

Seed Advisory Board Meeting
 CDFA Plant Diagnostics Center
 Meadowview Road, Sacramento, CA
 8:15 AM, Tuesday May 7, 2013

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1. Call to Order – Roll call

Chairman Falconer called the meeting to order at 8:15 am. The following members and guests were present and introduced themselves and their affiliations.

Kelly Keithly	Betsy Peterson	Paul Frey
Rick Falconer	Deborah Meyer	Susan DiTomaso
Bob Prys	Chris Zanobini	Robert Price
John McShane	John Heaton	Sean Dayyani
Marc Meyer	Allen Van Deynze	Phuong Lao
Paul Frey	George Hansen	Connie Weiner
Michael Campbell	Bill White	

2. Oath for Appointed Members and Housekeeping

The Oath for new and reappointed members was administered by John Heaton. He also reviewed a new questionnaire for persons interested in serving on the Board as well as a new questionnaire for current members who are facing term expiration.

Heaton provided the Board a new roster that indicated the term appointments. He noted the flip side had a sample of the vacancy posting he plans to post June 1st per the Board's previous desire to widely circulate vacancy announcements with ample time for interested parties to apply and time for the Board to review applicant qualifications. In this way the Board can make informed recommendations to the Secretary during their November meeting and before the spring appointments.

3. Acceptance of Minutes from February 22, 2013 Seed Advisory Board meetings

Kelly Keithly motioned for the minutes of the February 22, 2013 meeting be accepted. Bob Prys seconded the motion. Motion carried.

4. Seed Biotechnology Center Report

Sue DiTomaso provided a PowerPoint outline to summarize recent activities at the Seed Biotechnology Center (attachment 1). SBC continues to have success with courses for seed professionals at various levels. Recent courses completed were Seed Business 101, and Seed Biology Production and Quality. New courses being offered are Seed Captain, and UC Davis Program Management for Plant Breeders.

The Plant Breeding Academy (PBA) continues to be the core outreach effort by the SBC. So far they have trained one hundred fourteen plant breeders from various countries. Sue reported that the PBA is also operational in Europe, Asia and recently has become active in Africa. The SBC received funding from a consortium of interests to offer the educational component of plant breeding in conjunction with an effort to sequence one hundred orphan crops that are important to Africa. The PBA hopes to train one hundred twenty African plant breeders in the next three to four years.

Dr. Allen Van Deynze reported that UCD is continuing its effort to launch a Plant Breeding Center. The goal is to organize existing Plant Breeders at UCD and take advantage of information and technology developed by SBC in order to benefit students and the industry. He reported that the university is currently recruiting a Director for the Plant Breeding Center.

Dr. Van Deynze also reported on new projects the SBC is working on, including; spinach sequencing, pepper virus-resistance, eggplant sequencing and cotton germplasm diversity.

He also stated the SBC is cooperating with Dr. Phil Simon of the University of Wisconsin, on the domestication of carrot. Through their collaborative efforts they are discovering new genes that can be used for carrot breeding purposes.

The ongoing efforts at SBC have resulted in a dozen publications by Dr. Bradford and Dr. Van Deynze during 2012. In 2013 they already have three new publications accepted with more to come. In addition, Dr. Bradford has co-authored a new book titled Seeds: Physiology of Development, Germination and Dormancy.

Dr. Van Deynze concluded by reporting that Seed Central and Food Central have combined efforts. Their next meeting will include a brainstorming session about how to standardize identification of plant pathogen strains and races using differential hosts – an ASTA CPPSI project. Seed Central is working with ASTA and the industry group about having a person to coordinate this effort. It has been proposed that this person be housed at UC Davis.

Seed Central and the SBC are also working on the Collaborative Research (or CoRe) Lab. The idea is to provide an opportunity for companies to come to UC Davis and work collaboratively on various research projects. Dr. Van Deynze reported that some drawings for a new building adjacent to the Plant Reproductive Biology building have already been made.

Another program Seed Central and the SBC are involved with is the Corporate Affiliates Partnership Program, which functions to facilitate research agreements.

Dr. Van Deynze concluded his report by stating the SBC and Seed Central are also involved in several student outreach activities, including the AA seed technician program at Hartnell College in Salinas.

Susan DiTomaso provided the Board an overview of the funds used for the Seed Biotechnology Center (attachment 2). She noted that the report differed from previous years in that the line for salaries has increased a bit due to salary increases, but the line for other operations has decreased because of cost sharing with other programs. Dr. Van Deynze noted that the line for salaries does not include full salaries from the staff because the SBC is able to charge portions of staff salaries to other programs they also work for.

