

US EPA ARCHIVE DOCUMENT

**EMS Permit Pilot Project  
Follow-up Environmental Assessment  
Murphy-Brown of Yuma**

***Report Addendum***

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## 1.0 INTRODUCTION

The Colorado Department of Public Health and Environment (CDPHE) is reviewing the efficacy of its environmental management system (EMS) permit pilot project to evaluate whether or not environmental improvements, operating flexibility and regulatory efficiencies can be gained from combining the regulatory requirements of a facility under one, cross-media, EMS-based operating permit. Legislation was adopted in 2004 that gives CDPHE the authority to pilot this process using industry volunteers.

Murphy-Brown of Yuma (Murphy-Brown), a housed commercial swine feeding operation (HCSFO), agreed to participate as one of the agricultural industry partners in this EMS permit pilot project. A baseline environmental assessment was conducted at Murphy-Brown on December 16, 2004. The intent of the environmental baseline assessment was to determine the environmental footprint of the facility, gather baseline data related to environmental impacts associated with a HCSFO and to assess environmental programs in place at Murphy-Brown.

A follow-up environmental assessment was conducted at Murphy-Brown on June 20, 2006 and a report was issued on August 14, 2006 describing the results of that assessment.

This report serves as an addendum to the August 14, 2006 Follow-up Assessment Report and provides updated information on the status of environmental improvement projects at Murphy-Brown and provides three years of environmental metrics, which were used to evaluate whether environmental improvements were realized as a result of participation in the project.

Included in this addendum are notations on significant changes made to operations, if any, and progress made with continual improvement projects identified at the beginning of the project. A brief summary of metrics that were collected during the baseline and follow-up assessments also is included. Detailed information about the operations and practices in place at Murphy-Brown may be found in the baseline environmental assessment and the follow-up assessment reports.

## **2.0 ENVIRONMENTAL UPDATE**

The baseline assessment provided detailed descriptions of Murphy-Brown operations and its overall environmental footprint. The follow-up assessment provided an update of the operations and noted any changes made as a result of the EMS permit pilot project. This addendum provides a summary of updates made to operations since the follow-up assessment and provides 2004, 2005, and 2006 environmental data.

### **2.1 RESOURCE CONSUMPTION**

During the baseline assessment, information regarding utility usage, water consumption, and fuel usage was collected. The data collected in 2004 was used as a baseline. Data for 2005 and 2006 were collected to determine whether any of the improvement projects implemented at Murphy-Brown had an impact on resource consumption. The following section reviews the status of each of these areas.

#### **2.1.1 Power**

YW Electric Association of Akron supplies power to all Murphy-Brown farms. The attached spreadsheet provides power usage for each farm for 2004, 2005, and 2006.

#### **2.1.2 Propane**

Propane is provided by Gemm Energy of Wray, Colorado and is used for heating a portion of Murphy-Brown farms. Propane usage for 2004, 2005 and 2006 is provided in the attached spreadsheet.

#### **2.1.3 Natural Gas**

KN Energy of Yuma supplies natural gas for heating purposes at all Murphy-Brown farms. Total natural gas usage for 2004, 2005 and 2006 is provided in the attached spreadsheet.

#### **2.1.4 Water Consumption**

Water is consumed for various purposes including animal watering, feedmill operation, showers, cleaning, and human consumption. All water comes from commercial groundwater wells located at each farm with the exception of the feedmill and main office, which are supplied by municipal water. Wells are sampled quarterly. Results are provided in quarterly monitoring reports, which are required per a permit from CDPHE's Water Quality Control Division.

A detailed water balance for each farm is calculated on a quarterly basis to determine whether process waste is being lost to groundwater. The farm manager is responsible for collecting water balance data including lagoon levels, precipitation data, and water usage.

This information is provided to the environmental manager on a monthly basis. A quarterly water balance is calculated and provided in a quarterly monitoring report. This information is submitted to CDPHE quarterly.

Water consumption for sow barns, nurseries, and finishing operations for 2004, 2005, and 2006 is provided in Appendices A, B, and C, respectively.

## **2.2 CONTINUAL IMPROVEMENT PROJECTS**

Murphy-Brown has been working on several projects designed to enhance overall environmental performance at its swine operations. A description of these projects was provided in the Follow-up Assessment report. An update is provided below.

### **2.2.1 Animal Waste Management**

Murphy-Brown permitted and began construction on two new process lagoons in 2006. A third lagoon has been permitted and is scheduled for construction in 2007. These new process lagoons allow for more efficient management of animal waste, provide greater treatment volume, and are designed to help reduce odors from process areas. Murphy-Brown continues to use Pit Remedy, a natural, biological additive that reduces odors in process lagoon by creating an aerobic cover on the lagoons.

Murphy-Brown has received no odor complaints from concerned citizens since the follow-up assessment.

### **2.2.2 Mortality Composting**

Murphy-Brown began composting its mortalities at a local composting operation rather than shipping them offsite to a rendering facility. This practice has reduced operating costs and has resulted in a more environmentally benign means of managing mortality waste. There were no changes made to mortality management since the follow-up assessment.

### **2.2.3 Erosion Control**

Murphy-Brown has been working to control erosion along lagoon banks in an effort to minimize the potential for process water spills and to extend the life of the lagoons. The project involves lining the shoreline with a high density polypropylene liner and placing crushed, recycled concrete generated from onsite maintenance activities as rip rap to reinforce lagoon banks. Since the follow-up assessment, two additional lagoons were equipped with HDPE liners. Four additional lagoons are scheduled for liner installation and recycled concrete rip rap during the spring of 2007.

#### **2.2.4 De-sludging Process Lagoons**

Four process lagoons were de-sludged in 2006 and two additional lagoons are scheduled for de-sludging in 2007. The objective of this project is to remove solids from process lagoons, which will extend the life of the lagoon, increase the available treatment volume of the lagoon, and help to reduce odors. Murphy-Brown is the first HCSFO to initiate sludge removal to enhance lagoon performance.

#### **2.2.5 Water Quality**

As a result of a voluntary, independent compliance review of the Murphy-Brown operations, the groundwater sources at two locations were converted to community drinking water systems in an effort to improve the water quality used at those locations.

