

# Annatto, Diet, and The Irritable Bowel Syndrome

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In this issue, a retired allergist and immunologist in a Letter to the Editor describes his and his wife's experience in identifying annatto as a probable cause of his wife's severe irritable bowel syndrome (IBS).<sup>1</sup> They had first contacted our Digestive Disease Section for information. I knew nothing about annatto, but proceeded to find out some basic information.

Much to my surprise, no one in our institution, including the allergists and immunologists, knew anything about annatto. Investigating the subject opened up the possibility of a whole world of reactions to so-called food additives that come from natural substances. Anything added to food that is natural or, in other words, grown from seed is not under careful scrutiny by the Food and Drug Administration. Therefore, annatto (bixin), which is produced from the seeds of the achiote tree and is generally safe to eat, comes under this category.<sup>2</sup> Annatto is used for coloring soap a deep shade of orange or yellow and is a principal coloring agent in foods, body paints, and coloring for arts. Today in traditional medicine in Peru, annatto is actually used to treat heartburn, distress from spicy foods, and as a mild diarrhetic. It is also used as a vaginal antiseptic. It is widely used in Latin America, the Caribbean, and in this country. It is used in cheeses, crackers, cereals, food dressings, ice creams, cookies, etc. In simple terms, it is considered a vegetable dye. Hence, it is frequently ingested.

Mikkelsen and colleagues<sup>3</sup> first demonstrated that patients suffering from chronic urticaria could be provoked by annatto extract during elimination diets. Nish et al<sup>4</sup> in 1991 recorded a case of anaphylaxis due to annatto. Clarke<sup>5</sup> and Lucas et al<sup>6</sup> in their reviews of available information of reactions to natural food colors state that it may aggravate patients with chronic urticaria, but reactions are rare. Older textbooks<sup>7,8</sup> did not acknowledge annatto as food coloring. **It is part of the azo dye group and is now acknowledged. It is surprising that a food coloring, which is so commonly used and appears in so many of our products, is not part of our common knowledge as a potential allergic substance.**<sup>8</sup>

Reviews by this author<sup>9,10</sup> and more recently by others<sup>11</sup> do not suggest or incriminate natural food coloring as potential symptom-producing substances. Shepherd et al<sup>12</sup> demonstrated that fermentable oligosaccharides, disaccharides, monosaccharides, and polysaccharides can act as triggers for IBS. Their work points out how many foods can act as triggers. It is clear that the entire field of food-containing substances may explain many cases of IBS.<sup>13</sup> But, we are very limited in evidence-based data to support impressions. Worse, we have few good tests to help us. Elimination diets are rigorous to use and dieticians' support is limited. The emergence of lactose intolerance should have been a lesson for the IBS research effort, but yet it did not evoke research efforts in food triggers. The alert by Shepherd et al and by patients with experiences in food additives like annatto may be a call to investigators. Let us hope so.

It is clear that annatto is common in our foods, it is clear that it is not known as a significant producer of allergic responses, and it is unknown to most of our practitioners dealing with allergies and the IBS. Therefore, **it behooves us to begin studies in investigating the role of azo dyes such as annatto in the production of the symptoms of the IBS.**

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