



CASE STUDY:

# WRIGLEY FIELD

Chicago, Illinois – June 4 – July 4, 2004



# TURBOTAP AT WRIGLEY FIELD Chicago, Illinois June 4 – July 4, 2004

## Executive Summary

During the course of 11 baseball games between June 4 and July 4, 2004, the TurboTap was installed in various locations within Wrigley Field in Chicago, Illinois (see Figure 1.). Regular concession stand workers, charity volunteers and temp workers were all easily trained to pour beer using the TurboTap.

Points of sale utilizing the TurboTap experienced keg yields averaging 103% due to minimal spillage and serving beer with the correct collar of foam. Keg yields at other points of sale during the same period averaged 87.5%.

Though keg yield was the focus of this case study, speed of pour was also increased by 2.5 times as a result of the TurboTap. For a detailed breakdown of advantages obtained with pour speed, please refer to the *TurboTap Chicago Marathon Case Study*.

The results of this case study have been reviewed and certified by Michael Iacobelli, Director of Food and Beverage for Aramark Corporation at Wrigley Field.

Wrigley Field enjoyed extra revenue of \$90 per keg as a result of TurboTap's yield advantage.



Figure 1. The TurboTap in the bleacher section of Wrigley Field.

## Objectives

- Determine ability of staff, across all skill levels, to dispense beer using the TurboTap in "live" environments.
- Determine keg yield when dispensing beer using the TurboTap versus keg yield when dispensing with conventional taps.
- Improve pour speed in high-volume areas within the ballpark.

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## Location

- Wrigley Field, Chicago, Illinois
- Home of the Chicago Cubs
- Capacity: 39,345
- Year built: 1914
- Concessions operator: ARAMARK Corporation (at the time of this Case Study)

## Staff Training Procedure

Approximately 30 minutes before the gates opened prior to each event, a Laminar representative conducted a 3-minute training session for Wrigley staff situated at and around points of sale where TurboTaps were installed. Staff training consisted of three elements:

- 1** The Laminar representative briefly explained what the TurboTap was and the technique for pouring beer using its bottom-filling technology.
- 2** The Laminar representative poured two beers, while again explaining the proper TurboTap pouring technique.
- 3** Each trainee was allowed to pour one beer while coached by the Laminar representative.

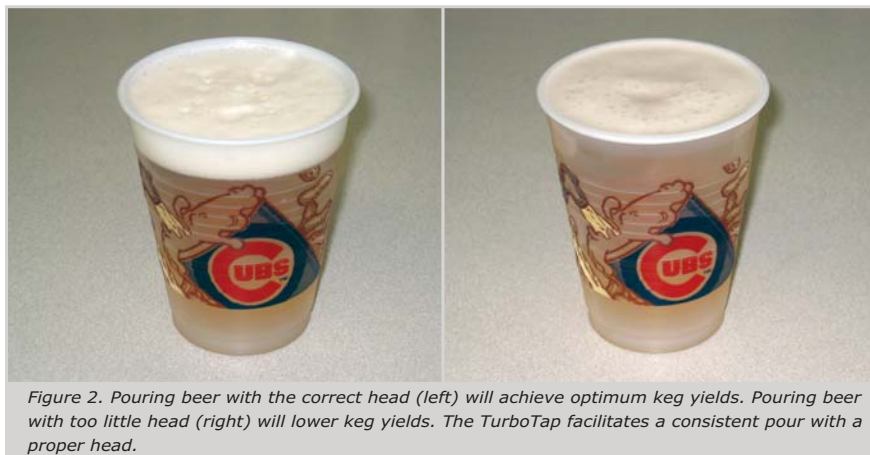


## Keg Yield Methodology

Keg yield measures the efficiency of a beer dispensing system. Keg yield is a percentage that represents the number of beers actually sold divided by the theoretical number of beers present in a full keg. Spillage due to improper pouring technique and excessively foamy beer contribute to lower keg yields. Additionally, flat beers poured to the brims of cups also decrease keg yields, since beer is appropriately served with a collar of foam.

An important factor in determining keg yield is the precise container volume. During this case study at Wrigley field, two different container types were used: plastic cups and wax-coated paper cups. Both containers were designed to deliver 16-ounce portions of beer to consumers, and both were capable of holding 18 ounces of fluid when filled to the top. Yield computations were based on serving a 16-ounce portion of beer. Assuming that foam is comprised of approximately 20% liquid beer, a properly filled container would thus comprise 15.5 ounces of beer topped with 2.5 ounces of foam.

One full keg contains 15.5 gallons (1,984 ounces) of liquid beer. 100% keg yield with 16-ounce servings would mean that 124 beers were sold. 101% keg yield would indicate that 125 16-ounce beers were sold from a keg. Keg yields greater than 100% are possible if a small, unnoticeable amount of extra foam (e.g. 15.4 ounces of beer topped with 2.6 ounces of foam) is present in each serving. Noticeable amounts of extra foam are usually discarded and result in keg yields of less than 100%.



In determining keg yield for this case study, a paid, independent observer used a click counter to track beers sold. Beginning with each new beer keg, the observer counted beers sold until the keg was empty and recorded the total number of beers sold. This process was repeated for each keg where yield was tracked. Since only one counter was on-site during the case study period, and counting beers sold from more than two taps simultaneously was impractical, yield was not

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determined for every keg dispensed during the case study period; however, the results of every keg yield tabulated during this case study are included in this report.

### Observations and Results

June 4 - 10, 2004

**Matchup:** Pittsburgh Pirates vs. Chicago Cubs (June 4 – June 6) and St. Louis Cardinals vs. Chicago Cubs (June 7 – June 10).