Susan noted this is the final report of a three year grant initially awarded in July 2010. She thanked the Board for their continued support in the form of a new three year grant for \$600,000. She added the funds received enable the SBC to provide core support of activities that bring in additional funds. She concluded her report by announcing a new long term project to provide an endowment to fund the Director of the Seed Biotechnology Center. The goal is to raise five to ten million dollars in order to support a fulltime faculty position in perpetuity.

John McShane motioned to accept the Seed Biotechnology Report. Kelly Keithly seconded the motion. Motion carried.

5. Summary of Recent Activities in the Seed Services Program and the Seed Laboratory

Heaton presented several news and magazine articles about the following seed related issues.

- An article about Rijk Zwaan winning an infringement case against a competitor who was selling a variety protected with PVP. Interestingly, Rijk Zwaan's own DNA tests confirmed their suspicions and provided the impetus to pursue the violation.

Heaton commented that he has conducted numerous enforcements involving the renaming of vegetable varieties. He believes there will be more DNA testing of vegetable varieties by PVP certificate holders to determine if unauthorized sales of their protected varieties are occurring. He added that most seed control officials in the U.S. do not believe they have a clear and direct avenue for enforcement of PVP violations.

- An article about the use of I-Pads for seed sales was presented. Heaton noted that while advanced communications assist seed companies and inspectors, they also provide customers an easy way to quickly disseminate pictures and information if they are not satisfied with the quality of seed. Such communications can be detrimental to the reputation of a seed company when the quality of the seed is not really the issue. Heaton reminded the Board that rather than running the risk of angering a customer, companies should utilize the seed complaint process. He emphasized that it is available to assist both parties when a concern of seed quality occurs.
- An article about the increased use of seed treatment. Heaton reminded the Board that seed treatments add value to the seed and are required to be included in the reported sales of seeds sold in California. He also noted that ASTA recently published guidelines about stewardship of seed treatment. The Seed Services Program takes extra care when handling treated seeds.
- An article about coexistence and the issue of compensation for affected farmers. In short the issue has not been resolved and more data is to be collected.
- An article about State National Harmonization of Seed Potatoes (SNHP). Heaton noted that the impetus for the SNHP was to provide standards that enhance market access. The SNHP is an example of how all parties have to agree to a certain levels of inspections and oversight. A big part of the SNHP is the mandatory shipping point inspections. He noted that numerous crop seeds require specific inspections and tests before they can be shipped overseas. Heaton emphasized that the SNHP for seed potatoes is an example of why CDFA staff need to participate in national organizations. The annual meetings of such organizations are where inspection and testing standards are often decided. The rules developed during those meetings must provide consistent results and should be harmonious with systems used by trading partners. A tremendous amount of work must be conducted to achieve those goals. He noted that the authors of the article believe these kinds of harmonization programs will increase in the future.

Dr. Van Deynze commented that sometimes the standards proposed are not realistic or practical. He provided an example of a proposal by the International Seed Federation (ISF) for tomato inbred lines to be 98% genetically pure. He was able to provide data showing tomato inbreds are not 98% genetically pure. His point was that it is very important to have knowledgeable people who can critically review proposals for standards because sometimes the proposals are not practical and can cause disorder in the market.

Visitors to the Seed Laboratory

Heaton reported that the Seed Services Program and Seed Laboratory received a delegation of scientists from PR China. They were very interested in how CDFA tests seed for quality and how the seed law is enforced in California. In addition, the visitors requested a tour of the seed herbarium and asked questions about how it is maintained.

Besides meeting with international visitors, the seed lab routinely assists other laboratories. Heaton related that while attending a recent meeting of the California Crop Improvement Association (CCIA), a statement of recognition and gratitude to the staff of the CDFA lab was expressed for their assistance in developing a preliminary diagnostic tool for early and late watergrass. These weeds have become important because herbicide resistant watergrass is trying to get established in certain areas of California rice seed production. Since there are certification standards for the number of watergrass seeds per pound of rice planting seed, it's very important for seed technologists to correctly identify seeds of similar species. Heaton suggested that the cooperative work between the CCIA lab and the CDFA lab demonstrate how important non-routine activities by the CDFA lab are for assisting the seed industry in California.

