

1 **RECOMMENDATIONS OF THE**
2 **PEST MANAGEMENT IN THE 21ST CENTURY WORKING GROUP**

3
4 **BACKGROUND:** In March 2005, the Director of the Department of Pesticide
5 Regulation (DPR) convened the "Pest Management in the 21st Century" working group
6 (working group) to develop strategic recommendations to help the Department "best
7 utilize its resources and talents over the next decade to achieve its mission, goals and
8 objectives in California's rapidly changing demographic landscape." The working group
9 is part of the Department's Pest Management Advisory Committee (PMAC). Member
10 selection was based on expertise, knowledge, background diversity and the willingness to
11 consider solutions beyond traditional perspectives held by the constituencies they
12 represent.

13
14 The Director provided the following considerations:

- 15 • Look beyond the agricultural setting and take into account an increasingly urban,
16 culturally diverse, consumer-oriented state.
- 17 • Balance environmental protection and economic viability while ensuring social
18 equity.
- 19 • Identify voluntary, incentive-based opportunities to further the implementation of
20 Integrated Pest Management (IPM) strategies, both in agricultural and non-
21 agricultural settings.
- 22 • Identify performance-based approaches to measure DPR's accomplishments.

23
24 The working group adopted the following goals to guide its efforts:

- 25 • Sustainable Pest Management: Promote pest management practices that are
26 environmentally sound, economically viable and socially responsible.
- 27 • Integrated Pest Management (IPM): Increase the use of IPM strategies that
28 combine biological, cultural, physical and chemical tools in a way that meets the
29 pest management objectives, is economically feasible, and minimizes risks to
30 human health, safety, and the environment.

- 31 • Safe Food Supply: Ensure that Californians' food supply, whether produced
32 within or outside the state, meets state safety standards for pesticide residues
33 through a robust monitoring and enforcement program.
- 34 • Research and Extension: Promote cooperation between private, academic and
35 government sectors to advance applied research and extension services.
- 36 • Education and Awareness: Advance education and communication programs that
37 promote sustainable pest management options for professional practitioners,
38 institutional users, and the public-at-large.

39

40 The working group did not attempt to comprehensively review all of DPR's programs.
41 Instead the working group identified two programmatic areas that provide significant
42 opportunity to improve DPR's ability to respond to California's rapidly changing pest
43 management needs in a timely, effective and efficient manner. Challenges within those
44 programmatic areas were identified and recommendations developed to address those
45 challenges. The two key programmatic areas are:

- 46 (1) Increased emphasis on IPM strategies, including reduced-risk pesticide use, in
47 both the agricultural and urban settings.
- 48 (2) Enhanced DPR compliance and enforcement efforts.

49

50 The working group also outlined a conceptual strategy for a statewide IPM certification
51 program. As envisioned, it would be a voluntary, incentive-based program that provides
52 economic, marketing, regulatory and administrative benefits to growers and licensees
53 who choose to participate. In return for those benefits, the growers and licensees would
54 agree to adhere to a set of performance-based principles and standards that further
55 contribute to environmental quality, human health and safety. Such an approach would
56 require coordination and cooperation amongst policymakers from various departments
57 and agencies, as well as all appropriate stakeholders.

58 **1. Expanding DPR's Integrated Pest Management (IPM) Program**¹

59

60 **A. Overarching Challenges and Recommendations**

61 1. Coordinated Statewide Pest Management Program: There is a need for a
62 coordinated statewide pest management policy and program.

63 • **Recommendation**: DPR should provide leadership to coordinate state pest
64 management policies and programs, except for vector control and eradication
65 and exclusion projects, in both agricultural and non-agricultural settings.

66 2. Limited Resources: Current fiscal constraints are limiting the abilities of all state
67 agencies to adequately address pest management concerns.

68 • **Recommendation**: Coordinate DPR pest management programs with those
69 of other agencies, industries and organizations to achieve pest management,
70 environmental and human health objectives most efficiently and cost-
71 effectively.