**Stadium Location:** Main concession stand in bleacher section of Wrigley Field, the highest-grossing concession stand in Major League Baseball (see Figure 3.).

**Installation:** June 4 - 8, two TurboTaps; June 9 - 10, four TurboTaps.

**Beer:** Bud Light and Budweiser.

**Pour Speed:** 4 seconds per beer with TurboTaps versus 9 seconds per beer with conventional taps.

**Staff:** Three separate groups of concession works were trained in using the TurboTap:

- 1 regular stand workers;
- 2 charity volunteers for the Leukemia/Lymphoma Society; and
- 3 temp workers bussed to Chicago from Indiana.

All three groups were able to pour beer consistently using the TurboTap without difficulty.



Figure 3. The concession area in the bleacher section of Wrigley Field.

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## Yield Results

	June 4	June 5	June 6	June 7	June 8	June 9	Total
Target beers per keg	124	124	124	124	124	124	124
Kegs dispensed	7	5	5	7	5	9	38
Target beers served	868	620	620	868	620	1,116	4,712
Actual beers served	912	646	657	923	660	1,171	4,969
Keg yield (%)	105%	104%	106%	106%	106%	105%	105%

### Yield Comparison

As reported by Wrigley/ARAMARK management, stadium-wide yield during this same time period was 85-90% (average 87.5%) – a yield improvement of 17.5%.

July 1 - 4, 2004

**Matchup:** Houston Astros vs. Chicago Cubs (July 1) and Chicago White Sox vs. Chicago Cubs (July 2 – July 4).

**Stadium Location:** Portable beer dispensing stands (beer poured through cold plates) in main concourse, first base side.



Figure 4. The TurboTap installed in a portable stand in the main concourse at Wrigley Field.

**Installation:** Two TurboTaps during each game.

**Beer:** Bud Light and Budweiser.

**Pour Speed:** 4 seconds per beer with TurboTaps versus 10 seconds per beer with conventional taps.

**Staff:** Union beer pouring vendors with above-average beer pouring skills.

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## Yield Results

	July 1	July 2	July 3	July 4	Total
Target beers per keg	124	124	124	124	124
Kegs dispensed	8	10	11	11	40
Target beers served	992	1,240	1,364	1,364	4,960
Actual beers served	966	1,216	1,387	1,409	4,978
Keg yield (%)	97%	98%	102%	103%	100%

**Yield Comparison:** As reported by Wrigley/ARAMARK management, stadium-wide yield during this same time period was 85-90% (average 87.5%) – a yield improvement of 12.5%.

## Profitability Analysis

Staff at all levels were easily trained in using the TurboTap. Due to the low amount of spillage and proper foam collar on every beer, keg yields were significantly higher when using TurboTap than when using conventional taps. Throughout the case study, Wrigley Field charged \$4.75 per 16-ounce serving of beer.

### Summary Yield Results

	June 4-9	July 1-4	Total
Target beers per keg	124	124	124
Kegs dispensed	38	40	78
Target beers served	4,712	4,960	9,672
Actual beers served	4,969	4,978	9,947
Keg yield (%)	105%	100%	103%

With knowledge of yield and price, it becomes possible to determine the additional revenue realized with the TurboTap. In this instance, the 15.5% yield improvement resulted in additional per keg revenue of \$90.25 – a total of \$7,040 of additional revenue realized during this case study.

### Profitability Analysis

	Total
TurboTap keg yield	103%
Keg yield without TurboTap	87.5%
Keg yield improvement	15.5%
16-ounce beers per keg	124
Additional beers served per keg due to TurboTap	19
Price per beer	\$4.75
Additional revenue per keg with TurboTap	\$90.25
Total kegs yielded during case study	78
Additional revenue earned with TurboTap	\$7,040

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## Certification

The results of this case study have been reviewed and certified by Michael Iacobelli, the Director of Food and Beverage for Aramark Corporation at Wrigley Field.

Note that as of 2005, Levy Restaurants manages the concessions operation at Wrigley Field. Mr. Iacobelli has continued in his role as Director of Food & Beverage.

ARAMARK CORPORATION  
WRIGLEY FIELD



July 8, 2004

Todd M. Keeling  
Matt Younkle  
Laminar Technologies  
640 North LaSalle Dr.  
Suite #330  
Chicago, IL 60610

Dear Todd and Matt,

I am seldom impressed with new ideas or technologies that claim to improve the concessions operation. However, I extend my congratulations to the both of you. TurboTap is an outstanding product that will soon be a driving force in the future of draft beer.

From the first beer poured, I recognized the genius of TurboTap. I immediately appreciated its delivery of a "perfect" draft beer without the aid of any electrical devices or monitoring system that typically needs constant upkeep. TurboTap consistently reinforced its ease of use with every beer poured. This occurred not only with our regular concessions employees but with non-profit groups and temporary agencies that have never poured a draft beer. This resulted in immediate success by workers using the beer towers with TurboTap. Your product not only sped up the processing of patrons but also increased keg yields, decreased over-pouring, miss-pouring and pre-mature tap openings common in the concessions industry.

TurboTap is by far the most exciting new product on the market and I consider it a privilege to have seen it in its early stages. I look forward to seeing more of Laminar Technologies' products in the near future. If they are as genius as TurboTap, Laminar Technologies' will be a company on the cutting edge of draft beer systems.

Respectfully,

A handwritten signature in black ink, appearing to read "Mike Iacobelli".

Michael Iacobelli  
Director of Food & Beverage

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