

nological advances for improving pesticide detection. In addition, the report identifies several weaknesses in the food tolerance system, which establishes the maximum legal limits of pesticide residue which may be present in raw and processed foods.

The report reveals that the state's detection capability is seriously limited. Testing methods currently in use cannot detect two-thirds of the pesticides registered for use on food by the federal Environmental Protection Agency (EPA). Existing methods also fail to detect two-thirds of the pesticides identified by EPA for their oncogenic (tumor-causing) potential, although these compounds "are the mainstays of agriculture's chemical arsenal."

Additional findings reported by AOR include the following:

- The existence of new detection technologies and improved analytical methods which could expand the state's detection capabilities;

- The failure of existing law to provide incentives for pesticide registrants to "develop practical analytical methods for their products," especially when many existing methods are expensive, complex, and often out-of-date;

- The failure of the Department of Health Services to develop and implement a program for routine testing of processed foods, despite statutory responsibility and the finding by its staff that such a program is needed because of the propensity for pesticides to concentrate in processed foods; and

- The flawed nature of the food tolerance system, in that it "may underestimate dietary risk" because tolerances are based on inadequate health data; the consumption data used are outdated; the effects of inert ingredients and synergism are ignored; and tolerance levels are set for cancer-causing pesticides, meaning that a determination is made that some risk of cancer is acceptable—despite a "long-standing" tenet that "there is no exposure level so low it is known to be safe."

AOR makes specific recommendations to the legislature in its report, including the following actions:

- Identification of priority pesticides which pose health risks;

- A requirement that priority pesticide registrants submit practical analytical methods to enable state laboratories to detect pesticide residues in food;

- Implementation of a routine monitoring program for pesticide residues in processed foods;

- Enactment of requirements that farm-

ers maintain records of pesticide applications on food crops;

- Legislation to direct the Department of Food and Agriculture to review existing testing methods for workability and effectiveness;

- Prohibition of the use in pesticide formulations of inert ingredients known to cause cancer and other chronic adverse health effects; and

- Adoption of an annual pesticide residue reporting system which would identify multiple residues detected on raw or processed food samples and the individual pesticides found.

*Integrated Solid Waste Management: Putting A Lid On Garbage Overload (April 1988)*, prepared jointly with the Assembly Natural Resources Committee, concerns the "increasingly ineffective" management of California's solid waste. The problems resulting from the state's management policy are recognized as potentially harmful to public health and the environment.

The study reveals that in responding to disposal needs, state policy—as expounded by the California Waste Management Board (CWMB)—has placed "primary emphasis" on landfills and waste-to-energy projects. If the state continues to rely exclusively on these disposal methods, it will face a "serious statewide garbage crisis by or before the mid-1990s" because stiff public opposition has made waste-to-energy plants and landfills difficult to site. Public opposition to waste-to-energy projects centers on concerns over air pollution and litter. Presently, only one small waste-to-energy plant is operating in the state.

CWMB continues to view landfills as the "cornerstone" of the Board's solid waste management policy. However, AOR's study concludes that this continued emphasis is likely to yield decreasing success because of the increasing costs of operating landfills and public opposition to siting based on legitimate health concerns.

While providing case studies of problems at selected landfills, the study identifies health risks common to all such sites. Hazardous substances may leach from landfills to contaminate surrounding soil and nearby groundwater and surface water. Gas migration from landfills is known to create toxic air contaminants. Additionally, AOR staff found that many landfills were operating in violation of state and federal public health and environmental standards. Some of the most frequently found violations—inadequate leachate control barriers, inadequate drainage devices, lack

of proper cover, and inadequate groundwater monitoring—may cause serious contamination of surrounding areas.

AOR's report concludes that California's current solid waste management policy should be replaced with a multifaceted approach to solving the state's garbage disposal problems. Such an approach would allow for a limited reliance on landfills and waste-to-energy projects while giving "equal if not greater weight" to recycling, source reduction, and composting methods. The report includes the following specific recommendations:

- Enactment of legislation to provide for "rigorous but realistic development and implementation of local waste reduction and recycling plans" to supplement and enhance current recycling markets;

- Enhancement of existing foreign and domestic markets for recyclable materials through legislation which would, at minimum, strengthen state and local government procurement policies for those materials;

- Establishment of comprehensive air, soil, and water protection requirements for existing and future landfills, with authority given to responsible state agencies to ensure that environmental protection standards are met at such sites;

- Enactment of tax credits and other financial incentives to encourage development of a strong state market for recyclables; and

- Establishment of clear definitions of authority and guidelines for solid waste management responsibilities for state agencies implementing the policy.

## SENATE OFFICE OF RESEARCH

*Director: Elisabeth Kersten  
(916) 445-1727*

Established and directed by the Senate Committee on Rules, the Senate Office of Research (SOR) serves as the bipartisan, strategic research and planning unit for the Senate. SOR produces major policy reports, issue briefs, background information on legislation and, occasionally, sponsors symposia and conferences.