72 • **Recommendation**: Pursue partnerships to procure alternative funding
73 sources (e.g. private grants and foundations, federal grant programs), as
74 appropriate, to advance DPR's pest management programs.

75 • **Recommendation**: Advance DPR's relationship with the USDA Natural
76 Resources Conservation Service (NRCS) to take full advantage of Farm Bill
77 funding.

78 3. Legislation: Some recommendations identified below may require legislation.

79 4. Advance an IPM Strategy: Key strategic components: (1) a vibrant research
80 program that is continually expanding and improving IPM methods; (2) a
81 communications and marketing strategy to educate and promote the IPM

¹ For purposes of these recommendations, Integrated Pest Management (IPM) is defined as a sustainable approach to achieving pest management objectives that combines biological, cultural, physical and chemical pest management tools in a way that minimizes human health, environmental and economic risks. IPM programs should include pest monitoring to determine if pest action threshold have been exceeded and treatments are needed. When pesticides are used, IPM includes a reduced-risk pesticide use decision-making process to select the pesticide and application techniques that achieve the pest management objectives with the least potential impact on human health, non-target organisms and the environment.

82 program; and (3) resources and incentives to encourage and assist landowners or
83 growers to voluntarily transition to and maintain an IPM program, over time.

84 • **Recommendation:** Reinvigorate research and extension roles to further
85 implementation of IPM techniques such as pest monitoring. As appropriate,
86 DPR should partner with the private sector, academia, county agricultural
87 commissioners and non-government organizations to promote the use of IPM
88 programs.

89 • **Recommendation:** Revitalize DPR's IPM and Pest Management Alliance
90 grant programs to promote IPM projects amongst specialized crop and urban
91 groups.

92 • **Recommendation:** Identify and promote voluntary incentives and mitigate or
93 remove disincentives to encourage investments in IPM strategies. Such
94 incentives could include:

95 • (1) Cost Share: Alternative funding mechanisms such as grant
96 programs or bond dollars intended to address water and air quality;

97 • (2) Economic Incentives: Reduced regulatory fees, increased tax
98 deductions or accelerated amortization to account for increased costs
99 of modifying pest management operations, reduced workers'
100 compensation rates and liability insurance rates;

101 • (3) Regulatory Incentives: Voluntary adoption of Best Management
102 Practices (BMPs) as part of an accepted IPM program could provide
103 opportunities to streamline administrative and/or regulatory
104 requirements, as long as health and environmental quality are not
105 compromised².

106 • (4) Increased Product Value: Special recognition such as eco-labeling,
107 and market promotion for certification programs.

108 • **Recommendation:** Include a mandatory, ecologically based IPM component
109 as part of the continuing education requirements for PCAs and other licensees.

² For example, a grower implementing BMPs may obtain a permit for an extended period of time beyond what is available to a party who chooses not to implement BMPs. Another example, the fee charged for obtaining a permit may be reduced for a party who agrees to implement BMPs.

- 110 • **Recommendation:** Work with organizations such as the Association of
111 Applied IPM Ecologists and the California Association of Pest Control
112 Advisers to develop a pest management advisory program based on advice,
113 recommendations and service as opposed to product sales.
- 114 • **Recommendation:** Develop a voluntary IPM certification program for Pest
115 Control Operators and Pest Control Advisors. Include knowledge and
116 performance standards.
- 117 5. Expanded Partnerships:
- 118 • **Recommendation:** Expand relationships with other agencies, academia,
119 businesses, county agricultural commissioners and the non-government
120 organizations to advance the key components of an IPM strategy.
- 121 6. Pesticide Use: Pesticides may be an element of an IPM program. When a
122 landowner, grower or pest management operator determines pesticide use is
123 necessary to achieve specific pest management objectives, she/he should be
124 encouraged to select a pesticide and application techniques that reduce risks
125 to human health, non-target organisms and the environment.
- 126 • **Recommendation:** Develop a reduced-risk pesticide use strategy that
127 accelerates the approval of lower-risk pesticides; advances research,
128 development, and use of equipment and application techniques that reduce
129 drift and exposure to pesticides; and disseminate this information among
130 landowners, growers and users.
- 131 • **Recommendation:** Encourage development and use of pesticide
132 environmental impact models that evaluate the risks associated with specific
133 formulations of pesticides for human health, non-target organisms and the
134 environment. Such models can help on-the-ground managers decide which
135 pesticide to use to achieve their pest management objectives while reducing
136 the risks to human health, non-target organisms and the environment, and can
137 be applied in both urban and agricultural settings.
- 138 • **Recommendation:** Priority should be given to promoting use of reduced-risk
139 pesticides, application techniques, and pest control methods to reduce use of