#### **2.2.6 Water Use Management**

Murphy-Brown has several preventive maintenance programs in place to reduce potable water losses. These include, daily checks of drinking water lines to minimize leaks, recycling of lagoon wastewater back into manure pits to reduce the use of groundwater, detailed water balance calculations, and general on-going preventive maintenance.

The efficacy of Murphy-Brown's water management practices is evidenced by the overall reduction in average gallons consumed per head of swine at all operations since the baseline data were collected in 2004. These reductions range from 13% at the nurseries to 29% at the sow barns. In 2006, Murphy-Brown did realize a slight increase in water usage over 2005 levels. This increase was mainly due to high employee turnover at the Farm Manager level. High employee turnover can have an impact on system maintenance and water use practices simply due to lack of experience with process operations. Through monitoring these environmental metrics, Murphy-Brown identified the issue and took steps to ensure new staff was trained on water management practices.

#### **2.2.7 Energy Efficiency**

In 2006 Murphy-Brown initiated several projects designed to improve overall energy efficiency. One such project involved relocating heaters away from ventilation fans in several of its process barns so that heater output was no longer vented directly outside the building. The success of this project is evidenced by the reduction in annual natural gas and propane usage between 2004 and 2006.

### **2.3 METRICS**

Table 1 summarizes environmental data that were collected in 2004, 2005 and 2006. The attached spreadsheets present these data for each farm by month. It is important to note



that these metrics do not necessarily reflect improvement or degradation of the environment due to Murphy-Brown's practices and are limited by the fact that only two years have elapsed since the baseline assessment. Ideally, metrics should be tracked over a longer period of time and should be normalized to reflect fluctuations in operations.

However, it is important to note that Murphy-Brown has seen some major improvements with regard to water consumption as a result of its efforts to maintain water systems. Murphy Brown also has seen a significant reduction in natural gas and propane usage over the past three years, which in part is due to re-engineering the layout of process barns to maximize heating and cooling efficiencies.

**Table 1: Environmental Metrics**

Resource Consumed	Baseline 2004	2005	2006	% Change Since 2004
Power (KW)	11,009,471	10,884,487	11,139,552	1%
Propane (gal)	312,100	382,977	62,399	(80%)*
Natural Gas (gal)	698,068	700,565	505,728	(28%)
Sow Water (gal/head)	10.83	7.02	7.72	(29%)
Nursery Water (gal/head)	1.67	1.13	1.45	(13%)
Finish Water (gal/head)	2.72	2.46	2.21	(19%)

Note: the 80% reduction in propane usage between 2004 and 2006 is in part due to a credit received in March 2006 for pre-payment of propane during Murphy-Brown's 2005 fiscal year.

**Appendix A**

**Murphy-Brown of Yuma  
Environmental Metrics Tracking  
EMS Permit Pilot Project  
Follow-up Environmental Assessment Report Addendum**

<b>Resource</b>	<b>Baseline 2004</b>	<b>2005</b>	<b>2006</b>	<b>% Change Over 2004</b>
Power (KW)	11,009,471	10,884,487	11,139,552	1%
Propane (gal)	312,100	382,977	62,399	-80%
Natural Gas (gal)	698,068	700,565	505,728	-28%
Sow Water (gal/head)	10.83	7.02	7.72	-29%
Nursury Water (gal/heal)	1.67	1.13	1.45	-13%
Finish Water (gal/head)	2.72	2.46	2.21	-19%

Murphy-Brown of Yuma  
2006 Consumption  
Power - kwatts

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 -47101	22,200	22,080	19,704	20,784	19,752	18,456	16,752	15,432	15,576	19,848	21,936	19,248	231,768
Seedorf 2 - 47102	19,332	20,340	17,244	17,748	16,632	17,244	13,320	15,480	16,308	16,668	17,820	17,244	205,380
Horizon - 47103	77,280	79,160	68,400	69,120	64,000	62,640	58,800	53,200	60,600	66,080	69,360	59,600	788,240
Sandhill - 47105	60,080	60,440	54,840	61,600	57,680	57,120	53,400	56,160	55,400	51,560	57,840	52,560	678,680
Horseshoe - 47107	56,640	57,640	51,960	52,200	48,960	49,520	44,960	43,240	41,520	49,520	57,400	55,560	609,120
Stulp - 47109	49,896	48,852	50,940	43,344	48,132	46,368	39,564	38,196	37,728	45,468	3,828	41,796	494,112
Sunrise - 47111	67,320	50,920	54,360	59,440	56,640	62,080	63,920	76,200	70,120	60,120	61,160	50,240	732,520
Pheast Run - 47112	48,120	43,640	43,280	53,280	49,160	48,160	57,200	54,720	61,080	52,320	52,840	45,960	609,760
Jackrabbit - 47113	50,160	44,600	44,160	52,280	48,640	50,320	55,440	49,200	50,680	48,200	52,520	45,480	591,680
Box Turtle - 47114	48,480	49,800	48,780	42,600	50,760	53,820	54,900	61,380	57,600	50,820	45,300	43,740	607,980
Tree Row - 47115	45,880	47,120	46,880	41,360	48,440	54,680	61,440	67,480	68,040	57,120	48,760	48,560	635,760
Coyote Run - 47116	42,800	45,200	45,840	39,840	48,800	54,920	59,000	67,640	67,400	51,920	43,360	42,520	609,240
Gaytan - 47117	88,280	89,520	90,360	78,000	91,160	100,360	108,840	117,640	113,760	94,600	80,120	78,720	1,131,360
Seedorf 1 - 47201	14,800	14,720	13,136	13,856	13,168	12,304	11,168	10,288	10,384	13,232	14,624	12,832	154,512
Seedorf 2 - 47202	12,888	13,560	11,496	11,832	11,088	11,496	8,880	10,320	10,872	11,112	11,880	11,496	136,920
Big Sky - 47203	43,020	43,700	38,200	39,340	37,640	39,200	36,620	44,640	38,560	36,720	39,400	33,840	470,880
Stulp Nurs - 47209	33,264	32,568	33,960	28,896	32,088	30,912	26,376	25,464	25,152	30,312	2,552	27,864	329,408
Browns - 47211	11,120	8,320	9,720	11,800	8,840	10,120	9,320	12,800	9,720	10,000	9,600	7,680	119,040
Sunflower - 47212	17,920	17,200	17,360	18,160	27,840	16,560	21,600	25,600	25,440	17,560	20,200	17,120	242,560
Siqmon - 47214	14,720	14,080	15,160	13,800	15,600	19,240	25,440	26,160	25,240	17,200	14,000	14,000	214,640
Outback - 47217	9,840	14,280	12,080	13,040	11,280	12,080	16,080	10,600	12,040	8,920	12,040	9,000	141,280
Hunter - 47301	17,000	16,640	13,880	14,720	15,040	14,400	12,000	14,120	14,120	16,360	18,600	16,480	183,360
Stulp - 47302	13,080	11,920	12,560	9,600	13,440	13,960	11,760	12,720	14,200	15,120	13,960	13,960	156,280
Winqer - 47303	21,160	23,160	23,200	22,440	16,680	16,200	12,160	11,000	13,440	19,280	21,720	21,360	221,800
Badger - 47304	25,840	27,560	25,240	18,280	24,280	26,280	22,760	25,000	24,680	22,480	22,960	0	265,360
Hilltop - 47305	25,840	23,200	21,560	23,760	27,080	30,680	57,840	62,040	61,760	27,360	25,720	23,040	409,880
Anchor - 47306	7,880	8,560	7,320	6,760	5,720	4,920	3,680	4,120	4,160	6,160	6,160	5,600	71,040
Boar Stud - 49770	6,760	82	7,800	6,600	8,120	8,950	10,840	11,360	13,400	7,600	8,520	6,960	96,992
Total	951.600	928.862	899.420	884.480	916.660	942.990	974.060	1.022.200	1.018.980	923.660	854.180	822.460	11.139.552

