousand dollars	2009
Corn	2010	89000	thousand acres	81800	thousand acres	159.0	bushel	13005000	thousand bushels	3.63	dols / bu	47261352	thousand dollars	2010
Corn	2011	90000	thousand acres	82800	thousand acres	161.0	bushel	13330000	thousand bushels	3.54	dols / bu	47200318	thousand dollars	2011
Corn	2012	90000	thousand acres	82800	thousand acres	163.0	bushel	13495000	thousand bushels	3.45	dols / bu	46527080	thousand dollars	2012
Corn	2013	90000	thousand acres	82800	thousand acres	165.0	bushel	13660000	thousand bushels	3.40	dols / bu	46459523	thousand dollars	2013
Corn	2014	90000	thousand acres	82800	thousand acres	167.0	bushel	13830000	thousand bushels	3.45	dols / bu	47682068	thousand dollars	2014
Corn	2015	90000	thousand acres	82800	thousand acres	169.0	bushel	13995000	thousand bushels	3.49	dols / bu	48902983	thousand dollars	2015
Corn	2016	90500	thousand acres	83300	thousand acres	171.0	bushel	14245000	thousand bushels	3.49	dols / bu	49776563	thousand dollars	2016
Corn	2017	90500	thousand acres	83300	thousand acres	173.0	bushel	14410000	thousand bushels	3.49	dols / bu	50353125	thousand dollars	2017
Corn	2018	90500	thousand acres	83300	thousand acres	173.0	bushel	14580000	thousand bushels	3.49	dols / bu	50947159	thousand dollars	2018

Source: 1995-2006 NASS QuickStats database downloaded October 16, 2008 2009-18 AVE 3.52 48239063
2007 NASS, CROP VALUES 2007 SUMMARY, FEBRUARY 2008
2008 NASS QuickStats database downloaded March 16, 2009 and WASDE March 2009
2009-2018 USDA Agricultural Projections to 2018

Note: The USDA baseline projections assume that the biofuel tax credits and the 54-cent-per-gallon tariff on imported ethanol used as fuel are extended beyond their currently legislated expiration dates. This is in contrast to the President's baseline that assumes those tax credits and the tariff are not extended.

"March 16, 2009

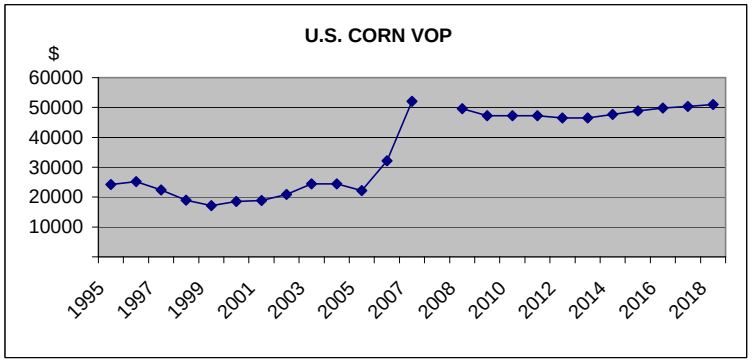

Table 4. U.S. Livestock statistics (U.S. million dollars)

Commodity	MY	Beef & veal	Sheep & lamb	All other livestock	Total VOP	MY	Notified
Livestock	2002	27,097.532	313.946	2,017.049	29,428.527	2002	29,428.527
Livestock	2003	32,112.931	391.765	2,068.226	34,572.922	2003	34,572.922
Livestock	2004	34,830.872	411.278	1,966.670	37,208.820	2004	37,208.820
Livestock	2005	36,628.658	453.125	2,042.198	39,123.981	2005	39,237.669
Livestock	2006	35,555.125	379.531		35,934.656	2006	35,934.656

Sources:

Beef and veal	NASS QuickStats database downloaded March 16, 2009
Sheep and lamb	NASS QuickStats database downloaded March 16,2009
All other livestock	Economic Research Service/USDA
	Yellow colour highlights differences between notification and quoted sources

April 8, 2009

Table 5. U.S. Other Products statistics (million dollars)