140 pesticides that pose the greatest potential immediate and long-term health
141 impacts to pesticide handlers and fieldworkers.

142 7. Pesticide Registration and Permitting: Some working group members expressed
143 concern that, while alternative chemicals may be considered, little consideration is
144 given to biological and other pest management alternatives during the Section
145 18(s) and Section 24(c) registration processes.

146 • **Recommendation**: DPR should review its Section 18 and Section 24(c)
147 registration processes to ensure that adequate consideration is given
148 alternative pest management approaches.

149 • **Recommendation**: DPR should review its restricted materials permitting
150 process to promote more meaningful consideration of alternative pest
151 management approaches.

152

153 **B. Challenges and Recommendations in the Urban/Residential Setting**

154 1. Reallocation of Resources: One of the greatest challenges facing DPR is the
155 rapidly expanding urban population and associated increases in urban pest
156 management activities, including increased urban pesticide use. Rapid
157 urbanization is also impacting existing agricultural pest management operations.
158 In the past, DPR has focused most of its resources on regulating agricultural
159 pesticide use. A relatively small percentage of DPR's budget is dedicated to IPM,
160 particularly in the urban setting.

161 • **Recommendation**: Reassess the allocation of DPR resources to determine
162 how to adequately address pest management practices in the urban setting.
163 This should include opportunities to expand IPM practices.

164 2. Advance a Statewide Urban Pest Management Strategy: Shifts in demographics,
165 most notably expanding urbanization, will challenge DPR's priorities and
166 resource allocations. DPR currently does not have a comprehensive urban pest
167 management strategy. Resources are limited for educating urban pesticide users
168 as to the health risks and impacts to the environment associated with their pest
169 management activities. Currently, there is little motivation for urban pesticide
170 users to alter their behavior. For example, economic factors affecting agricultural

- 171 pest management decisions do not necessarily apply to urban pesticide users,
172 particularly homeowners.
- 173 • **Recommendation:** Use state licensing and county registration processes to
174 educate, in appropriate languages, maintenance gardeners and other licensees
175 on IPM, runoff reduction, and drift prevention.
 - 176 • **Recommendation:** Identify opportunities to build off existing programs and
177 to work with local, state and federal agencies and the county agricultural
178 commissioners to promote a statewide Urban IPM strategy. Components of
179 such a strategy could include:
 - 180 • Multi-lingual education on IPM techniques for targeted audiences at
181 the local level.
 - 182 • Partnerships with local media, government, agricultural
183 commissioners, businesses, non-government organizations, the
184 University of California and others to promote IPM programs.
 - 185 • Coordination with existing IPM groups.
 - 186 • Require point-of-sale information, approved by DPR, on pest
187 management alternatives and proper disposal of unused pesticides.
 - 188 • **Recommendation:** Evaluate the feasibility of expanding use of pre-
189 formulated pesticide products in the urban setting.
 - 190 • **Recommendation:** Identify incentives to encourage licensed pest control
191 operators and homeowners to use IPM techniques.
- 192 3. Marketing Alternative Pest Management Strategies: Structural Pest Control
193 Board rules limit marketing environmental alternatives.
- 194 • **Recommendation:** Work with Structural Pest Control Board to identify
195 opportunities to promote structural IPM.
- 196 4. Retail sales of pesticides
- 197 • **Recommendation:** Review the current registration system and develop
198 additional mechanisms to limit availability of high-risk home-use pesticides.
 - 199 • **Recommendation:** Develop retail-level mechanisms to restrict in-store
200 access to high-risk consumer-retail pesticides.