Murphy-Brown of Yuma  
2006 Consumption  
LP Gas - gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Sunrise - 47111	0	0	0	0	0	0	0	0	0	0	0	0	0
Pheast Run - 47112	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackrabbit - 47113	0	0	0	0	0	0	0	0	0	0	0	0	0
Box Turtle - 47114	-23,216	7,734	-29,900	0	0	0	8,809	0	0	0	0	0	-36,573
Tree Row - 47115	-5,747	3,579	-27,185	675	0	1,571	0	0	1,675	1,720	1,265	4,650	-17,797
Coyote Run - 47116	13,816	4,723	-24,450	94	0	1,571	0	0	1,675	1,720	1,265	4,650	5,064
Gaytan - 47117	-681	9,894	-4,672	0	0	3,640	180	0	2,755	2,880	1,395	5,640	21,032
Browns - 47211	0	0	0	0	0	0	0	0	0	0	0	0	0
Sunflower - 47212	0	0	0	0	0	0	0	0	0	0	0	0	0
Sigmon - 47214	8,192	10,142	5,197	2,130	0	3,900	0	0	3,305	4,800	3,237	11,549	52,453
Outback - 47217	0	3,752	0	0	0	0	0	0	0	0	0	0	3,752
Winger - 47303	-4,868	-1,232	10,298	0	0	0	4,440	0	0	0	0	0	8,638
Badger - 47304	2,447	-2,447	0	0	0	0	8,844	0	0	0	0	0	8,844
Hilltop - 47305	2,447	-2,447	10,301	0	0	0	4,439	0	0	0	0	0	14,740
Boar Stud - 49770	830	935	-935	0	0	340	0	0	0	0	670	405	2,245
<b>Total</b>	<b>-6,780</b>	<b>34,633</b>	<b>-61,346</b>	<b>2,899</b>	<b>0</b>	<b>11,022</b>	<b>26,712</b>	<b>0</b>	<b>9,410</b>	<b>11,121</b>	<b>7,832</b>	<b>26,895</b>	<b>62,399</b>

Murphy-Brown of Yuma  
2006 Consumption  
Natural Gas - gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 - 47101	1,385	1,062	1,343	864	410	235	70	33	79	228	568	568	6,844
Seedorf 2 - 47102	1,385	1,062	1,343	864	410	235	70	33	79	228	568	568	6,844
Horizon - 47103	5,069	3,801	4,700	3,453	1,672	837	100	37	245	1,298	2,837	2,837	26,886
Sandhill - 47105	5,069	3,801	4,700	3,453	1,672	836	100	37	245	1,298	2,837	2,837	26,886
Horseshoe - 47107	5,069	3,801	4,700	3,453	1,672	836	100	37	245	1,298	2,837	2,837	26,886
Stulp - 47109	3,256	2,084	2,542	1,944	841	371	131	62	167	626	1,944	1,944	15,911
Sunrise - 47111	11,258	4,954	2,796	1,548	961	335	0	378	1,008	3,312	3,370		29,919
Pheast Run - 47112	599	8,161	2,802	3,113	1,601	690	300	312	312	822	1,601	1,523	21,836
Jackrabbit - 47113	419	7,307	2,980	1,489	1,056	300	234	223	234	622	712	1,034	16,610
Gaytan - 47117													
Seedorf 1 - 47201	3,148	2,413	3,053	1,963	932	535	159	75	179	518	1,290	1,290	15,554
Seedorf 2 - 47202	3,148	2,413	3,053	1,963	932	535	159	75	179	518	1,290	1,290	15,554
Big Sky - 47203	17,157	12,865	15,909	11,686	5,660	2,832	338	125	829	4,393	9,603	9,603	91,000
Stulp Nurs - 47209	7,787	4,983	6,079	4,650	2,010	888	312	150	399	1,497	4,648	4,648	38,050
Browns - 47211	997	16,886	7,432	4,194	2,321	1,441	502	0	567	1,512	4,427	5,055	45,335
Sunflower - 47212	724	13,339	7,026	4,836	2,056	2,145	1,223	601	867	2,768	3,012	8,425	47,022
Outback - 47217	417	4,346	4,369	3,012	1,601	1,090	489	289	378	1,000	1,667	2,620	21,278
Hunter - 47301	3,525	2,702	3,419	2,198	1,043	599	178	84	200	579	1,444	1,444	17,415
Stulp - 47302	3,115	1,993	2,432	1,860	801	355	125	59	160	599	1,859	1,859	15,216
Anchor - 47306	3,899	2,924	3,616	2,656	1,286	644	77	28	188	999	2,182	2,182	20,682
<b>Total</b>	<b>77.427</b>	<b>100.898</b>	<b>84.294</b>	<b>59.198</b>	<b>28.938</b>	<b>15.738</b>	<b>4.666</b>	<b>2.637</b>	<b>6.559</b>	<b>24.114</b>	<b>48.695</b>	<b>52.563</b>	<b>505.728</b>