Letter of Proof for Export

Heaton presented a letter from the government of Yemen to demonstrate another kind of activity the Seed Services Program and the Seed Lab occasionally become involved with. The letter stated a new requirement for a specific document from the regulating entity before seed would be allowed entry into Yemen. He stressed how important it is to have experienced and knowledgeable people to address and resolve the technical issues of seed testing when similar letters come from other trading partners requesting various other kinds of documentation.

Betsy Peterson reported that CSA and ASTA have been working with the Yemen officials and it appears there will be some clarification and resolution soon.

Deborah Meyer inquired if the Yemen officials are only accepting an ISTA orange certificate.

Betsy replied that the negotiators are proposing a certificate from an ISTA accredited lab or a Federal Seed Analysis Certificate issued under ISTA rules. She noted that all of the companies involved have been using ISTA certificates.

Heaton related that since some companies in California were not entirely happy with the limited arrangements to obtain ISTA certificates, they asked the Federal Seed Regulatory Testing Division to offer training to seed samplers in California. He reported that during last February about a dozen government employees at the state and local level received training from the USDA to sample seeds in accordance with ISTA methods. If service samples are requested for ISTA certification, staff can charge \$60 per hour to collect and submit the sample to the USDA.

AASCO Seed Sampler Trainer Accreditation Program

On a related note, Heaton reported that the Association of American Seed Control Officials (AASCO) has launched an accreditation program for seed sampler trainers. These trainers will be accredited to use the seed sampling methods prescribed by the Association of Official Seed Analysts (AOSA). These sampling methods are the official methods used for enforcement of state seed laws and the Federal Seed Act. The accreditation program is a huge step toward meeting the demand for trained seed samplers. The idea is that after an individual

becomes accredited, they can train samplers with the proper methods to sample seeds. Even though the effort has only started recently, there have already been ninety-four seed samplers trained in California since March.

Deborah Meyer noted that the efforts by AASCO and USDA Accredited Labs offer a viable alternative to use of the ISTA system. She suggested that when industry representatives negotiate with foreign governments, they should promote the domestic alternatives as substantially equivalent to the ISTA systems.

Betsy Peterson acknowledged that alternative and stated that the goal is to harmonize the rules with other countries. She added that right now the big obstacle for harmonization is that the U.S. seed companies do not want to register their vegetable varieties.

Heaton noted that monitoring seed samplers is very important to the strength of any seed testing system. He provided the Board a handout from the AASCO Seed Sampler Trainer Accreditation Program. The form provides seed labs a way to easily report to AASCO the quality of seed samples received from AASCO. He suggested this sort of input appears to be lacking in other systems and should help to add quality control measures to the U.S. system.

OECD Maximum Lot Sizes

One final activity Heaton reported was his recent communication with a representative from OECD who was seeking information about the maximum lot size for certain grass species. Apparently OECD is considering an increase to the maximum lot size for grass species. Heaton noted that ISTA actually has smaller lot sizes than the AOSA/AASCO system. This directly translates into more samples, more tests, more certificates and more costs for the industry.

CCR4500 and Restricted Weeds

Deborah Meyer informed the Board that the Department maintains a list of weeds considered to be noxious under section 4500 of the California Code of Regulations. She informed the Board that the restricted and prohibited weed seeds of the seed law are a limited list of what California considers noxious weed species. She explained that California law restricts the movement of all noxious weed seeds in California but allows the Secretary to designate noxious weeds as either prohibited or restricted for purposes of seed labeling. The Department is currently in the process of categorizing all of the noxious weeds on the 4500 list as either restricted or prohibited for purposes of labeling planting seed sold in California.

Deborah noted that the 4500 list currently contains all of the prohibited and restricted weed species identified in the seed law but there are about one hundred sixteen other species of weeds which still need to be categorized. This means there will be a considerable number of new species on the noxious weeds list that will get added to the current list of restricted or prohibited weed seeds in the seed law.

She further reported that an analysis of regulatory seed samples collected from agricultural seed lots over the last eleven years revealed that 81% of the agricultural seed samples had zero weed seeds, while about 13% had only one weed seed. Conversely, 94% of the regulatory seed samples taken from agricultural seed lots over an eleven year period had very few weed seeds. Of the two hundred and eleven different species of weeds identified, only eighteen were considered noxious weed seeds under California law, and one was a Federal noxious weed seed. From those nineteen noxious weed seeds, only five were not already

categorized as prohibited or restricted for seed labeling purposes. Consequently the impact of categorizing the entire 4500 list of California's noxious weeds is expected to not pose significant problems to seed labelers because the species of concern are not frequently encountered in seed lots.

