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7

8 IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA
9 COUNTY OF SONOMA

10 LEX McCORVEY,
11 Petitioner,

12 v.

13
14 EEVE T. LEWIS, in her capacity as Sonoma County
15 Clerk-Recorder-Assessor,
16 Respondent,

17 GEORGE DAVIS, YVETTE HUDSON, DR. APRIL
18 HURLEY, MARGARET PENNINGTON, JILL
19 NUSSINOW, PEGGY MIARS, LOU PRESTON,
20 GAIL DUBINSKY, MICHAEL ALLEN and
21 DAREK TROWBRIDGE,
Real Parties in Interest.

**CASE NO.: SVC 237337
(consolidated with Case No. 237322)**

**DECLARATION OF KENT J.
BRADFORD, Ph.D. IN SUPPORT OF
AMENDED PETITION FOR WRIT OF
MANDATE (Case No. SVC 237337) AND IN
OPPOSITION TO PETITION FOR WRIT
OF MANDATE (Case No. SVC 237332)**

**ELECTION MATTER
IMMEDIATE ACTION REQUESTED**

[MEASURE M]

Date: September 12, 2005
Time: 11:00 a.m.
Dept.: 18 (Hon. Knoel L. Owen)

22
23 I, Kent J. Bradford, Ph.D. declare:

24 1. I am making this Declaration based on personal knowledge and state, affirmatively, that
25 if called as a witness, I can testify competently to the facts set forth in this Declaration.

26 2. I obtained a Bachelor of Science from Michigan State University in biochemistry in
27 1975. I also received a Masters Degree from Michigan State University in horticulture in 1977. In 1981,
28 I obtained my Ph.D. in Plant Physiology from the University of California, Davis.

1 3. Since 1982, I have been a professor in the Department of Vegetable Crops at the
2 University of California, Davis. Between 1993 through 1998, I served as the chair of that department.
3 The Department of Vegetable Crops merged into the Department of Plant Sciences in 2005.

4 4. In 1999, I founded and have since been director of the Seed Biotechnology Center. This
5 is a unit of the College of Agricultural and Environmental Sciences whose mission is to mobilize the
6 research, educational, and outreach resources of the University of California in partnership with the seed
7 biotechnology industry to develop and commercialize new germplasm and seed technologies for
8 agricultural and consumer benefit.

9 5. My research interests have focused on all aspects of seed biology, from the molecular
10 biology and physiology of seed development, dormancy and germination to the storage, enhancement
11 and utilization of seeds for agricultural purposes. My disciplinary expertise is also in plant water
12 relations and the hormonal regulation of plant growth and development and in plant biotechnology.

13 6. A true and correct copy of my curriculum vitae is attached as exhibit 1 to this declaration.

14 7. I read and am familiar with the text of Measure M, as well as the Argument in Favor of
15 Measure M, and the Rebuttal to Argument Against Measure M that have been filed with the Sonoma
16 County Clerk.

17 8. The first paragraph of the Argument in Favor of Measure M (Exh. C) describes
18 genetically engineered foods as “unsafe.” This is patently false. No scientific study has found
19 genetically engineered foods to be unsafe. In contrast, a 2004 study by the National Research Council of
20 the National Academy of Sciences stated, "To date, no adverse health effects attributed to genetic
21 engineering have been documented in the human population." That study is attached as exhibit 2 to the
22 Miadich declaration. All GE foods currently marketed have been examined by the Food and Drug
23 Administration and found to be as safe as any other foods. An EU Commission Report (2001) that
24 summarized biosafety research of 400 scientific teams from all 15 EU countries conducted over 15 years
25 stated that research on biotechnology-derived plants and derived products so far developed and
26 marketed, following usual risk assessment procedures, has not shown any new risks to human health or
27 the environment beyond the usual uncertainties of conventional plant breeding.

28 9. The third paragraph of the Argument in Favor of Measure M (Exh. C [brackets added])
provides that, “There has been no long-term testing of the health risks to humans from GE foods but

1 laboratory animals fed GE foods develop stomach lesions, immune system damage and precancerous
2 conditions.” This sentence is false and misleading in at least two respects. First, as noted above, GE
3 foods have been in the US market for over 9 years with no documented adverse health effects. Scientific
4 panels have consistently concluded that there are no unique hazards of genetic engineering per se
5 beyond those that are inherent in other types of plant breeding and genetic modification.