Murphy-Brown of Yuma  
2006 Water Consumption (January- December)

<b>Farms</b>	<b># of Head</b>	<b>Target</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>YTD Ave</b>
Anchor	7,200	2.3	0.45	0.5	0.45	0.47	0.45	0.47	0.4	0.4	0.31	0.31	0.33	0.32	0.41
Hunter	8,448	2.3	2.48	2.75	2.48	2.09	2.02	2.09	3.4	2.15	2.67	2.09	2.11	3.5	2.49
Stulp	8,448	2.3	1.33	1.48	1.33	1.89	1.83	1.89	3	3	1.72	2.38	2.23	2.27	2.03
Badger	25,344	2.3	2.4	1.8	1.69	1.78	2.53	3.05	4.23	2.72	3.12	4.11	2.46	1.74	2.64
Hilltop	25,344	2.3	3.67	3.35	2.25	1.68	1.59	3.07	3.82	3.49	4.6	4.91	2.02	6.77	3.44
Winger	16,896	2.3	2.02	2.24	2.02	2.04	1.98	2.27	2.64	2.11	2.24	2.93	2.01	2.44	2.25

**Average Water Use (finishing) 2.21**

Murphy-Brown of Yuma  
2006 Water Consumption (January- December)

<b>Farms</b>	<b># of Head</b>	<b>Target</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>YTD Ave</b>
101& 102	2954	7.2	7.37	8.79	10.06	8.83	8.58	9.52	9.25	7.77	10.83	7.08	7.33	9.34	8.73
103	2400	7.2	3.33	3.74	4.33	6.39	6.69	8.84	8.02	7.78	8.54	14.79	10.08	9.57	7.68
105	2400	7.2	6.12	6.72	8.26	6.39	6.69	8.84	8.02	7.78	9.41	7.74	7.84	10.16	7.83
107	2400	7.2	5.2	5.27	5.55	4.35	4.84	7.61	6.11	7.16	6.57	4.77	4.83	5.9	5.68
109	2954	7.2	5.26	10.07	9.48	5.43	14.24	10.68	10.85	13.11	9.43	12.41	8.56	7.93	9.79
111	4277	7.2	4.51	5	4.51	7.02	6.79	7.02	6.79	6.79	7.02			6.24	6.17
112	2488	7.2	8.73	10.01	11.16	9.25	9.18	12.06	9.88	10.67	11.14	8.33	8.2	11.22	9.99
113	3088	7.2	5.71	5.36	6.61	5.4	6.04	9.03	8.16	8.51	5.8	5.6	5.75	6.88	6.57
114	2488	7.2	5.67	6.85	8.34	7.87	8.98	11.8	10.15	8.13	8.84	6.85	6.26	6.28	8.00
115	3088	7.2	4.99	5.44	4.48	6.44	6.51	6.57	8.47	7.55	6.58	4.2	6	5	6.02
116	3100	7.2	3.77	4.18	6.13	7.54	5.46	21.83	12.16	16.65	11.22	7.77	8.08	6.99	9.32
117	5680	7.2	6.27	6.15	6.71	9.3	8.24	8.66	7.2	8.37	6.05	5.2	5.38	5.64	6.93

**Average Water Use (Sow) 7.72**



Murphy-Brown of Yuma  
2006 Water Consumption (January- December)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
Big Sky	25,344	0.5	1.55	1.25	1.43	1.25	2.11	2.18	2.08	2.08	2.15	2.08	2.15	2.08	1.87
Brown's	8,000	0.5	1.28	1.42	1.28	0.66	0.64	1.22	1.94	1.3	2.08	1.53	1.17	1.24	1.31
Outback	8,000	0.5	0.79	0.79	0.79	1.11	1.11	1.11	1.32	1.23	1.33	1.03	1.11	1.09	1.07
Sunflower	14,000	0.5	0.76	1.14	1.18	0.72	1.32	1.28	1.28	1.31	1.11	0.87	1.01	0.83	1.07
Sigmons	16,000	0.5	2.21	2.21	2.21	2.36	2.36	2.36	2.06	2.06	2.06	1.13	1.13	1.13	1.94

**Average Water Use (Nursery) 1.45**

**Appendix B**

**Murphy-Brown of Yuma  
Environmental Metrics Tracking  
EMS Permit Pilot Project  
Follow-up Environmental Assessment Addendum**

<b>Resource</b>	<b>Annual Consumption</b>		<b>% Change</b>
	<b>2004</b>	<b>2005</b>	
Power (KW)	11,009,471	10,884,487	-1%
Propane (gal)	312,100	382,977	23%
Natural Gas (gal)	698,068	700,565	0.4%
Sow Water (gal/head)	10.83	7.02	-35%
Nursery Water (gal/head)	1.67	1.13	-32%
Finish Water (gal/head)	2.72	2.46	-10%