- 201 • **Recommendation:** Certify retailers who go above and beyond basic retail
202 efforts for promoting IPM.
- 203 • **Recommendation:** Identify opportunities to merge the responsibilities and
204 authority of the Structural Pest Control Board with DPR.

205

206 **C. Challenges and Recommendations in the Agriculture-Urban/Residential**
207 **Interface Setting**

208 1. **Rapidly Expanding Agriculture-Urban/Residential Interface:** Projections
209 regarding California's population growth over the next two decades indicate a
210 significant increase in the number of people located adjacent to agricultural lands.
211 This could increase the potential for human exposure to some agricultural
212 pesticides and pest management practices.

213 • **Recommendation:** Work with the agricultural community to identify
214 opportunities to reduce risk of human exposure to pesticides in the
215 agriculture-urban/residential interface and other adjacent sensitive areas.

216 • **Recommendation:** Promote communications between agricultural pest
217 managers and their neighbors to minimize risk of exposure and better
218 understand each other's needs and concerns (e.g. winegrape industry model).

219 • **Recommendation:** Promote joint private-public research, outreach,
220 demonstration projects, funding and economic incentives to develop and use
221 alternative pest management practices; and equipment, chemicals and
222 application techniques that reduce risks to human health, safety and the
223 environment.

224 2. **Local Planning:** Any effort to address development adjacent to farming operations
225 must go through local planning agencies. Current property values and associated
226 revenue sources for local government (i.e. property taxes) favor development.

227 • **Recommendation:** Work with local planning agencies to identify
228 opportunities to address agriculture-urban/residential interface challenges
229 through existing zoning authorities. This may include designing mitigation
230 measures applicable to proposed development adjacent to ongoing agricultural

231 operations. For example, local planning agencies could impose buffer zones
232 on new development projects adjacent to ongoing agricultural operations to
233 minimize the risk of pesticide exposure to persons entering onto or residing
234 within the new development. The use of such buffer zones would not obviate
235 the need for agriculture to employ IPM and other practices that reduce the risk
236 of drift and exposure or the responsibility to prevent off-site contamination
237 and impacts.

238

239 **D. Challenges and Recommendations in the Agricultural Setting**

240 1. Economic Considerations: Competition and global sources for many agricultural
241 crops may limit a grower's ability to absorb additional costs associated with
242 alternative pest management practices.

243 • **Recommendation**: DPR, in conjunction with the California Department of
244 Food and Agriculture, should explore possible marketing opportunities (eco-
245 labeling) for growers who utilize alternative pest management techniques
246 (sustainable agriculture programs that have an IPM component).

247 2. Financial Constraints: External operational constraints (e.g. shipping and lending
248 institution requirements to use pesticides) may limit growers' ability to use
249 alternate pest management practices.

250 • **Recommendation**: Determine the degree to which these constraints impede
251 growers' use of alternative pest management practices and develop strategies
252 to address them.

253 3. Risk: Risks are an impediment to adoption of IPM

254 • **Recommendation**: Identify opportunities to mitigate risks (actual or
255 perceived) that impede adoption of IPM (e.g. education, training, insurance
256 and tax incentives).

257

257 **E. Statewide Voluntary Integrated Pest Management Certification Program**

258 The working group recognized the desirability of a coordinated integrated pest
259 management certification program that incorporates many of the recommendations from
260 the previous sections. While the working group identified some components, discussed
261 below, that may be appropriate, full consideration of such a program is beyond the
262 current working group's charge.