6 Second _The statement about GE foods causing laboratory animals to develop stomach lesions, immune
7 system damage and precancerous conditions apparently comes from the work of Dr. Arpad Pusztai. He
8 reported in a press conference in 1998 that rats fed genetically engineered potatoes developed those
9 symptoms. However, this study has been strongly criticized for its design and lack of proper controls,
10 and was published in 1999 only after considerable controversy. In the published version, claims of
11 immune system damage and precancerous conditions were dropped. Thus, the unqualified statement that
12 laboratory animals fed GE foods develop these symptoms is not supported by the literature or by any
13 other of numerous studies that find no adverse health effects from feeding animals GE foods.

14 (<http://ucce.ucdavis.edu/files/filelibrary/5283/17273.pdf>).

15 10. The third sentence of paragraph five of the Argument in Favor of Measure M (Exh. C)
16 states “Organic farmers are particularly vulnerable to GE contamination – *they will lose organic*
17 *certification and their livelihood.*” This statement is also false and misleading. To be become
18 marketable as Aorganic,@ a product must comply with the Organic Food Production Act of 1990, 7
19 U.S.C. '6501 et seq. (AOFPA@) and the National Organic Program, 7 C.F.R. '205.1 et seq. (ANOP@).
20 As a member of the Board of Directors of the California Crop Improvement Association, a USDA-
21 certified organic certifier, I am familiar with the legal requirements and practical workings of the OFPA
22 and the NOP.

23 11. The NOP regulates the process of producing and handling organic foods. Under the
24 NOP, the mere presence of product of biotechnology, absent more, will not affect the organic nature or
25 the labeling of a product or organic operation as Aorganic.@ The NOP provides specific
26 guidelines/thresholds for the amount of pesticides that may be used in organic products. However, with
27 respect to pollination between GMO species and non-GMO species, no such guideline or threshold
28 exists. So, if a non-GMO/organic crop was pollinated with a GMO specifies unintentionally, the product

1 can continue being labeled as an Aorganic@ product and the organic farmer can retain his certification
2 as an Aorganic farmer@ at the discretion of the certifier. The NOP focuses on removing Aorganic
3 certification@ or the labeling of products as Aorganic@ in those cases where an individual has
4 intentionally used genetically modification or deviated from the organic production and handling system
5 proscribed by the certifying agent. Thus, the statement contained in the Argument is false and
6 misleading.

7 12. The second sentence of the sixth paragraph in the Argument in Favor of Measure M
8 (Exh. C) provides that, “The measure does not limit research, production and use of genetically
9 engineered drugs and vaccines for people and animals.” The seventh paragraph of the Rebuttal to the
10 Argument Against Measure M (Exh. G) provides that, “Drugs, vaccines and all other medicines will still
11 be available to everyone.” These statements are false and misleading in several respects. While
12 Measure M has a provision to allow research using genetic engineering, it requires that such research be
13 done in a BSL-3 containment facility. This level of containment is intended for use only with the most
14 contagious and deadly of human pathogens, such as mycobacterium tuberculosis, St. Louis encephalitis
15 virus, and *Coxiella burnetii*. Few of these facilities exist in California, particularly those that are capable
16 growing plants. In fact, only two such facilities, one at UC Riverside and one at UC Davis fully meet
17 BSL-3 requirements for growing plants. The USDA and other federal agencies have established criteria
18 for the containment of GE plants during the research phase either through a permit or a notification
19 process that does not require BSL-3 facilities (<http://usbiotechreg.nbio.gov/index.asp>). It is therefore
20 misleading to imply that Measure M will not limit research and production activities when the
21 requirements that it places on such research will clearly be limiting to those activities.