US EPA ARCHIVE DOCUMENT

Murphy-Brown of Yuma  
2005 Consumption  
Power - kwatts

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 -47101	792	23,928	19,896	19,800	19,224	20,040	16,488	13,704	15,384	16,560	19,656	20,496	205,968
Seedorf 2 - 47102	17,964	18,396	14,832	15,912	15,624	15,912	12,600	11,340	11,808	12,024	16,596	17,640	180,648
Horizon - 47103	78,040	79,320	66,680	70,280	66,080	69,920	62,320	59,200	64,600	66,040	73,680	70,920	827,080
Sandhill - 47105	60,160	62,880	57,320	59,720	58,400	56,880	46,080	37,120	45,360	50,880	52,960	53,840	641,600
Horseshoe - 47107	61,000	66,360	57,440	59,200	61,360	61,800	48,000	31,120	44,520	46,400	52,680	53,800	643,680
Stulp - 47109	48,168	48,096	46,188	44,532	47,520	44,018	40,068	34,848	37,224	38,628	39,960	46,692	515,942
Sunrise - 47111	57,240	57,680	57,480	52,640	61,760	57,200	57,880	69,400	67,800	57,640	58,120	57,360	712,200
Pheast Run - 47112	43,560	41,600	44,240	45,920	47,360	50,240	47,520	54,880	50,440	49,520	49,920	47,880	573,080
Jackrabbit - 47113	39,520	39,840	44,240	47,880	50,200	51,200	45,600	55,560	49,840	50,040	50,320	48,480	572,720
Box Turtle - 47114	46,080	44,280	42,180	46,920	47,820	47,340	49,500	53,640	58,020	46,920	40,920	51,120	574,740
Tree Row - 47115	43,120	50,520	53,680	48,640	44,520	46,720	51,280	55,640	59,360	50,400	47,480	48,560	599,920
Coyote Run - 47116	38,360	36,560	35,320	41,640	41,880	46,960	52,520	60,320	60,400	51,600	45,200	45,000	555,760
Gaytan - 47117	82,360	78,160	72,840	79,480	81,200	84,880	94,360	106,560	112,000	95,360	91,480	91,400	1,070,080
Seedorf 1 - 47201	528	15,952	13,264	13,200	12,816	13,360	10,992	9,136	10,256	11,040	13,104	13,664	137,312
Seedorf 2 - 47202	11,976	12,264	9,888	10,608	10,416	10,608	8,400	7,560	7,872	8,016	11,064	11,760	120,432
Big Sky - 47203	41,540	45,220	38,440	41,300	39,280	43,420	40,640	42,520	40,900	34,900	39,080	39,920	487,160
Stulp Nurs - 47209	32,112	32,064	30,792	29,688	31,680	29,208	26,712	23,232	24,816	25,752	26,640	31,128	343,824
Browns - 47211	10,040	9,880	9,480	8,520	7,920	7,240	7,560	11,160	9,720	7,200	8,360	8,520	105,600
Sunflower - 47212	20,080	19,800	17,640	11,240	16,480	17,480	17,320	25,120	17,880	19,560	17,320	17,080	217,000
Siamon - 47214	14,040	13,640	12,969	13,960	14,880	16,760	17,560	24,440	23,080	18,000	16,480	15,760	201,569
Outback - 47217	9,840	10,800	10,680	10,200	10,440	11,440	10,080	15,160	9,280	10,760	10,320	8,960	127,960
Hunter - 47301	15,400	14,480	13,200	14,240	15,320	15,280	15,320	15,000	15,920	17,480	18,480	17,560	187,680
Stulp - 47302	14,240	14,440	14,360	12,160	13,880	14,320	12,800	13,160	14,560	13,520	14,960	13,600	166,000
Winger - 47303	24,280	26,320	20,160	24,080	24,000	24,680	22,800	19,320	18,840	22,920	27,520	4,332	259,252
Badger - 47304	26,430	21,936	18,892	25,142	26,280	23,120	16,840	19,960	23,040	21,280	22,720	23,160	268,800
Hilltop - 47305	23,960	23,040	25,640	25,000	54,400	33,320	42,760	60,800	51,720	33,720	24,800	31,240	430,400
Anchor - 47306	7,840	7,080	6,160	6,400	6,080	6,440	4,360	3,400	3,400	3,880	6,200	7,080	68,320
Boar Stud - 49770	5,200	8,680	6,120	5,040	9,280	4,720	8,720	10,680	9,960	8,120	5,680	7,560	89,760
Total	873,870	923,216	860,021	883,342	936,100	924,506	887,080	943,980	958,000	888,160	901,700	904,512	10,884,487

Murphy-Brown of Yuma  
2005 Consumption  
LP-Gas - Gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Sunrise - 47111	250	0	290	0	0	0	0	0	0	0	0	0	540
Pheast Run - 47112	0	0	0	0	0	0	0	0	0	0	0	0	0
Jackrabbit - 47113	850	379	250	275	0	0	0	0	0	800	150	0	2,704
Box Turtle - 47114	9,202	9,089	0	19,063	-627	0	9,296	9,296	-27,888	46,480	9,296	18,296	101,503
Tree Row - 47115	7,150	9,075	2,125	5,785	6,034	0	6,034	6,034	-18,102	31,520	8,434	8,124	72,213
Coyote Run - 47116	1,425	2,925	0	1,400	1,438	0	1,438	1,438	-864	0	6,625	5,991	21,816
Gaytan - 47117	15,360	13,550	3,600	7,685	0	2,000	2,000	2,000	-5,585	6,500	6,425	5,427	58,962
Browns - 47211	0	0	0	0	0	0	0	0	0	0	100	0	100
Sunflower - 47212	0	0	0	0	0	0	0	0	0	0	0	0	0
Sigmon - 47214	6,375	8,400	1,815	7,975	0	2,125	2,125	-2,125	-2,125	6,100	9,305	3,725	43,695
Outback - 47217	0	0	0	3,513	1,968	578	478	378	0	1,311	1,645	-6,358	3,513
Winger - 47303	9,190	9,150	0	0	0	0	3,050	3,050	-6,100	0	3,050	3,050	24,440
Badger - 47304	9,227	0	0	0	0	0	18,006	0	0	0	0	0	27,233
Hilltop - 47305	9,248	9,100	0	0	0	0	3,033	3,033	-6,066	0	0	0	18,348
Boar Stud - 49770	825	710	1,200	0	0	0	0	0	0	4,300	875	0	7,910
<b>Total</b>	<b>69,102</b>	<b>62,378</b>	<b>9,280</b>	<b>45,696</b>	<b>8,813</b>	<b>4,703</b>	<b>45,460</b>	<b>23,104</b>	<b>-66,730</b>	<b>97,011</b>	<b>45,905</b>	<b>38,255</b>	<b>382,977</b>

