

# Case Study

## Athletic Complex Locker Room

### AiroCide™ Air Quality-Improvement™ Systems

---

*AiroCide* is a unique airborne pathogen killing technology that uses a patented combination of ultraviolet light and a proprietary titanium based photocatalyst. The *AiroCide* technology and developing product line is clinically proven and field tested to kill/remove/eliminate airborne pathogenic and non-pathogenic microorganisms in vegetative and spore states (bacteria, mold & fungi, viruses and dust mites), allergens, odors and harmful volatile organic compounds (VOC's) in Medical/Healthcare, Child Care, Consumer Household, Mold Remediation, Athletic and Sports Facilities, Corrections Facilities and Food Preservation applications.

---

#### Summary

A clinical test of the *AiroCide* system was conducted at the athletic complex of a private high school in Atlanta, Georgia. The objective of the test was to determine the ability of the *AiroCide* technology to reduce the amount of airborne mold/fungi and bacteria and associated odors inside the varsity football locker room.

The *AiroCide* system that was installed in the locker room dramatically reduced the amount of airborne bacteria and mold/fungi by an average of 60% and 70% respectively over a 3-week test period.

#### Facility

The varsity football locker room is located on the ground floor of a detached sports complex on the subject high school's campus. The locker room is 8,000 ft<sup>3</sup> and contains a shower room, two lavatories a dressing room and open front lockers which stored personal articles, clothing and football equipment during the study. The floors are ceramic tile with floor drains in each room.

A heating unit and fan system located above a dropped ceiling re-circulates air in the locker room, with no exchanges with outside air; the locker room has no air-cooling equipment. Air movement is minimal in the entire locker room.

#### Protocol

The test period consisted of six (6) individual days of air sampling that spanned a 3-week period. A baseline reading, with no *AiroCide* system operating, was conducted for comparison to other test days. After the *AiroCide* system (2 ACS-100 units) was operating for 24 hours, air samples were taken the next day followed by air samples on days 4, 20, 21, and 22 after baseline. Each air sample measured two types of microbes, airborne bacteria and airborne mold.

#### Results

The *AiroCide* system installed in the locker room dramatically reduced the amount of airborne bacteria and mold/fungi by an average of 60% and 70% respectively over the 3-week test period.

An odor assessment personal interview survey was conducted with 13 students and faculty members before and after operation of the *AiroCide* system. Nine respondents (70%) indicated the locker room smelled better while four (30%) were unable to determine a change. No one reported odors were worse than before the *AiroCide* system was installed.

Copies of tests mentioned in this paper can be obtained by writing KesAir, Research & Development, 3625 Kennesaw N. Ind.Pkwy., Kennesaw, GA 30144.

*AiroCide*, *KesAir* & *KesAir Technologies*, and *Air Quality-Improvement* are trademarks of KesAir Technologies, LLC

© KesAir Technologies. July, 2003

www.kesair.com 800-627-4913