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*BEES and the current role of environmental
assessment in BioPreferred*



ANALYTIC FRAMEWORK for BIOPREFERRED PROGRAM

USDA-BioPreferredSM Life Cycle Assessment Forum
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DETERMINING BIOBASED CONTENT

- Statute requirements regarding procurement of biobased products depend upon knowing biobased content of procured product
- In consultation with NIST, GSA, and EPA, USDA worked with ASTM International to develop standard for determining biobased content of products
- ASTM Standard 6866
- Measures biobased carbon as a percent of weight of total organic carbon in product
- The standard is science based and reliable

REQUIREMENT ON ENVIRONMENTAL and PUBLIC HEALTH BENEFITS

- Statute requires guidelines for Program to provide information on environmental and health benefits of biobased materials and items (groupings of products) and life cycle costs
- After consultation with NIST, GSA, and EPA, USDA adopted the use of NIST's analytic framework, "Building for Environmental and Economic Sustainability" (BEES), or the ASTM Standard 7075, to determine quantifiable measures of environmental and public health benefits and life cycle costs
- Determined for items (groupings of products) in designation process
- Regulations provide that this information is to be available for a specific product if requested by Federal agencies
- This information can be provided on the electronic catalog for biobased products that qualify for preferred procurement



BEES and ASTM 7075 PROVIDE QUANTITATIVE MEASUREMENTS ON TWELVE ENVIRONMENTAL and PUBLIC HEALTH INDICATORS

- Acidification
- Criteria air pollutants
- Ecological toxicity
- Eutrophication
- Fossil fuel depletion
- Global warming
- Habitat alteration
- Human health
- Indoor air
- Ozone depletion
- Smog
- Water intake

PERFORMANCE CHARACTERISTICS

- Manufacturers are asked to provide information on performance characteristics of their products
- These include standards against which a product is tested
- Additional information may be available on how well a product performed on a test
- Typically, purchasers require such information to support a purchase decision

WHY IS INFORMATION ON ENVIRONMENTAL FOOTPRINT AND PERFORMANCE IMPORTANT?

- Only a life cycle assessment tool, such as BEES or ASTM Standard 7075, provides credible science based information on environmental footprint and life cycle costs of product in use
- Product performance information is critical to a customer in judging usefulness of product
- Only by use of comparable measurement tools across products can comparisons of environmental footprints and performance profiles across products be achieved
- Provides essential information to consumers in selection of biobased products

IS HIGHER BIOBASED CONTENT ALWAYS BETTER?

- No - it may be worse
- Increasing biobased content in a product does not mean it is more environmentally sustainable; that is determined by an LCA
- There typically is a maximum biobased content that is consistent with optimizing a product's performance in use. A higher biobased content often degrades product performance
- While biobased content is renewable, environmental footprint and product performance are much more important drivers in product selection