Murphy-Brown of Yuma  
2005 Consumption  
Natural Gas - Gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 -47101	1,537	1,435	973	835	835	13	139	72	86	142	546	1,310	7,923
Seedorf 2 - 47102	1,537	1,435	973	835	835	13	139	72	86	142	545	1,310	7,922
Horizon - 47103	2,796	3,012	2,323	1,977	1,977	-240	648	148	182	337	2,129	4,975	20,263
Sandhill - 47105	7,030	5,856	3,937	3,615	3,615	-431	648	148	182	337	2,129	4,975	32,041
Horseshoe - 47107	7,320	9,944	7,400	7,108	7,108	-740	648	148	182	337	2,129	4,975	46,558
Stulp - 47109	3,435	3,654	2,372	2,104	2,104	-394	326	171	243	380	1,090	2,914	18,399
Sunrise - 47111	7,813	9,245	7,097	5,839	3,682	1,698	689	396	652	1,222	4,148	4,739	47,221
Pheast Run - 47112	4,202	3,235	2,412	1,890	1,290	645	255	222	211	311	3,057	5,181	22,911
Jackrabbit - 47113	3,079	2,857	2,612	3,191	2,457	1,056	389	245	278	623	1,923	4,147	22,857
Gaytan - 47117	0	0	0	0	0	0	0	0	0	0	0	0	0
Seedorf 1 - 47201	3,586	3,349	2,271	1,948	1,948	-21	317	163	197	322	1,240	2,977	18,297
Seedorf 2 - 47202	3,586	3,349	2,271	1,948	1,948	-21	317	163	197	322	1,240	2,977	18,297
Big Skv - 47203	17,598	14,737	12,785	14,839	14,839	-1,236	2,193	502	615	1,141	7,206	16,837	102,056
Stulp Nurs - 47209	8,016	8,525	5,534	4,910	4,910	-820	746	409	580	908	2,607	6,970	43,295
Browns - 47211	11,720	13,867	10,646	8,758	5,000	2,549	1,034	595	978	1,834	6,221	7,109	70,310
Sunflower - 47212	6,559	5,014	4,313	4,903	3,491	2,134	989	0	934	4,668	4,814	5,481	43,300
Outback - 47217	4,147	4,614	4,102	0	89,034	0	0	0	522	-522	0	8,581	110,478
Hunter - 47301	6,753	5,959	2,429	2,132	2,132	26	356	183	220	360	1,388	3,333	25,271
Stulp - 47302	5,135	4,160	2,396	1,879	1,879	-243	312	164	232	363	1,043	2,787	20,106
Anchor - 47306	6,562	3,582	2,262	2,152	2,152	-126	498	114	140	259	1,638	3,827	23,060
Total	112,411	107,829	79,108	70,863	151,236	3,861	10,641	3,916	6,715	13,486	45,094	95,404	700,565

Murphy-Brown of Yuma  
2005 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
101&102	2954	7.2	10.2	10.6	8.9	7.0	6.7	8.0	8.5	8.3	5.9	8.7	5.0	8.9	7.46
103	2400	7.2	7.7	5.6	3.1	3.2	3.4	3.9	4.7	4.5	4.2	3.8	3.8	4.2	5.81
105	2400	7.2	10.4	10.4	9.1	5.0	5.4	6.3	6.9	7.6	6.8	8.9	7.5	6.1	8.11
107	2400	7.2	6.6	7.5	6.2	5.7	6.7	6.8	7.9	6.0	5.7	5.3	4.8	5.2	6.49
109	2954	7.2	9.8	5.8	5.9	5.3	6.4	9.3	9.7	9.7	8.0	7.8	7.9	9.3	7.72
111	4277	7.2	4.7	4.5	5.7	4.1	5.4	6.7	5.1	6.3	5.1	5.9	5.2	7.9	5.46
112	2488	7.2	5.7	9.8	7.5	8.9	9.4	10.9	12.7	10.9	11.2	9.7	9.3	10.1	9.42
113	3088	7.2	7.4	7.5	8.3	6.7	5.9	7.3	7.2	7.4	8.5	10.9	8.2	5.5	7.56
114	2488	7.2	6.5	6.3	6.2	6.2	7.2	7.9	9.8	9.6	10.3	6.6	6.4	6.4	7.19
115	3088	7.2	4.4	4.2	5.3	4.8	6.3	6.7	8.3	5.8	6.8	5.3	5.8	5.6	6.01
116	3100	7.2	5.3	3.7	5.6	3.8	5.1	6.5	7.3	6.1	4.7	4.6	4.3	4.0	5.20
117	5680	7.2	7.8	6.4	6.4	7.0	9.6	8.9	10.3	8.0	8.5	7.0	6.9	6.0	7.80

**Average Water Use (Sow) 7.02**

Murphy-Brown of Yuma  
2005 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
Big Sky	25,344	0.5	0.5	0.6	0.7	0.6	0.6	0.6	0.6	0.5	0.3	0.6	0.3		0.53
Brown's	8,000	0.5	0.5	2.4	1.2	0.1	0.1	1.4	1.5	1.6	1.3	1.9	0.4	2.44	1.27
Outback	8,000	0.5	0.5	0.6	1.0	1.4	1.1	1.1	1.3	1.1	1.1	1.2	0.9	0.51	0.97
Sunflower	14,000	0.5	0.5	1.0	1.2	1.1	1.2	1.3	2.5	1.6	1.6	2.0	1.1	0.99	1.31
Sigmons	16,000	0.5	0.5	1.2	1.3	1.8	1.2	1.9	1.7	2.5	2.0	2.1	1.8	0.9	1.57

**Average Water Use (Nursery) 1.13**



Murphy-Brown of Yuma  
2005 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
Anchor	7,200	2.3	2.9	3.9	3.2	3.2	3.7	3.6	2.3	3.3	3.3	3.4	4.5	2.2	3.27
Hunter	8,448	2.3	1.2	1.7		1.7	1.7	2.0	1.9	2.1	2.3	2.0	2.1	3.2	1.99
Stulp	8,448	2.3	3.0	2.1	2.6	2.3	2.3	2.7	2.9	2.6	3.0	2.3	2.1	1.3	2.43
Badger	25,344	2.3	2.5	2.1	2.2	2.3	2.6	2.7	3.4	3.3	3.7	2.5	2.0	2.1	2.61
Hilltop	25,344	2.3	2.7	2.3	1.0	1.1	1.1	2.8	3.2	2.6	2.9	2.6	2.4	2.4	2.26
Winger	16,896	2.3	3.2	1.9	1.6	1.9	1.8	2.2	2.9	2.7	2.5	2.1	1.9	1.7	2.20

