

# EFFECTIVE HAIRBALL CONTROL

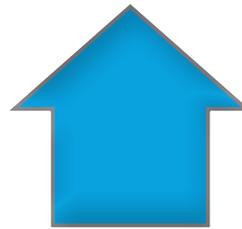
## JRS USA POWDERED CELLULOSE



Vomiting of hairballs is a common occurrence for approximately 20% of long-haired and 10% of short-haired cats (Cannon 2013). Reducing the

number of hairballs vomited each week is possible by adding the right cellulose fiber to your anti-hairball formulation.

- Adding 5.2% or 9.7% cellulose to a dry diet induced **1.8x** and **2.2x** increases in fecal hair excretion by long-haired cats, showing a dose effect (Weber 2015).



**1.8x**  
to  
**2.2x**

### Cellulose type and amount determines efficacy

- In a double-blind, placebo controlled study where **4%** JRS powdered cellulose was added to cat food, a reduction in the average weekly number of total incidents of coughing (**70%**), retching (**91%**) and vomiting (**79%**) was seen compared to a control diet without added cellulose (Beynen 2011).

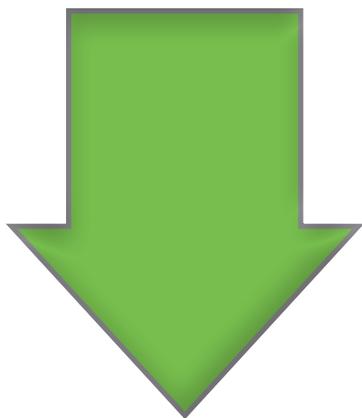
- Replacing beet pulp in dry food by JRS USA powdered cellulose increased group-mean fecal hair by **15%** (Baucelles 2012).



**15%**

Fiber structure and length are all factors in the mechanism of hair ball reduction. Long, thin, fibrillated forms of cellulose, like those in JRS powdered cellulose, may prevent agglomeration of single strands of hair in the stomach by forming an insoluble fiber network. Hair is trapped in the fiber network and carried more efficiently from the stomach through the intestines to be eliminated. Insoluble fibers can also increase fecal bulk and reduce transit time helping to accelerate removal of hair (Beynen 2015, 2018).

### JRS powdered cellulose reduced



Coughing incidents

**70%**

Retching incidents

**91%**

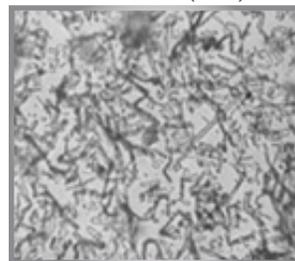
Vomiting incidents

**79%**

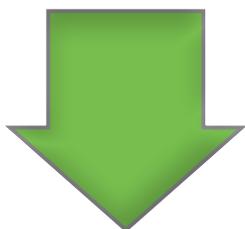
The decrease in vomiting was statistically significant.

Cellulose reduced the average, weekly number of total signs from **2.5** to **0.5** per cat (Beynen 2018).

ARBOCEL® (50x)



Raw fiber source (50x)



**2.5**  
to  
**0.5**

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When formulating hairball control products it is important to choose a cellulose ingredient with proof of efficacy since not all sources of cellulose result in the same physiological effects.



A review of available literature reveals that the anti-hairball effect of powdered cellulose is superior when compared with soluble and non-fibrillated, raw fiber sources such as beet pulp or ground grass.

### Regulatory and labeling

All grades of **ARBOCEL®** and **Solka-Floc®** powdered cellulose meet the **AAFCO** definition of powdered cellulose (AAFCO Official Publication 2018) and can be labeled as such on your ingredient statement. The definition states that powdered cellulose is purified, mechanically disintegrated cellulose prepared by processing alpha cellulose obtained from pulp from fibrous plant materials.

**J. RETTENMAIER USA LP**



**Fibers designed  
by Nature®**  
A Member of the JRS Group

### Your JRS partner for the USA + Canada

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Products such as raw, ground grass that might be marketed as cellulose replacements do NOT meet the definition of powdered cellulose because they are not manufactured "by processing alpha cellulose obtained as a pulp from fibrous plant materials" (AAFCO OP 2019).

### Sustainability

J. Rettenmaier USA sources exclusively from suppliers with sustainability initiatives and environmental policies that include sustainable forest management and efforts to use fewer resources. Pulp is procured from approved suppliers in the US and Canada that are certified by forest certification programs such as the Forest Stewardship Council® and the Sustainable Forest Initiative.



Please contact our pet food experts with questions about **ARBOCEL®** and **Solka-Floc®** powdered cellulose in your pet food applications.

Association of American Feed Control Officials (AAFCO) 2018 Official Publication  
Baucelles MD, Villaverde C. Effects of Arbocel® to control fecal hair excretion and trichobezoar formation in cats. Internal report. Veterinary Faculty, University of Barcelona, 2012  
Beynen A.C., Middlekoop J., Saris D.H.J. Clinical Signs of Hairballs in Cats Fed a Diet Enriched with Cellulose. American Journal of Animal and Veterinary Sciences 6 (2): 69-72, 2011  
Beynen AC. Feline hairball control by dietary cellulose. All About Feed 2015; 23/7: 11-13.  
Beynen AC. Anti-hairball cat food. Creature Companion 2018; July: 40-41.  
Cannon M. Hair balls in cats. A normal nuisance or assign that something is wrong? J Feline Med Surg 2013; 5: 21-29.  
Weber M, Sams L, Feugier A, Michel S, Biourge V. Influence of the dietary fibre levels on faecal hair excretion after 14 days in short and long-haired domestic cats. Vet Med Sci 2015; 1: 30-37

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