



**MAXIMIZING RESOURCES.**  
Fumiguide™ Program helps flour mill achieve  
fumigation success.



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# ProFume® Maximizing Results

## Fumiguide™ program helps achieve fumigation success during fierce storm

While assessing pest management treatment options, managers of a Nebraska flour mill were invited to undergo a trial fumigation with ProFume® gas fumigant, administered by a professional fumigation company trained in the use of the product. This afforded the mill owners an opportunity to evaluate the fumigant's ability to meet their pest management needs through Precision Fumigation™ tools and techniques, as well as its technical performance.

The fumigation company had expertise in conducting fumigations at flour mills. What's more, the additional resources such as Precision Fumigation tools and techniques, the Fumiguide™ program for ProFume gas fumigant, and technical support from ProFume experts would help them take the job to the next level and ensure a successful fumigation. According to ProFume specialist Joy Rogers, the fumigation team developed a detailed plan for the job and was extremely thorough in its preparations. Three buildings totaling 722,000 cubic feet were scheduled for fumigation at the site: a five-floor mill with a basement, a three-floor "smut" mill with a basement, and a warehouse.

### Thorough preparations

On the day of the fumigation, pending thunderstorms and tornado warnings kept the team working at a brisk pace. Approximately five hours were spent preparing the mill for fumigation, including using Precision Fumigation sealing techniques to improve the structures' Half-Loss Time (HLT).

"We were impressed with the Fumiguide program. We could see exactly where we were at in the fumigation process."

The buildings had many windows. While some of the windows were new and didn't require sealing, many were original windows from 1890 and required sealing with polyethylene sheeting and tape.

"The Fumiguide really helped us get the job back on track



Preparing the Structure



Developing a detailed plan

and helped us ensure the proper dosage for a successful job."

In addition, two other buildings that were not part of the job were connected to the structures to be fumigated – the lab and a boiler house, which had to be sealed, secured, and vacated prior to fumigation. The lab was connected to the mill by a walkway. The fumigation team closed the walkway's double doors, and the main entrance was sealed and secured to prevent unauthorized entry during the fumigation.

### Ready, set, go

According to data entered into the Fumiguide™ program, the structure would require 11 cylinders of ProFume to control the target pests (red flour beetle, confused flour beetle). The team set up 11 introduction sites and monitoring lines, and introduced the fumigant at approximately 6:00 p.m. At regular intervals, the team drew air samples through monitoring hoses from various locations throughout the fumigated buildings. The concentrations of ProFume in these samples were measured using a Fumiscope and the readings were entered the data into the Fumiguide program to track the job's progress.

"We were impressed with the Fumiguide program. We could see exactly where we were at in the fumigation process," said the fumigator.

### Storm challenges

The night brought a terrible thunderstorm complete with lightning, rain and winds reaching more than 50 miles per hour. Concerned that this storm threatened the success of the fumigation, the team watched the job closely. The third set of monitoring readings showed a rapid gas loss occurring at the top floor. The team quickly identified the area of concern and repaired a seal that had been blown open by the fierce storm wind. After consulting the Fumiguide program, the team was able to precisely calculate the rate of gas loss and introduce the additional pounds of ProFume necessary to recuperate from the gas loss in that specific area.



**Monitoring and introduction lines**

“Entering the monitoring data into the Fumiguide told us exactly how much additional fumigant was needed and in what area of the plant,” explained the fumigator. The storm also knocked out the electricity in the mill’s warehouse, which was where the team’s equipment was plugged in. Using an Interscan gas analyzer to measure low concentrations of ProFume, the resourceful team verified that the connected lab was safe for re-entry to plug-in Fumiscope power cords. They then continued to measure ProFume concentrations within the fumigated buildings.

### After the rain

The storm – with its violent winds – increased in intensity and continued for the majority of the night, so the fumigation team paid special attention to monitoring readings taken at 6:30 a.m. the following morning. As expected, monitoring data entered into the Fumiguide™ showed that additional gas was needed to achieve the target dosage. According to the Fumiguide instructions, the crew added additional ProFume where necessary.

“The Fumiguide really helped us get the job back on track and helped us ensure the proper dosage for a successful job,” said the fumigator.

### Achieving success

After approximately 24 hours of exposure and confirmation that the appropriate dosage was achieved, the upper floor roof vents were opened. The mill was aerated using its own air-handling system, and fans were used to help aerate the basement areas.

The fumigation team used an Interscan to confirm final clearance of the three fumigated buildings and to verify that no fumigant had reached the lab and boiler house. The results showed successful control of the target pests, which pleased the mill management.



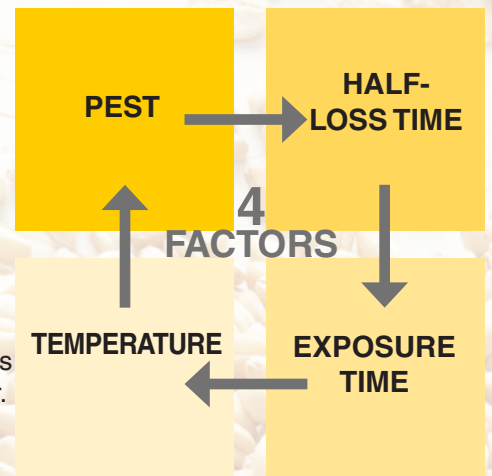
**Sealing off connected structures**

Thanks to the smart actions of the team, coupled with the Fumiguide program, the fumigation was saved. The appropriate dosage achieved despite the thunderstorm and the mill avoided having to endure the cost of additional shutdown time to conduct the fumigation a second time. In the end, the mill saved both time and money.

