

x 52 weeks per year] shopping for supplements containing botanicals.

The third study used hidden observers to track and record shopping time in grocery stores (Ref. 15). This study found that people spent an average of about 21 minutes shopping in the grocery store per trip to the grocery store. By combining the estimated time per trip with the Food Marketing Institute's finding that consumers average about 2.2 grocery shopping trips per week, we estimate shopping time for all grocery store purchases to be 46.2 minutes per week (2.2 trips per week x 21 minutes per trip) (Ref. 16). Again, we assume that the proportion of shopping time devoted to dietary supplements equals the proportion of grocery store expenditures on dietary supplements. In 1999, consumers spent approximately \$711 billion on grocery store purchases (here defined as food, alcoholic beverages, housekeeping supplies, personal care products, and tobacco products and smoking supplies) (Ref. 17).

We again assume that 49 percent of this amount was spent by adults who consumed dietary supplements containing botanicals. Based upon this study and the stated assumptions, we estimate that consumers spend about 33 minutes per year $[(\$4.8 \text{ billion} \div \$711 \text{ billion} \times 0.49)] \times 46 \text{ minutes per week} \times 52 \text{ weeks per year}]$ shopping for dietary supplements containing botanical ingredients.

All of the estimates of search costs are imprecise. None of these studies looks at product search activity that does not involve shopping, such as looking up material in books or on the Internet. The grocery store and use of time studies both addressed shopping time, which includes activities other than reading product labels. Nevertheless, in the absence of additional information, we estimate that this direct final rule could reduce one's shopping time by a maximum of about 33 minutes (0.55 hours) per year. Applying this time savings to the estimated 3 to 6 million affected consumers and the average value of time of \$15.66 gives maximum search cost savings of between \$26 million (0.55 hours per year x 3 million x \$15.66 per hour) and \$52 million (0.55 hours per year x 6 million x \$15.66 per hour) per year. The direct final rule, however, would not eliminate all search costs associated with dietary supplements containing botanical ingredients for consumers interested in the affected products. To reflect this fact, we assume that this direct final rule would eliminate between 10 and 20 percent of those search costs, which would result in a range of search cost

savings of \$3 to \$10 million per year (\$2.6 million x 10 percent to \$52 million x 20 percent). These benefits would recur annually because they would apply whenever a consumer actively searched for products containing the relevant ingredients, unlike the one-time increases in search costs that some consumers might face because the direct final rule would change existing botanical ingredient names.

Based on the preceding discussion, we estimate this direct final rule would generate net costs in the first year of between \$15 to \$51 million, and net benefits of \$3 to \$10 million every year after the first year. Under a discount rate of 7 percent, the present value of an infinite stream of benefits of \$3 million per year is \$43 million ($\$3 \text{ million} \div 7 \text{ percent}$), and the present value of an infinite stream of benefits of \$10 million per year is \$143 million ($\$10 \text{ million} \div 7 \text{ percent}$). Therefore, over time, this option would generate net benefits of negative \$8 million (\$43 million - \$51 million) to \$128 million (\$143 million - \$15 million). The stream of benefits that would exactly offset the maximum estimated cost of \$51 million to give zero net costs is \$4 million ($\$4 \text{ million} \div 7 \text{ percent} = \57 million) per year out of the potential range of \$3 to \$10 million per year. Therefore, this direct final rule would probably generate net benefits.

3. Option Three: Take an Alternative Action (as described under section V.A, Regulatory Options, of this document)

As discussed under section I, Background, of this document, in addition to standardized common names and Latin binomial names, the 2000 edition of *Herbs of Commerce* includes up to four other categories of names (i.e., botanical synonyms, Ayurvedic names, pinyin names and other common names) for each plant listed, when applicable. In order to reduce the number of label and name changes that we would require under Option Two, we could allow firms using any of the 1,500 botanicals that were not listed in the 1992 edition of *Herbs of Commerce*, but that are listed in the 2000 edition, to continue to label their products as they do now, as long as the name used for a botanical ingredient meets one of the following requirements: (1) Is among the names for the respective botanical listed in the 2000 edition and complies with the Farm Bill requirement concerning the use of the term "ginseng" and (2) is accompanied by the corresponding Latin binomial name, stated to conform to the naming conventions of the 2000 edition of the *International Code of*

Botanical Nomenclature, including the author citation when needed for a positive identification of the botanical.

a. *Costs of option three.* This option would generate the same labeling costs as Option Two, except that some firms manufacturing or labeling dietary supplements containing one or more of the 1,500 botanical ingredients for which the 2000 edition of *Herbs of Commerce* establishes new standardized common names would not need to revise the labels of those products. The product whose labels would not need to be revised are, with some exceptions, those that currently list botanical ingredients by any one of their corresponding names found in the 2000 edition of *Herbs of Commerce*. The exceptions whose labels would nonetheless need to be revised, are those with names that conflict with the Farm Bill restriction on the use of the term "ginseng," or that do not state the correct Latin binomial names must be stated in accordance with the naming conventions of the 2000 edition of the *International Code of Botanical Nomenclature* and include the author citations when needed for a positive identification of the botanicals. We do not know the number of such products. Using the cost estimated for Option Two, we estimate that the label change costs for Option Three would also be between \$2 and \$7 million, except that the cost of this option must be the same or less than the costs of Option Two.

Option Three would also generate the same short-term increases in product search costs as Option Two, except that some consumers who currently use one of the other names listed in the 2000 edition of *Herbs of Commerce* to identify botanical ingredients would be able to continue to use those names to identify those ingredients. We do not know the number of such consumers. Using the cost estimated for Option Two, we estimate that the increase of search costs under Option Three would also be between \$23 and \$47 million, except that these costs must be the same or less than the corresponding costs of Option Two, because the consumers affected by this cost under Option Three are a subset of the consumers affected by this cost under Option Two.

b. *Benefits of option three.* This option would generate the same reduction in long-term search costs as Option Two, except that fewer consumers who currently shop for dietary supplements using nonstandardized names would instead be able to use standardized common names to more easily identify those ingredients in other supplements. Again, we do not have sufficiently