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## MAJOR PROJECTS:

*Pesticides at Home: Uncertain Risks*

*and Inadequate Regulations (April 1988).* As its title implies, this issue brief points to serious deficiencies in state and federal controls on household pesticides. The report focuses on the absence of complete health effect studies as illustrative of the low priority state and federal regulators have generally assigned to the review of nonagricultural "economic poisons," which are used in households, home gardens, hospitals, commercial buildings, swimming pools, domestic animal treatments, and turf areas. SOR's report suggests that "in light of the low priority established...[for such a review], it may be appropriate for California's Legislature to establish a separate registration process for household pesticides."

The report specifically questions "whether the process and standards for regulating household pesticides need to be differentiated from those applied to agricultural use pesticides," given the issue of essentiality. SOR recommends that in regulating household pesticides, it may be of vital importance to focus on "non-essentiality": "Pesticides designed for the *eradication* of agricultural pests may often have a level of toxicity unnecessary for the *control* of household pests" (emphasis original).

According to SOR, the state's current efforts toward regulating household pesticides are compromised because California "lacks the independent means necessary to analyze and to measure human exposures...." Furthermore, the lack of adequate information concerning non-agricultural pesticide ingredients "complicates the diagnosis and treatment of poisonings."

The report suggests that the legislature consider increasing fees paid to the state on the sale of pesticides (currently at eight-tenths of one cent per dollar in sales). Such an increase could "provide for both the current services of poison control centers in addition to expanded programs of medical surveillance and research."

SOR found that "[o]ne of the major issues concerning exposures to household pesticides...are [sic] the great uncertainties regarding the actual number of individuals exposed and the severity of their exposure." An estimated 710,000 reported and unreported exposures occur annually in California, according to the report, "account[ing] for perhaps 7 percent of annual poisonings" in the state.

SOR also stated that "[p]erhaps more alarming than the large number of short-term illnesses, recent medical studies suggest that certain common household pesticides may pose chronic health

hazards, including childhood cancer and leukemia." A 1986 federal Government Accounting Office (GAO) report also discusses this concern, noting that "[t]he public is not told about the uncertainties surrounding [the] chronic health risks" associated with exposure to non-agricultural pesticides. As reported by California poison control centers, such exposures "involve significant numbers of children, accounting for an estimated 7 to 30 percent of all pesticide exposures reported...."

Given the inadequacy of available information as to health effects associated with exposure to household pesticides, SOR's report suggests that current warnings to consumers on product labels may be insufficient to avoid increased exposure to toxic substances. Warnings presently used may not accurately reflect the actual dangers to which consumers are being exposed, leading "various observers [to suggest] stronger and more graphic methods for alerting the public to potential hazards."

SOR's report discusses California Department of Food and Agriculture (CDFA) efforts to assess health risks associated with exposure to household pesticides, noting that some CDFA records suggest "that numerous pesticides have been registered with inadequate or incomplete studies." Among those pesticide products for which adequate information may be unavailable are home and garden pesticides, disinfectants, shampoo, and marine antifouling paint. The "cursory examination" of records which led to this conclusion indicates that if the sampling of records examined is representative, "data gaps for acute health effect studies may exist for hundreds of pesticide products."

In 1987, CDFA listed the economic poisons affected by the Governor's initial listing of 29 carcinogens and reproductive toxics mandated by Proposition 65. Most of those economic poisons on CDFA's list were home and garden products. SOR's report notes that approximately 400,000 pounds of these materials were sold in California during 1984 alone.

In its brief, SOR includes a summary of recent events surrounding federal and state review of dichlorvos (DDVP), a home-use pesticide which was, along with two other chemicals used in indoor-use pesticide products, recently placed in "reevaluation" by CDFA (that is, review for a possible ban or suspension) based on "the lack of sufficient data to determine threats to public health."

In February 1988, the state Depart-

ment of Health Services presented CDFA with a chronic health effect study of DDVP conducted by the National Toxicology Program (NTP) of the U.S. Department of Health and Human Services. The NTP study "revealed a significant leukemia hazard for this common household pesticide." Also in February, the U.S. Environmental Protection Agency (EPA) "announced that it was initiating a special review of DDVP citing risks to the public of cancer, liver effects, and nervous-system toxicity."

The Department of Health Services has recently recommended regulatory action on DDVP, including possible suspension or cancellation of the pesticide and its removal from places of human exposure.

In its report, SOR observes that "[i]n spite of the significant hazard identified by NTP and the epidemiological evidence linking household pesticides with leukemia, the CDFA has thus far announced no regulatory action to ban or suspend uses of DDVP."

*Report on Management Training (February 1988).* Issued by the Senate Advisory Commission on Cost Control in State Government, which is staffed by SOR, this report concludes that California "lacks a comprehensive and systematic plan for the training and development of middle and upper level management personnel."

