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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND
TOXIC SUBSTANCES

Memorandum

DATE: August 30, 2002

SUBJECT: Transmission of Material for FIFRA Scientific Advisory Panel:

FROM: David Widawsky, Chief
Economic Analysis Branch
Biological and Economic Analysis Division (7503C)

TO: Steven Knott, Designated Federal Official
FIFRA SAP
Office of Science Coordination and Policy (7101C)

CC: Denise Keehner, Director
Biological and Economic Analysis Division (7503C)

Accompanying this memorandum are documents applicable to the FIFRA SAP Session: Proposed methodology for projecting domestic percent-crop-treated with pesticides for dietary risk assessment. October 1, 2002.

Material provided with this transmittal memo include:

- Three papers explaining present and proposed methodology.
- Two pesticide risk assessment papers.
- References used in the development of the methodology.

The three papers discussing the methodology are:

- **Pesticide Usage Estimation and Use in Estimating Dietary Risk** This paper briefly discusses the use of percent crop treated data in estimating dietary risk and also outlines the present methodology for estimating percent crop treated.
- **Development of a Methodology for Projecting Domestic Percent Crop Treated** This paper outlines the development of the proposed methodology.
- **Background and Implementation of Propose Methodology for Projecting Domestic Percent Crop Treated** This paper outlines the proposed exponential smoothing methodology and compares results obtained using exponential smoothing with results obtained using other possible methods including the present method.

Pesticide risk assessment background papers

• **The Role of Use-Related Information in Pesticide Risk Assessment and Risk Management.**

This background paper discusses types of pesticide use related information and the use of this information in human health risk assessment.

• **Available Information on Assessing Exposure from Pesticides in Food - A Users Guide** This background document provides a discussion and listing of guidance, policy documents, and databases that provide detailed, specific "how-to" information and/or data on assessing exposure to pesticides from food.

References used in the development of the proposed methodology.

Armstrong, J.S. (1984) "Forecast by Extrapolation: Conclusions from 25 Years of Research", *Interface*, 14, 52-66.
Full text at <http://www-marketing.wharton.upenn.edu/forecast/papers.html>

Armstrong, J.S. (1994) "The Fertile Field of Meta-Analysis: Cumulative Progress in Agricultural Forecasting", *International Journal of Forecasting*, 10, 147-149.
Full text at <http://www-marketing.wharton.upenn.edu/forecast/papers.html>

Armstrong, J.S. (2001), *Principles of Forecasting: A Handbook for Researchers and Practitioners*. Boston: Kluwar Academic Publishers.

Gardner, E.S. Jr. (Feb 1987), "Short-Range Forecasting", *Lotus*, Vol. 3, No. 2, 54-58.

Gardner, E.S. Jr. (Mar 1988), "Forecasting with Exponential Trends", *Lotus*, Vol. 4, No. 3, 27-30.

Gardner, E.S. Jr. (May 1988), "How to Detect Trends and Seasonal Cycles", *Lotus*, Vol. 4, No. 5, 44-50.

Gardner, E.S. Jr. (Mar 1987), "Using Exponential Smoothing", *Lotus*, Vol. 3, No. 3, 61-66.

Hahn, J.H., W.Q. Meeker (1991), *Statistical Intervals: A Guide for Practitioners*. New York: John Wiley & Son INC.

Hamilton, Lawrence C. (1992), *Regression with Graphics*. California: Wadsworth, Inc.

Hyndman, R.J., A.B. Koehler, R.D. Snyder, and S. Grose (2002) "A state space framework for automatic forecasting using exponential smoothing methods". *International J. Forecasting*, 18(3), 439-454.
Full text at <http://www-personal.buseco.monash.edu.au/~hyndman/papers/>

Hyndman, R.J., A.B. Koehler, J.K. Ord, R.D. Snyder (forthcoming), "Prediction intervals for exponential smoothing state space models."
Full text at <http://www-personal.buseco.monash.edu.au/~hyndman/papers/>