**Average Water Use (Finishing) 2.46**

**Appendix C**

Murphy-Brown of Yuma  
2004 Consumption  
Power - kwatts

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 - 47101	22,032	22,920	21,336	21,528	19,512	19,920	18,552	18,048	17,400	16,704	19,176	19,992	237,120
Seedorf 2 - 47102	17,280	18,972	17,640	17,604	15,192	16,200	14,796	13,932	12,420	13,644	16,056	16,380	190,116
Horizon - 47103	78,320	79,720	75,960	72,040	72,200	69,240	63,000	58,960	66,320	65,000	48,800	68,560	818,120
Sandhill - 47105	55,720	52,280	57,040	60,680	57,280	59,800	52,200	47,360	49,040	49,000	56,680	57,480	654,560
Horseshoe - 47107	59,600	62,200	62,320	64,520	60,480	58,840	50,160	48,560	50,760	49,600	57,880	56,920	681,840
Stulp - 47109	53,820	41,292	42,912	53,208	41,256	40,572	48,096	41,112	34,344	44,640	46,908	45,432	533,592
Sunrise - 47111	63,600	61,680	56,200	61,960	63,280	59,880	67,120	60,600	71,080	65,720	51,160	61,800	744,080
Sheast Run - 47112	52,800	47,240	44,240	51,880	53,120	44,680	52,680	47,360	54,640	47,080	45,200	53,400	594,320
Blackrabbit - 47113	46,960	39,800	39,360	45,400	43,080	38,040	46,240	38,040	48,000	43,400	43,520	47,320	519,160
Box Turtle - 47114	51,480	37,200	39,660	52,080	44,940	48,000	57,420	57,000	49,260	51,600	44,700	46,980	580,320
Tree Row - 47115	56,040	39,720	43,440	58,000	44,760	47,760	57,680	51,000	57,640	55,200	47,400	47,880	606,520
Covote Run - 47116	46,800	35,040	37,200	50,640	39,640	46,160	55,760	50,960	53,360	50,040	41,200	40,200	547,000
Saytan - 47117	101,600	76,240	79,440	102,600	80,720	84,720	106,360	96,000	102,880	97,440	87,840	91,440	1,107,280
Seedorf 1 - 47201	14,688	15,280	14,224	14,352	13,008	13,280	12,368	12,032	11,600	11,136	12,784	13,328	158,080
Seedorf 2 - 47202	11,520	12,648	11,760	11,736	10,128	10,800	9,864	9,288	8,280	9,096	10,704	10,920	126,744
Big Sky - 47203	40,660	43,380	37,480	37,480	35,380	38,700	37,540	40,840	37,900	36,840	37,880	39,460	463,540
Stulp Nurs - 47209	35,880	27,528	28,608	35,472	27,504	27,048	32,064	27,408	22,896	29,760	31,272	30,288	355,728
Browns - 47211	16,760	15,800	13,640	14,240	13,320	10,880	11,680	11,320	13,320	11,680	10,040	11,440	154,120
Sunflower - 47212	21,760	18,960	20,000	18,040	16,000	15,320	14,000	16,120	16,880	12,920	14,320	17,480	201,800
Siamon - 47214	20,960	15,600	15,000	17,520	13,880	17,680	20,560	18,600	17,640	18,440	13,480	13,680	203,040
Outback - 47217	14,040	10,280	11,280	11,760	11,080	11,680	11,240	12,320	12,960	9,760	9,480	11,400	137,280
Hunter - 47301	17,640	17,560	17,160	18,800	16,840	14,840	13,520	13,640	14,680	12,560	14,680	15,280	187,200
Stulp - 47302	12,280	9,440	9,600	11,760	10,520	12,560	14,200	10,440	12,160	13,600	14,560	14,240	145,360
Vinager - 47303	23,120	25,840	18,840	23,280	24,360	24,960	18,600	18,560	20,080	16,600	20,320	21,560	256,120
Badger - 47304	22,092	22,117	24,512	26,539	20,378	21,513	24,000	23,880	22,880	23,560	26,880	27,000	285,351
Hilltop - 47305	22,800	22,680	23,480	21,480	30,600	37,760	36,520	55,920	54,040	41,000	24,600	20,240	391,120
Anchor - 47306	6,680	7,000	6,600	6,960	4,960	5,040	4,600	4,560	4,080	4,320	5,800	8,040	68,640
Boar Stud - 49770	0	0	6,200	6,720	4,880	0	0	15,240	7,000	6,800	6,400	8,080	61,320
Total	986,932	878,417	875,132	988,279	888,298	895,873	950,820	919,100	943,540	907,140	859,720	916,220	11,009,471

Murphy-Brown of Yuma  
2004 Consumption  
LP Gas - gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Sunrise - 47111	0	650	175	0	0	0	0	0	115	115	-115	0	940
Pheast Run - 47112	8,893	0	0	0	0	0	0	0	0	0	0	0	8,893
Jackrabbit - 47113	5,035	400	0	250	0	250	0	0	825	825	-825	0	6,760
Box Turtle - 47114	0	9,214	0	0	9,507	0	4,753	-4,753	0	3,885	1,942	3,368	27,916
Tree Row - 47115	8,215	3,075	8,980	1,925	0	3,012	0	0	1,900	1,900	0	4,705	33,712
Covote Run - 47116	4,655	1,700	1,260	800	0	1,850	0	0	1,396	1,397	1,396	-268	14,186
Gaytan - 47117	15,639	12,540	12,950	0	4,245	5,298	0	0	5,100	5,100	2,550	5,375	68,796
Browns - 47211	31,884	244	0	142	0	0	0	0	0	2,212	-2,212	0	32,270
Sunflower - 47212	7,670	6,014	0	0	0	0	0	0	0	2,212	-2,212	0	13,684
Sigmon - 47214	8,620	1,150	9,855	2,925	0	4,585	0	0	4,650	4,650	-770	2,775	38,440
Outback - 47217	1,400	0	0	0	0	0	0	0	0	933	-933	0	1,400
Winger - 47303	1,822	1,458	1,822	1,005	0	0	0	0	0	938	938	-1,876	6,107
Badger - 47304	11,852	11,434	2,735	1,508	0	0	0	0	0	1,346	1,346	-2,692	27,529
Hilltop - 47305	11,963	11,236	2,735	1,508	0	0	0	0	0	1,346	724	-2,070	27,442
Boar Stud - 49770	0	0	1,290	1,000	0	0	0	0	1,035	1,035	-1,035	700	4,025
Total	117,648	59,114	41,801	11,064	13,752	14,995	4,753	-4,753	15,021	27,894	794	10,017	312,100