22 13. The second and tenth paragraphs in the Rebuttal to the Argument Against Measure M
23 (Exh. G) provide, respectively “Measure M will protect Sonoma County’s family farmers, gardeners and
24 environment from *irreversible* genetic contamination by GE organisms;” and “*GE contamination is*
25 *forever...[.]*” These statements are false and misleading. The introduction of GE crops is certainly
26 reversible. A clear example was the case of Starlink corn, where small quantities of corn intended only
27 for animal feed was found in human food products. Those corn varieties were removed from the market,
28 industry seed stocks were screened for the presence of this particular gene, and within one or two years
the Starlink gene was essentially gone from the corn market. Field trials where this question has been

1 specifically addressed found that GE crops left on their own (i.e., without cultivation) were not
2 successful in competing with native vegetation. A controversial report in 2001 claimed that GE corn had
3 contaminated native corn fields in Oaxaca, Mexico, and that it would inevitably spread. However, a
4 recent extensive sampling in that area in 2003 and 2004 (over 153,000 kernels tested) did not find even a
5 single transgenic kernel (www.pnas.org/cgi/doi/10.1073/pnas.0503356102). Thus, if there was
6 transgenic corn there in 2001, it was gone by 2003-04, showing that its presence was not “irreversible”
7 or “forever”. It is important to remember that these GE varieties are domesticated crops that rely on
8 human harvesting, saving and planting for survival. Many of the characteristics that make crops valuable
9 for us handicap them if they must compete in the wild, so they seldom persist outside of cultivation.
10

11 14. The third paragraph of the Argument Against Measure M provides that, “For years, GMOs have
12 made farming safer, more efficient and more environmentally sensitive. Science has proven that GMO
13 crops reduce pesticide use, fuel emissions and water use while improving air quality.” This is a wholly
14 accurate description of some of the proven benefits of GE crops. There can be no controversy
15 concerning the reduction in insecticide use that has resulted from the introduction of Bt cotton and corn.
16 These products have markedly reduced the number of insecticide applications and the quantity of
17 insecticides applied, particularly for the cotton boll worm (Shelton et al. 2002. Annu. Rev. Entomology
18 47: 845-881). The introduction of rootworm resistance into corn is also reducing the use of soil-applied
19 insecticides in the Midwest. Especially dramatic reductions have been documented in developing
20 countries, including India and China (Qaim M. and Zilberman D. 2003. Science 299: 900-902). The
21 reduction in pesticide use due to GE cotton in China has had a direct positive effect on human health
22 (Hossain et al. 2004. Int. J. Occup. Environ. Health 10: 296-303). It is incontrovertible that the
23 introduction of GE crops, particularly the Bt crops, has reduced pesticide use and made farming safer.
24

25 15. With respect to farming efficiency and fuel use, herbicide-tolerant crops have enabled wider
26 adoption of conservation tillage or minimum tillage practices. Over 63 percent of soybean growers who
27 reduced their tillage between 1996 and 2002 cited herbicide-tolerant technology as the key factor in
28 doing so. A copy of the study containing this formation is attached as exhibit 1 to the Miadich

1 declaration. A major limitation of minimum tillage practices is weed control, and much plowing is done
2 primarily to control weeds. By allowing the crop to be planted and then sprayed with an herbicide to
3 control weeds, the need for additional plowing is reduced, which reduces fuel use. Farmers are saving
4 more than 309 million gallons of fuel per year with conservation tillage methods and reducing the
5 release of carbon dioxide into the atmosphere by 1 billion pounds per year (op.cit.). Reduced tillage also
6 slows the oxidation of organic matter in the soil that would release carbon dioxide, and in fact allows the
7 soil to sequester carbon dioxide from the air, slowing the rise in atmospheric CO₂ that is contributing to
8 global warming. Less plowing also reduces the generation of dust, which is also a factor in air quality. It
9 is well known that soils that are high in organic matter retain moisture better, reducing run-off and
10 erosion and improving water infiltration, thereby increasing the efficiency of water use. Herbicide-
11 tolerant crops are also being used to incorporate cover crops into rotation practices in California, with
12 additional benefits for soil quality. The evidence thus far is clear that GE crops allow farmers to grow
13 crops more efficiently and with reduced impact on the environment.

14 I declare under penalty of perjury under the laws of the State of California that the foregoing is
15 true and correct.

16 Dated: September _____, 2005

Kent J. Bradford, Ph.D.

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