Marketing Year	Vegetables VOP	Dry peas VOP	Lentils VOP	Revised Vegetables VOP	Fruits & Nuts VOP	Hay VOP	Eggs VOP	Broilers VOP	Chickens VOP	Turkeys VOP	Hogs & Pigs VOP	Flaxseed VOP	Mustard Seed VOP	Rapeseed VOP	Safflower VOP	Sunflower VOP	Canola VOP	Rye VOP	Horses & Mules VOP	Aquaculture VOP	Other crops - sugar VOP	Tobacco VOP	Chickpeas VOP	Cottonseed VOP	Beef & veal VOP	Sheep & lamb VOP	Wheat VOP	Total other products VOP
2004	16,205	82	61	16,062		12,212	5,303	20,446	58	3,065	13,072		9	1.5	23	273		27	1,161	895	19,417							92,025
2005	16,938	80	54	16,805		12,585	4,042	20,902	65	3,183	13,607	117	5	0.4	27			25	1,228	887	20,261	1,059		780				95,578
2006	18,457	97	40	18,320	17,195	13,791	4,432	17,295	54	3,574	12,702	64	4	0.2	26	309	154	24	1,209	1,072	20,859	1,211	2	814				113,111
2007	19,965	177	74	19,714	17,802	16,961	6,678	20,909	51	3,711	13,468	77	6	0.2	39	607	266	39	1,219	1,126	21,510	1,311	2	1,070	36,067	384	13,744	176,761
2008	21,878	180	87	21,610	18,449	18,777	8,017	21,808	53	4,320	14,588	75	18	0.1	77	669	276	50	1,271	1,175	22,983	1,486	3		37,841	385	16,568	190,500
2009	22,313	210	72	22,032	18,922	19,190	7,827	22,288	54	4,311	14,951	207	9	0.3	39	615	297	52	1,299	1,201	23,370	1,519	3		39,210	386	12,615	190,397
2010	22,759	214	69	22,476	19,409	19,670	7,358	22,845	55	4,552	15,807	197	8	0.3	39	565	280	53	1,332	1,231	24,053	1,557	3		39,071	387	12,369	193,316
2011	23,213	222	66	22,925	19,909	20,162	7,349	23,416	57	3,183	17,000	180	7	0.2	38	505	250	54	1,365	1,261	24,700	1,596	3		40,672	388	12,367	197,386
2012	23,676	229	69	23,377	20,424	20,666	7,422	24,001	58	4,947	17,712	179	6	0.2	38	467	246	56	1,399	1,293	25,358	1,635	3		41,751	389	11,976	203,405
2013	24,149	238	71	23,840	20,954	21,182	7,566	24,601	60	5,051	18,120	182	6	0.2	39	459	249	57	1,434	1,325	26,014	1,676	3		42,477	390	11,864	207,552
2014	24,631	246	74	24,311	21,498	21,712	7,713	25,216	61	5,154	18,383	185	6	0.2	40	454	253	58	1,470	1,358	26,687	1,718	3		43,380	391	12,169	212,220
2015	25,123	255	76	24,792	22,059	22,255	7,932	25,847	63	5,188	18,543	189	6	0.2	40	460	257	60	1,507	1,392	27,379	1,761	3		43,819	392	12,254	216,199
2016	25,626	264	79	25,283	22,636	22,811	8,157	26,493	64	5,195	18,927	192	6	0.2	41	466	261	61	1,545	1,427	28,088	1,805	3		44,581	393	12,335	220,773
2017	26,138	273	81	25,784	23,229	23,381	8,344	27,155	66	5,173	19,325	196	6	0.2	42	476	265	63	1,583	1,463	28,816	1,850	3		45,253	394	12,416	225,286
2018	26,661	280	84	26,297	23,839	23,966	8,543	27,834	68	5,493	19,732	199	6	0.2	43	482	269	64	1,623	1,499	29,557	1,897	3		46,026	395	12,498	230,334

Sources:
2004-2005 ERS cash receipts 2000-06
2006-2007 ERS cash receipts 2000-07
2008-2018 USDA Agricultural Projections to 2018
Cotton seed was excluded from cotton PSAMS from 2005 to 2007

May 11, 2009

Annex 1
Value of Production
Table of Contents

Results Tables

Data Tables

April 8, 2009

Value of Production (continuation)
Table of Contents

April 8, 2009