“We were excited about the job and its success,” said the fumigator. “We’re looking forward to using ProFume at other mills, including a very large facility, in the near future.”

### Precision Fumigation™ defined

Precision Fumigation™ is rooted in four interrelated factors: pest, exposure time, temperature and Half-Loss Time (HLT). By modifying any one factor, others can be changed to meet specific goals. For example, additional sealing techniques can be used to improve HLT. This, in turn, can help achieve control of pests in a shorter exposure time, which can alleviate downtime at a mill and return operations to production sooner.



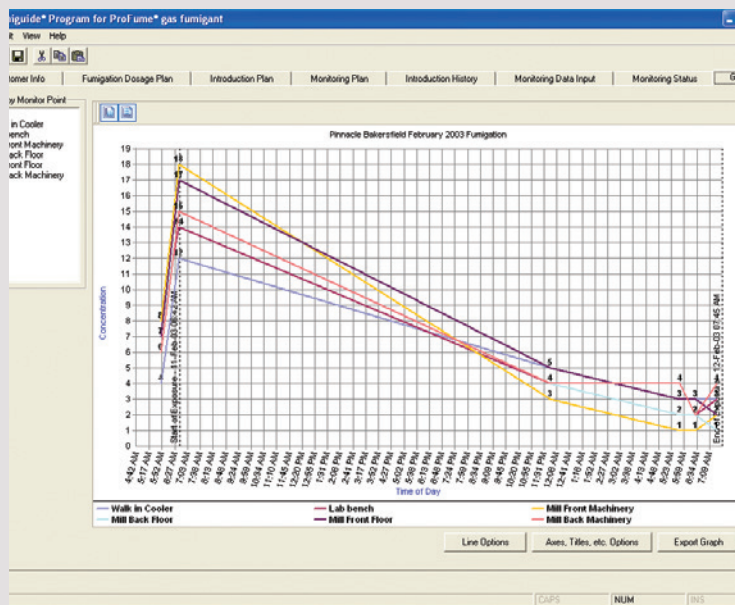
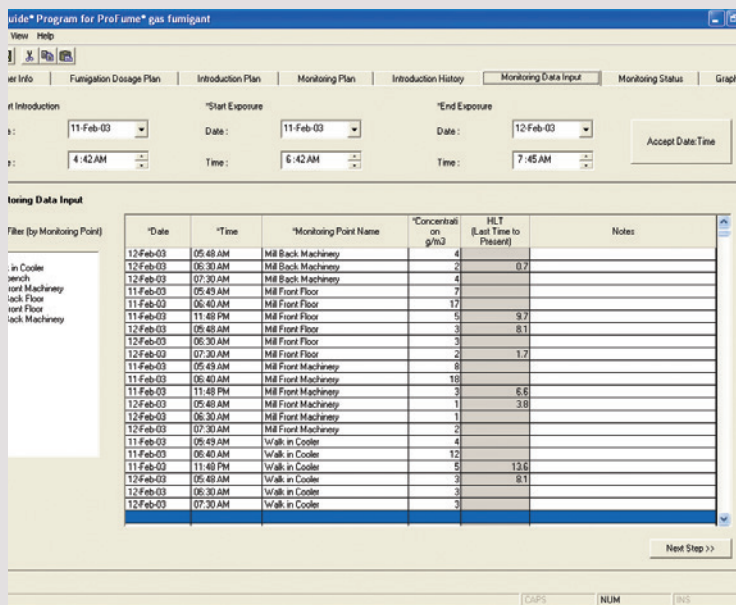
## Fumiguide™ program for ProFume® gas fumigant

As this case study demonstrates, the Fumiguide™ program is an essential component for effectively evaluating and planning the application of ProFume® gas fumigant utilizing Precision Fumigation™ tools and techniques.

- It is an easy-to-use, Windows-based software program for laptop or desktop computers.
- Based on input from the user, the Fumiguide provides the amount of ProFume that should be introduced by area, along with the actual and permitted introduction rates.
- As monitoring data is entered at various intervals, the Fumiguide calculates the dosage achieved over time, predicts the dosage outcome and, if needed, provides additional dosage instructions as the job progresses, such as adjusting the exposure time or adding more fumigant.
- The Fumiguide also provides a detailed record of each job, including graphs and a report that can be shared with customers.

The Fumiguide utilizes monitoring data collected throughout the fumigation. Using this information, cost-savings adjustments can be made to ensure optimal results are met without wasting gas.

When the fumigation is complete, the Fumiguide provides a detailed report of the job to confirm a successful fumigation. This report can be used to refine and improve future fumigations at the facility, thus potentially increasing savings and efficacy over time.



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