

The Fabulous Nut Company

The *Fabulous Nut Company* sells nut mixes to specialty food and gift shops in the southeast of the United States. The company's product line consists of three different mixes: the Regular Mix, the Deluxe Mix, and the Holiday Mix.

Each mix is made by blending together different percentages of five types of nuts. The Regular Mix consists of 15% almonds, 25% Brazil nuts, 25% filberts, 10% pecans, and 25% walnuts. The Deluxe Mix consists of 20% of each of the five nut types. The Holiday Mix consists of 25% almonds, 15% Brazil nuts, 15% filberts, 25% pecans, and 20% walnuts.





The stretch between Thanksgiving and the New Year is Fabulous Nut's customers' busiest time of year. In preparation for the upcoming holiday season the company has just purchased the following quantities of nuts at the prices shown.

Type of Nut	Amount (pounds)	Shipment Cost
Almonds	6,000	\$7,500
Brazil Nuts	7,500	7,125
Filberts	7,500	6,750
Pecans	6,000	7,200
Walnuts	7,500	7,875

Fabulous Nut's accounting department has analyzed the cost of packing materials, sales price, etc. and determined that the contribution to profit is \$1.65 per pound for the Regular Mix, \$2.00 per pound for the Deluxe Mix, and \$2.25 per pound for the Holiday Mix. These figures do not include the costs of the nuts in the mixes, because the cost of nuts can vary greatly in the commodity markets.

Because demand is running high this year, it is expected that the Company will receive many more orders than can be satisfied. As of the end of August, the company had already received orders totaling 18,000 pounds. More specifically, firm orders existed for 10,000 pounds of Regular Mix, 3,000 pounds of Deluxe Mix, and 5,000 of Holiday Mix.

Fabulous Nut wants to maximize its contribution to profits from the sales of nuts over the coming season. At the same time, the company is committed to honoring the orders it has already accepted. What would you recommend that the company do? In particular, during class we will discuss the following questions.

1. Should the cost per pound of nuts be included in decision? 
2. What is the optimal product mix? What is the optimal contribution? 
3. How can profit be increased by the purchase of additional nuts? 
4. How can profit be increased by not satisfying current orders? 
5. Suppose 1,000 pounds of almonds is available for \$1,000. Should Fabulous Nut buy the nuts? 