One of the most fascinating and revolutionary developments to materialise in the fight against stress and phobias experienced by pets, is the identification and use of pheromone therapy. Of special significance is the use of canine pheromones in the treatment of firework phobia*. Our interpretation of why this pheromone therapy works in dogs is based on the release of a chemical signal by the part of the brain that deals with recognition – or more accurately making things appear “familiar”. It is the effect of unfamiliar, uncertain and “novelty” signals that triggers the signs of anxiety and stress. If that uncertainty can be removed, then the stress will cease to exist. By introducing a familiar signal – such as the appeasing pheromone – the dog feels less anxious, even in the presence of a stimulus as potentially frightening as fireworks*.

The dog appeasing pheromone has been found in all lactating bitches between three and five days after giving birth. It is produced by the sebaceous glands in the inter-mammary sulcus of bitches shortly after parturition and is perceived via the vomero-nasal organ, situated above the hard palate.

A synthetic version of the canine pheromone was launched in New Zealand as the Dog Appeasing Pheromone (D.A.P.) Diffuser. A most attractive aspect of the pheromone diffuser is that it is simple to use. It can be used without concern for the fireworks season but owners need to be aware that it is part of a therapy program and not a stand-alone cure. It can bring the dog's anxiety down to a workable level, but it does not cancel out the need for practical effort from the owner at home, especially if used as part of a long-term therapy program*.

The appeasing pheromone is not a panacea: it complements the dog's natural relaxation mechanisms. It can be a very effective part of therapy to correct stress-related behavioural problems and can assist with providing the answer to the treatment of various phobias, most significantly the fear of fireworks*.

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FEAR OF FIREWORKS
Barney, 10 year old neutered male Collie cross Labrador.

Reason for Consultation
Over the last 6 years he had become increasingly nervous of noise outside the home. He would cower, hide and seek out the owner whenever he heard these noises and the owner was concerned that with the firework season approaching, that he would suffer a lot and this would upset his bowels as on previous occasions.

Relevant History
The problem appeared to begin with an accident involving a gunshot. The behaviours were shown consistently whenever there was a sudden noise and bouts of colitis appeared to frequently follow on from more intense episodes of sudden noise. The owners had previously tried sedative medication to control the behaviour over the firework period, but this made the dog unco-ordinated and did not appear to help the problem. Herbal remedies had not produced any noticeable change either. In recent years they had put the dog with his bed in a blacked out back room with a radio playing during the evenings of the firework season.

Treatment Program
A D.A.P. Diffuser was plugged into the home two weeks before the main fireworks events in the area began. The owners were instructed to ignore him if he sought comfort from them and not to draw attention to the firework noises in any way.

Changes reported/observed
In the second week there were a few bouts of fireworks and the owners reported that he was no longer hiding or jumping every time. He was however, seeking them out more frequently. In the third week there were further fireworks and all these behaviours had disappeared. He would stop when he heard the noise, appear to listen and then settle down again. For the first time in years there was also no colitis associated with this time of year. The owners were delighted with the response.

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*D. Mills, Things that go bump in the night .... Veterinary Times, October 14 2002.
In the case of firework phobia 30 dogs that had previously shown signs of fear in response to the sight and sound of fireworks, all experienced a reduction in the severity of their problem, following the continuous use of D.A.P. in the home, in combination with traditional therapies.

**TREATMENT PROGRAM**

A D.A.P. diffuser was plugged in two weeks prior to “Guy Fawkes night” on November 5th near the dog’s usual resting area and left switched on up until one week after the end of the event. Owners were given some simple advice regarding behavioural therapy in order to reduce the risk of reinforcing their dog’s fearful responses.

**INCLUSION CRITERIA**

Dogs showing signs of fear in response to fireworks. Thirty dogs were selected – aged from 14 months to 13.5 years. 47% of the group had previously been medicated with anxiolytic or sedative drugs. Problems were becoming worse in 30% of the cases.

**CRITERIA FOR NON-INCLUSION**

Dogs were excluded if:
- their response to fireworks did not indicate fear
- their response occurred primarily outside the home
- they received psychotropic medication or herbal remedies daily for the treatment of some other disorder
- they had a history of biting in any context
- they were unable to start the treatment at least two weeks before the main risk period of fireworks in their area

**MOST FREQUENT SIGN OF FEAR REPORTED BY THE OWNER**

- Panting
- Trembling
- Cowering
- Hiding
- Seeking their owners

On average the dogs showed 7.7 of the 14 signs.

**ASSESSMENT BY THE OWNERS**

Despite the short-term use of 3 weeks, 70% of the owners were satisfied or very satisfied with the results. 80% of them would like to use D.A.P. in the future.

**RESULTS**

Overall the results demonstrate the efficacy of D.A.P. in controlling fearful responses to fireworks, showing significant:
- Reduction in severity of responses.
- Decrease in the frequency of 9 of the 14 signs displayed by the dogs.

Improvement was not evident in signs such as elimination (vomiting and diarrhoea), as they are not typical of phobias.

# G. Shapard and D.S. Mills, Evaluation of dog-appeasing pheromone as a potential treatment for dogs fearful of fireworks, The Veterinary Record, April 5 2003, pages 432-436.