Monsanto Co., the world’s largest seed company, made an initial offer for Syngenta AG valuing its Swiss rival at about $45 billion, people with knowledge of the matter said.

Monsanto offered about 450 Swiss francs per share, the people said, representing a 35 percent premium to Syngenta’s last close. The Basel-based company rejected the offer, though left it open for Monsanto to make another offer or start talks, they said, asking not to be identified as the information is private.

A combination of the two companies would create the biggest provider of seeds and crop chemicals, challenging agricultural suppliers including Bayer AG, BASF SE, Dow Chemical Co. and DuPont Co. Syngenta is the world’s largest maker of crop chemicals, while St. Louis-based Monsanto dominates the global market for genetically-modified crops like corn and soybeans.

Syngenta, which has a market value of about $34 billion, has concerns about a combination and the companies may fail to reach an agreement, people familiar with the matter said last week. To address antitrust issues, Monsanto has planned for a deal that would include a sale of portions of the combined business, one person said at the time.

Monsanto spokesman Lee Quarles declined to comment, while Syngenta spokesman Paul Minehart didn’t immediately return a phone call seeking comment outside regular business hours.
The companies held preliminary talks last year with advisers about a combination, before Syngenta’s management decided against negotiations, people familiar with the matter said at the time. No agreement was made after concerns were raised about the strategic fit, antitrust issues and relocating the company.