Deborah Meyer provided a handout of her analysis and the 4500 list of noxious weed species as well as their current status as prohibited or restricted, and the number of times they were found over the last eleven years (attachment 3).

Heaton further explained that the Food and Agriculture code allows the Secretary to designate certain weeds as noxious. There are currently one-hundred fifty six species designated as noxious in California. For purposes of seed labeling, the seed law provides that noxious weeds shall be further designated as prohibited or restricted. There are currently nineteen prohibited weed seeds and twenty-one restricted weed seeds. The remaining species on the 4500 list still need to be categorized as prohibited or restricted. Heaton believes it is preferable to designate noxious weed seeds as restricted or prohibited because the seed law provides an exception for movement of noxious weed seeds in seed lots if they are properly labeled as restricted. When species are simply listed as noxious, they are subject to quarantine law and not allowed to be moved or sold at all in the state.

He explained that the analysis presented by Deborah Meyer was undertaken to determine how this regulatory change might affect the seed industry. He noted that the handout listed only five different species and provided the number of times each species was found during the eleven year period. He suggested that since only thirteen samples from more than 8,000 regulatory seed samples had a least one of the uncategorized noxious weed seeds, the proposed categorization of the 4500 list should not present a problem to seed labelers.

Heaton added that the report of frequencies for the various weed seeds in regulatory samples will be part of the economic analysis prepared for the regulatory change. He reiterated that all of the species on the 4500 list will ultimately be designated as prohibited or restricted. If a seed laboratory reports the finding of a prohibited noxious weed seed in a seed lot, the labeler will not be allowed to sell or transport the seed lot, or if the weed seed is restricted, the labeler must indicate the number of restricted weed seeds per pound in the seed lot.

The major consideration for this regulatory change is to provide consistency of enforcement between sections of the law. There is concern of potential liability for the Department if one program allows a weed seed into commerce and another program comes along later and takes enforcement action. Heaton added that currently a different group within CDFA administers quarantine enforcements and responds to findings of uncategorized noxious weed seeds in seed lots. One consequence of the regulatory change will be that whenever noxious weed seeds are found in seed lots, they will be categorized as prohibited or restricted and subject to enforcement by the Seed Services Program.

John McShane asked about the criteria used to determine whether a noxious weed species should be designated as prohibited or restricted.

Heaton explained that the Department is presently working on clarification of the pest rating system. He was not sure what criteria are used but his understanding is that a matrix is being developed and will be published once it is completed.

McShane inquired if a seed industry representative will have a chance to provide input.

Betsy Peterson commented that she sits on a committee that is developing the rating systems for determining if plant species are invasive.

Heaton added that he previously initiated some communication with the industry by submitting the 4500 list to the state seed certifying agency, the California Crop Improvement Agency, to learn if they have any concerns. They have yet to reply. He stated that when the regulations are proposed, everyone will have a chance to comment, including the industry.

Member McShane stated general concerns about a noxious weed pest suddenly being designated as prohibited by the Department.

Heaton acknowledged the concern and assured the Board that if such an event were to occur, the Department would certainly work with the industry to find solutions. He added that the Department does recognize the artificial environment most labeled seeds are cultivated under, which provides opportunity to list them as restricted.

Paul Frey inquired if there was any synchronization of noxious weed seed lists between states.

Deborah Meyer noted that the Federal Seed Regulatory Testing Division maintains a list of noxious weeds for each state in their annual publication of State Noxious Weed Seed Requirements. She explained that the USDA will not list the noxious weed species until the Department designates them as noxious weed *seeds*. She stated that seed analysts in other states are often confused by the fact that California has a list of prohibited and restricted weeds but only a footnote that directs the analysts to the full list of noxious weeds on the 4500 list. The regulatory change being considered will address the problem and bring consistency to how noxious weed seeds are listed for purposes of seed labeling and enforcement.

Status of Regulatory Change of Seed Lab Fee Schedule

Deborah Meyer provided a handout (attachment 4) that provided the new tentative fee schedule for tests performed by the seed lab. She noted that the change in regulations has been delayed because the Department would like to update all of the fee schedules by various labs at the same time and some of the labs are still working on their schedules. Any changes that go into regulation will be posted for comment.

Heaton informed the Board that part of the regulatory process involves a determination as to whether the changes will cause an economic hardship. He asked the Board if the changes to the noxious weed seed list and the seed lab fees pose significant economic impact.

John McShane replied that based on the analysis provided, the changes do not appear to present significant economic impact. He added however, that it is important for industry to have input about the criteria for changes considered.