263

264 A certified IPM program should recognize the public benefits derived from the use of
265 IPM practices and acknowledge the potential that landowners/growers may incur
266 additional initial costs and face other challenges to implementation. The core intent of a
267 statewide IPM Certification Program is to encourage voluntary participation through a
268 variety of incentives ranging from advantageous marketing strategies (eco-labeling,
269 preference in state procurement programs or special promotion campaigns) to regulatory
270 or administrative efficiencies or economic benefits.

271

272 Furthermore, for such a program to succeed it must have a great deal of flexibility to take
273 into account the differences between crops and the needs and abilities of individual
274 landowners and growers. It would also require cooperation on the part of other state
275 regulatory agencies, e.g. Air Resources Board, Air Quality Districts, State Water
276 Resources Board, Regional Water Quality Control Boards, Department of Fish and
277 Game, and California Department of Food and Agriculture.

278

279 Such a program could build off existing voluntary sustainable agriculture programs such
280 as the California Sustainable Winegrowing Alliance and the "Code of Sustainable
281 Winegrowing" or the Protected Harvest projects that include an integrated pest
282 management component. It could be part of a broader, certified sustainable agriculture
283 program, or part of the state's "Buy California" campaign.

284 4. **Recommendation:** Form a working group to develop and promote voluntary
285 IPM certification programs.

286

287

287 **2. Enhance DPR's Compliance, Education and Enforcement Programs**

288

289 **A. Overarching Challenges and Recommendations**

290 1. Coordination with other State Agencies, Boards and Departments: With the
291 expanding urban interface and associated increases in pesticide use, there is
292 increased need for DPR to coordinate its regulatory and enforcement activities to
293 ensure consistency with the efforts by other state agencies such as the State Water
294 Resources Control Board, the Regional Water Quality Control Boards, Air
295 Resources Board and the Air Quality Districts.

296 • **Recommendation**: Improve communications with and solicit input from
297 appropriate state agencies early in the registration process to ensure their
298 environmental and health standards will be satisfied.

299 2. Redefining DPR's Enforcement Policy: The working group supports an
300 enforcement policy that emphasizes performance-based results. Some working
301 group members raised concerns as to whether DPR's enforcement policy has an
302 adequate process to ensure improved performance. Some members of the
303 working group believe that DPR's current enforcement program generally does
304 not provide adequate deterrence. (A \$200 fine may be seen as merely a cost of
305 doing business as opposed to a deterrent.)

306 • **Recommendation**: Clarify and ensure consistent interpretation statewide of
307 definitions of current classifications of administrative civil penalties.

308 • **Recommendation**: Develop an education and communication program to
309 ensure that the county agricultural commissioners, DPR's enforcement staff,
310 the regulated community, farm workers and other affected community
311 members understand how the enforcement program will be implemented.

312 • **Recommendation**: Work with Natural Resource Conservation Service
313 (USDA), county agricultural commissioners and University of California to
314 improve education opportunities for licensees and other pesticide applicators
315 regarding compliance with state laws and regulations.