Murphy-Brown of Yuma  
2004 Consumption  
Natural Gas - gallons

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Total
Seedorf 1 -47101	2,716	1,458	1,448	790	463	228	180	93	0	154	283	736	8,549
Seedorf 2 - 47102	4,274	2,885	2,900	1,511	475	157	76	28	108	32	1,364	1,378	15,188
Horizon - 47103	17,092	7,767	8,638	3,981	1,542	663	268	84	94	284	1,364	3,925	45,702
Sandhill - 47105	10,487	5,942	5,859	3,506	1,797	640	452	272	124	476	1,364	3,444	34,363
Horseshoe - 47107	5,465	2,743	2,924	1,598	988	613	477	254	314	450	890	1,825	18,541
Stulp - 47109	20,300	24,102	0	0	3,993	1,619	0	1,010	1,730	0	6,319	6,079	65,152
Sunrise - 47111	7,360	7,826	5,281	3,202	1,990	756	0	767	1,022	0	4,025	4,391	36,620
Pheast Run - 47112	3,180	2,890	3,380	4,358	1,801	645	0	445	1,056	0	3,646	4,102	25,503
Jackrabbit - 47113	3,291	0	0	0	0	0	0	0	0	0	0	0	3,291
Gaytan - 47117	6,336	3,402	3,379	1,843	1,081	532	421	216	186	359	661	1,717	20,133
Seedorf 1 - 47201	6,336	3,402	3,379	1,843	1,081	532	421	216	186	359	661	1,717	20,133
Seedorf 2 - 47202	26,134	12,869	10,726	6,870	6,691	3,112	2,800	1,640	1,596	2,280	4,610	10,308	89,636
Biq Sky - 47203	12,750	6,399	6,822	3,728	2,305	1,431	1,113	594	732	1,050	2,076	4,259	43,258
Stulp Nurs - 47209	20,484	0	23,930	27,898	5,990	2,428	0	1,514	2,595	0	9,478	9,118	103,435
Browns - 47211	10,694	0	12,828	9,494	3,124	2,890	0	1,779	2,734	0	6,559	5,169	55,271
Sunflower - 47212	3,291	0	3,446	8,826	2,023	1,112	0	634	1,000	0	2,746	3,624	26,702
Outback - 47217	9,340	4,819	6,466	4,250	2,185	990	418	283	257	367	723	1,980	32,078
Hunter - 47301	10,096	4,456	5,328	3,380	2,428	1,624	572	232	120	440	566	2,612	31,854
Stulp - 47302	0	0	0	0	0	0	0	0	0	0	0	0	0
Anchor - 47306	5,597	2,990	2,845	2,268	1,586	722	948	528	508	648	900	3,120	22,660
Total	185,223	93,950	109,579	89,346	41,543	20,694	8,146	10,589	14,360	6,899	48,235	69,504	698,068

Murphy-Brown of Yuma  
2004 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
101& 102	2954	7.2	5.5	4.19	5.64	5.46	5.54	25.54	4.36	13.9	1.5	7.1	5.2	8.2	7.68
103	2400	7.2	12	12	11	11	8	14	11.4	13	10.8	12	17.2	14.2	12.22
105	2400	7.2	5.17	5.4	20.68	13.4	14.87	10.01	31.66	15.24	65.26	12.19	11.72	10.2	17.98
107	2400	7.2	7.7	7.5	7.9	8.02	9.18	9.1	9.5	22.29	8.78	10.24	6.81	12.83	9.99
109	2954	7.2	6.8	6.34	7.72	6.74	8.03	7.11	7.97	7.75	7.61	9.19	11	12.8	8.26
111	4277	7.2	5.07	5.42	4.8	4.84	6.5	6.74	7.3	6.48	6.74	7.56	32.9	11	8.78
112	2488	7.2		7.65	8.12	8.04	9.14	9.9	10.1	10.7	14.5	10.1	7.5	12.4	9.83
113	3088	7.2					28.2	38.3	30.9	26.4	6.19	21.6	13.3	9.8	21.84
114	2488	7.2	5.74	6.75	6.1	7.3	9.14	10.36	10.88	10.3	11.03	7.43	7.43	6.19	8.22
115	3088	7.2		7.49	7.38	7.38	7.6	6.86	8.58	7.24	7.58	6.75	5.62	5.5	7.09
116	3100	7.2	6	5.5	5.5	5.02	5.9	6.48	7.22	6.45	6.46	5	5.93	5.7	5.93
117	5680	7.2		8.59	7.86	11.09	10.55	14.2	17.74	17.01	11.9	17.09	7.67	10.08	12.16

**Average Water Use (Sow)**

**10.83**

Murphy-Brown of Yuma  
2004 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
Big Sky	25,344	0.5	0.35	0.42	0.69	0.93	0.98	1.43	2.22	1.75	1.73	1.63	1.21	0.949	1.19
Brown's	8,000	0.5			1.67	1.48	2.52	30.36	0.88	0.73	0.73	0	0	2.44	4.08
Outback	8,000	0.5			0.9	1.64	0.92	1.2	1.58	0.87	0.68	0.6	0.84	0.51	0.97
Sunflower	14,000	0.5			0.97	0.86	0.85	1.025	0.88	0.91	0.76	0.74	0.82	0.99	0.88
Sigmons	16,000	0.5			1.66	1.1	1.3	1.4	1.19	1.2	1.2	0.9	1.2	0.9	1.21

**Average Water Use (Nursery) 1.67**

Murphy-Brown of Yuma  
2004 Water Consumption (gallon/head)

Farms	# of Head	Target	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Ave
Anchor	7,200	2.3	3.6	2.6	2.5	3	2.2	3.1	3.1	3.8	4.2	3.1	4.6		3.25
Hunter	8,448	2.3		2.21	0.84	1.05	1	0.84	0.89	0.73	0.68	1.14	0.7		1.01
Stulp	8,448	2.3	4.51	3.2	3.8	4	4.1	4.69	4.45	3.96	4.23	2.36	2.74	3	3.75
Badger	25,344	2.3	3.3	3.55	1.56	4	3.98	3.11	2.76	2.83	4.28	3.7	2.55	2.09	3.14
Hilltop	25,344	2.3	2.27	1.97	1.75	2.51	3.2	3.09	3.56	3.79	4.81	7.8	3.63	2.46	3.40
Winger	16,896	2.3												1.73	1.73

**Average Water Use (Finishing) 2.72**