6. Out of State Travel Proposals

Heaton provided the Board with a handout (attachment 5) which listed trips that staff in the Seed Services Program and in the Seed Laboratory need to take. The trips represent annual meetings of professional organizations in the U.S. and various training courses. He requested a recommendation for approval by the Board for the proposed trips in FY2014-15. He stated

trips are essentially the same trips requested and approved by the Board for the two prior years. The amount of funds requested has not changed. He acknowledged that more than likely the Program will not get approval from the Department to use all of the trips. The proposal listed twelve out of state trips for a total expenditure of \$16,176.

Paul Frey motioned to recommend approval of the out of state trip proposed for FY2014.

Mike Campbell seconded the motion. Motion carried.

7. Seed Services Fund Condition and Proposed Budget

Heaton provided the following handouts for the discussion:

- a) Graph of the Number of Firms Authorized to Sell Seed in California 2000 to 2012.

{Attachment 6} Heaton noted a 34% increase in the number of firms authorized to sell seeds in the last twelve years. He credited county inspectors and CDFA staff with conducting enforcements on unauthorized sellers. He noted that increased enforcements have resulted in increased collections that allowed the Board to recommend two reductions in the assessment rate since FY2010.

- b) Graph depicting 19 years of Reported Seed Sales (scaled) versus the Seed Services Budget versus the Seed Lab Budget.

{Attachment 7} Heaton suggested that historical references provided on the graph should assist the Board with future projections and decisions. Significant expenditure increases that affected budgets of prior year were noted on the graph.

- c) Graph of Total Program Budget (w/o General Funds) as a percentage of Reported Seed Sales.

{Attachment 8} Heaton emphasized that the average level of funding for the Program, including the lab, SBC and funding for the county subvention program, has been approximately 0.29% of reported seed sales of 20 years. He noted that if sales are projected to increase at the historical rate and the lab is funded at the \$500,000 level, the projected budget for the regulatory program would be 0.27% of reported sales in 2013. This indicates that overall funding for the Program is slightly lower, as a percentage of sales, than the Program has enjoyed on the average over the last twenty years.

- d) Seed Laboratory Ag Fund Condition and Brief Budget Report for the Seed Laboratory.

{Attachment 9} Heaton explained that he combined the lab's fund condition report with a brief snapshot of the lab's budget expenditure (attachment 9).

He reminded the Board that PCA13016 is the revenue account for the seed lab and by prior agreement the bond debt is to be paid from that account. He also noted that after the bond debt is paid off completely in FY2012, the cash balance of PCA13016 begins to grow and is projected to be about \$157,736 at the beginning of FY2014. He cautioned the Board however that the amounts are estimates based on a "snapshot" of dynamic financial reports. He explained that there may be some additional charges for

retrofitting the lights in the lab and for other facilities maintenance. The charges have not occurred yet and must be split among all the labs in the building.

At the bottom of the page, a snapshot of expenditures by the seed lab was provided as the budget report for PCA 13015. Heaton noted that FY2011 was the last year the lab received any general funds and he estimated expenditures to be \$701,000. For FY2012, the current year and the first year the lab is not receiving any general funds. His best estimate of expenditures is \$676,000; slightly more than the \$650,000 amount the Board recommended the Secretary use from assessment collections to fund the lab in FY2012.

He stated he only presented the final expenditure for PC13015 because the lab was previously a general fund budget and the Seed Services Program only transferred funds to cover part (50%) of the lab's budget. He has no input about the line items on the lab's budget. With the loss of general funds, the lab's entire budget has essentially become a line item on the Seed Services' budget. He did however want to reflect the lab's overall expenditures when they last received some general funds in FY2011.

e) Scenario 1 - Proposed Budget for Seed Services Program with \$500,000 for the Lab.

{ Attachment 10 } Heaton reviewed expenditures in FY2010 and FY 2011. He reported that for the two prior years, the Program did not spend the entire amount recommended previously by the Board. For the current year of FY2012, Heaton projected expenditures will be approximately \$1,745,843, which included funding for the seed lab at the \$650,000 level approved by the Board in May 2012. He noted that the projected expenditures for the Seed Services Program are greater than what the Board originally recommended in 2010 for FY2012. He reminded the Board that it was previously agreed expenditures could exceed the budgeted amount because that would reduce the excessive reserve.

Heaton noted that in May 2012 the Board recommended a budget amount of \$1,739,326 for the Seed Services Program in FY2013. He observed that the budget reflected a significant increase for total personal services because state workers will no longer be on furlough and there is a scheduled salary increase.