- 316 • **Recommendation:** DPR should further audit county agricultural
317 commissioners' outreach programs, including compliance, education and
318 enforcement programs, to ensure statewide consistency in meeting
319 performance goals.
- 320 • **Recommendation:** DPR should work with the counties and CDFA to
321 improve timeliness of completion of pesticide investigations and related
322 pesticide testing.
- 323 • **Recommendation:** Structure fines to ensure they adequately deter violations
324 of the law.
- 325 • **Recommendation:** Focus DPR's and the county agricultural commissioners'
326 enforcement resources on problem areas and issues of greatest concern to
327 human health and safety and the environment.
- 328 • **Recommendation:** Focus on repeat offenders and serious violations.
329 Increase administrative and licensing actions, and civil and criminal penalties
330 for recidivist activities and serious violations.
- 331 • **Recommendations:** Identify opportunities for DPR and the county
332 agricultural commissioners to promote IPM practices during the permitting
333 process. Refer to the previous sections.
- 334 • **Recommendation:** Identify incentives for long-term compliance (e.g.
335 extended timeframes for permits, fewer inspections for those with exceptional
336 compliance records).
- 337 • **Recommendation:** Refocus the county agricultural commissioner and DPR
338 reporting efforts to emphasize the nature of violations found and resultant
339 compliance and enforcement actions taken. Ensure these reports are readily
340 available to the public.
- 341 3. **Limited Resources:** Fiscal constraints on DPR and county agricultural
342 commissioners limit compliance/enforcement results.
- 343 • **Recommendation:** Evaluate and modify as necessary current licensing fees
344 to ensure adequate funding for administrative and regulatory costs.

345 • **Recommendation:** DPR should evaluate the adequacy of the existing system
346 to provide recourse for parties affected by pesticide violations.

347 4. Legislative Oversight

348 • **Recommendation:** Evaluate DPR's enforcement reporting mechanisms to
349 ensure adequate feedback is provided to the Legislature.

350 5. Water Quality: Increased focus is needed to prevent, detect and respond
351 appropriately to impacts on water quality related to pesticide use.

352 • **Recommendation:** Working with the water boards and other stakeholders
353 responsible for water quality, improve procedures to ensure adequate
354 consideration of known and potential water quality impacts are considered
355 during the registration and re-registration processes

356 • **Recommendation:** Improve coordination with the state and regional water
357 boards to ensure the timely investigation, prevention and mitigation of water
358 quality impacts discovered after a pesticide is registered.

359

360 **B. Challenges and Recommendations in the Urban/Residential Setting:** Given
361 the increasing number of pesticide users in the urban/residential setting, the
362 working group recognizes education and communication as the keys to a
363 successful compliance/enforcement program. Readily available information and
364 media communication that informs an urban party of his/her pest management
365 options may minimize undesirable consequences. Furthermore, DPR should
366 assess the allocation of its resources to take into account projected increases in
367 urban populations and associated increases in urban pest management activities
368 without compromising its compliance and enforcement efforts applicable to
369 agricultural activities.

370 • **Recommendation:** Ensure adequate DPR and county agricultural
371 commissioners' compliance, education and enforcement resources to address
372 increasing urban/residential pesticide sales and use.

- 373 • **Recommendation:** Evaluate adequacy of compliance, enforcement and
374 education efforts with regards to licensed urban pesticide use such as the
375 maintenance gardeners.

376 **C. Challenges and Recommendations in the Agriculture-Urban/Residential**
377 **Interface Setting**

378 The rapidly expanding agriculture-urban/residential interface requires accurate
379 and timely information to minimize the potential for adverse impacts associated
380 with adjacent pest management activities. Such information also affords county
381 agricultural commissioners more opportunities to interact proactively with the
382 user to avoid such impacts and to ensure compliance.

- 383 • **Recommendation:** DPR, in cooperation with the county agricultural
384 commissioners, should evaluate the current Pesticide Use Reporting System
385 and identify opportunities to upgrade the system to provide more timely and
386 precise information.

387

388 **D. Challenges and Recommendations in the Agricultural Setting**

389 Many of the compliance/enforcement recommendations applicable to the
390 agricultural setting are set forth in Section A. Overarching Challenges and
391 Recommendations, pages 8-9.

392

393 Maintain a Safe Food Supply for California's Consumers: Fresh and lightly
394 processed (e.g. frozen and dehydrated) foods produced outside California with
395 lower food safety standards are increasingly available to California consumers.

- 396 • **Recommendation:** Ensure processes are in place and adequately funded to
397 monitor Californians' food supply to ensure California safety standards for
398 pesticide residues are met. This may require increased residue testing of
399 foods, including lightly processed foods from other states and countries.