

## **Development of ProFume\* (sulfuryl fluoride) for use in flour mills in Europe**

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Eight fumigations with ProFume\* (sulfuryl fluoride) were undertaken between 1998 to 2002 in flour mills in Europe to validate the activity of the fumigant determined from laboratory studies. These fumigations were completed in Germany, Italy, Switzerland and the United Kingdom.

The flour mills ranged in size from c. 5000 to 16000 m<sup>3</sup> and consisted of a range of construction material and contained various milling machinery typical of modern mills in Europe. The structures were sealed using a range of materials including rigid polycarbonate sheeting, sprayable foam, polyethylene sheeting and tape.

To determine the effectiveness of ProFume, in most of the fumigations, stored product insect bioassays were introduced throughout the mill prior to fumigation. One set of untreated controls were kept at the site in a non-fumigated structure and another maintained under laboratory conditions. Insect species and life stages in the bioassays included *Sitophilus oryzae*, *Rhyzopertha dominica*, *Stegobium paniceum*, *Plodia interpunctella*, *Ephestia kuehniella*, *Tribolium confusum*, *T. castaneum* and *Trogoderma variabile*.

The fumigations confirmed that ProFume achieved a high level of efficacy on the key stored product pests under a range of conditions. The results from these fumigations have been included in the registration submission in the European Union. This was made in July 2002 for emptied cereal grain mills. In addition the submission also includes storage facilities, dried fruit and tree nuts.

Trademark of Dow AgroSciences, ProFume is not yet registered for sale.