The report is based on information gleaned from relevant literature; management training programs offered in other states; surveys of state agency management personnel in California; communications with California's Department of Personnel Administration; and examination of private sector management training practices, statistics, and cost/benefit analyses.

Among the Advisory Commission's findings are the following:

- Sixty-six percent of state managers surveyed indicated that management training should be increased. The Commission found that most existing "management"-level training is really geared toward supervisory employees, as mandated under SB 409 (B. Greene), 1983 legislation which largely ignored the training needs of mid- and upper-level managers. (Supervisory personnel are responsible for direct supervision over rank and file employees within state government, while managers are charged with overseeing the activities of supervisors.)

- The existing structure for providing management training within various state



departments and agencies has resulted in wasted funds and other inefficiencies. For example, while some larger state departments duplicate services by offering "nearly identical" training programs, some small departments are unable to provide any management training because of fiscal constraints and other factors.

-A major focus of the Commission's study is the "present lack of centralized training oversight in state government," a factor which "inhibits the coordination and development of training courses geared specifically toward managers" and "[perpetuates the state's] inability to provide for the necessary and continued evaluation and management of training program expenses, attendance, quality, and cost/benefits."

-The private sector annually spends an average of \$1,000 more per manager on training than is spent by nine state departments surveyed. Underscoring the shortsightedness of California's training program, the Commission study points to a cost/benefit analysis of manager training performed by one large corporation: analysts reported a 5,900 percent return on management training, "greatly reduced employee turnover at all levels, up to 58 percent reductions in overtime, higher productivity, and increased loyalty and commitment."

The Commission observed that private sector "[b]usiness leaders recognize that organizational efficiency, cost control, and better customer service are inextricably linked to competent management via training and development." In keeping with that observation, the Commission recommends the following:

-Legislation should be enacted which would require the state's Department of Personnel Administration to "examine the potential positive and negative attributes of instituting a mandatory annual training requirement for all state managers." The resulting report "should include details of a comprehensive, systematic plan for providing required or voluntary management training to designated managers in all of state government."

-Legislation should be enacted to require the Department of Personnel Administration to develop and implement a five-year management training project within several state departments. An important objective of such a project would be a cost/benefit analysis of the training and development approach implemented, as well as an evaluation of the effectiveness of that approach.

-Legislation should be enacted which would "strengthen the current mandate

that the Department of Personnel Administration serve as the central management training and development authority for all current and future management training programs." This recommendation specifies implementation of reporting requirements, data collection, and evaluation methods to facilitate program development and analysis.

*Facts About Child Care (undated).* This fact brief provides an overview of child care presently available in California. In addition to briefly describing the various forms of child care (child care centers, family day care homes, and in-home care), the report discusses costs and types of assistance available, including subsidies and referral services.

The report notes that "[n]o organization or unit of government is responsible for planning for the expansion of child care services." This fact is especially significant in light of projections indicating a statewide need for 400,000 new spaces between 1983 and 1990.

SOR's brief also discusses the limited opportunities for professional growth and training available to child care providers, as compared to the resources available to professionals "equivalent in responsibility," such as teachers and nurses.

Finally, SOR's report mentions several studies which are currently tracking former participants in Head Start and other "well-staffed preschool programs operated twenty years ago. [The studies] are finding better school success, fewer grade retentions, fewer criminal justice problems, and better employment records among those individuals who participated in the Head Start and other early childhood learning programs."

*Facts About WIC (undated).* In this fact brief, SOR summarized some of the basic facts about the Special Supplemental Food Program for Women, Infants, and Children (WIC). This federal program, intended to provide food vouchers and nutrition counseling to benefit young children and pregnant and lactating women, serves approximately 250,000 Californians.

The brief identifies a number of benefits thus far realized by those participating in WIC, including the following:

-"Duration of gestation was significantly longer among WIC recipients, and poor women had a significantly lower rate of preterm delivery if they received WIC benefits."

-"Participation in WIC significantly reduced late fetal death."

-"Children who began WIC benefits *in utero* scored better at ages four and

five years on vocabulary tests than did non-WIC children."

-"The WIC program brings more food, and food of higher quality, into the households of its enrolled families." WIC participants showed an improved intake of protein, iron, calcium, and Vitamin C. In addition, preschool children significantly increased their intake of thiamin, niacin, and Vitamin B-6.

-Several studies have substantiated the cost-effectiveness of WIC. For example, a Massachusetts study indicated that "\$1 spent on WIC prenatal benefits can save \$3 on short-term hospitalization expenses."

Approximately 1,200,000 Californians are eligible for WIC benefits. SOR's brief notes that "[i]n 1986-87, California returned unspent WIC funds even though nearly one million WIC-eligible individuals went without service." The report offers no explanation for the tremendous disparity between the number of eligible Californians and the total actually served.