George Hansen asked if since the state was increasing the funding for personal services does the state intend to cover any costs for the seed lab.

Heaton replied that he does not know of any plans to use general funds for the lab.

For 2014, Heaton presented a proposed budget of \$1,774,669 for the Seed Services Program. He noted the budget included a level of funding for the lab at \$500,000.

f) Scenario 2 - Proposed Budget for Seed Services Program with \$650,000 for the Lab.

{ Attachment 11 } Heaton explained that scenario 2 of the proposed budget is essentially the same as the budget presented for scenario 1, except he increased the line item for funding the seed lab from \$500,000 to \$650,000; mainly because that was the level funded in the prior year. This resulted in a new recommended budget of \$1,889,326 in FY2013 and \$1,924,669 in FY2014 for the Seed Services Program.

g) Fund Condition Report for the Seed Services Program.

{ Attachment 12 } Heaton reviewed how the two proposed budgets would affect the fund condition of the Seed Services Program given the projected collections (revenue) from assessments on seed sales. He explained the flow of cash and expenditures from FY2010 (PPY) through the current year of FY2012. He noted that the reduction in collections during FY2012 reflect the second approved reduction in the assessment rate; namely from twenty-eight to twenty-five cents per hundred dollars of sales. He estimated that at the end of FY2012, the total cash balance for the Seed Services Program will be \$1,603,210.

For the column labeled 2013/2014 Static, Heaton explained that the original values were predicted in May 2011; before the assessment rate on sales in FY2011 was reduced from twenty-eight to twenty-five cents per hundred dollars of seed sales.

The reduced collections in FY2012 mean that the starting cash balance for FY2013 will be lower than the original projection of \$1,899,580. Heaton estimated the Seed Services Program will start FY2013 with approximately \$1,603,210 in the cash balance. He left the original numbers on the report so the Board could follow the effect of reduced collections and additional expenditures.

If the budget proposed for the Seed Services Program under scenario 1 is recommended, the level of funding for the Seed Lab would remain at \$500,000, the total projected expenditures for the Seed Services Program would be \$1,739,325 and the cash balance for the Seed Services Program at the end of FY2013 would be approximately \$1,479,111.

If the budget proposed for the Seed Services Program under scenario 2 is recommended, the level of funding for the Seed Lab would increase to \$650,000, the total projected expenditures for the Seed Services Program would increase to \$1,889,626 and the cash balance for the Seed Services Program at the end of FY2013 would be reduced to approximately \$1,329,111.

The projected starting cash balance for FY2014 is dependent upon the level of funding the Board recommends for FY2012; namely whether scenario 1 or scenario 2 is adopted for FY2013. Heaton provided two starting cash balances to demonstrate the effects of scenario 1 (\$500,000 for the lab) and scenario 2 (\$650,000 for the lab).

Under scenario 1, if payment to the lab is \$500k in FY2013, the Seed Services Program is projected to start FY2014 with a cash balance of \$1,479,111. Under scenario 2, if payment to the lab is \$650k in FY2013, the Seed Services Program would start FY2014 with \$1,329,111 in the cash balance.

If the same two scenarios are considered for FY2014, namely a \$500,000 level of funding for the lab or a \$650,000 level, the ending cash balance for the Seed Services Program is projected to be either \$1,377,845 or \$1,077,845 respectively at the end of FY2014.

Heaton briefly mentioned that the balance in the Ag Trust fund presented toward the bottom of the fund condition report, has increased slightly each year due to interest. It is expected to be approximately \$137,687 at the end of FY2014.

As a point of reference, Heaton provided a reserve calculation on the Fund Condition Report so the Board can quickly see the minimum reserve the Program must maintain. The reserve calculation is minimally 25% of a Program's total budget. For FY 2013, the Program should maintain a reserve of at least \$434,832 to \$472,407 depending on the total budget approved. For FY2014, Program should maintain a reserve of at least \$443,667 to \$481,167 depending on the total budget.

In summary, Heaton noted that if the Board chose to fund the lab at the \$650,000 level, the cash balance will still be greater than one million dollars, well above the minimum reserve amount of approximately \$475,000. He further noted that the difference in the cash balance and the minimum amount required for the reserve provides a comfortable margin of funds to cover shortages of revenue while reported sales increase to a level that once again provides adequate annual revenue to cover each year's budget. He believes this was the strategy the Board previously agreed to for purposes of reducing the cash balance (reserve).

Marc Meyer inquired if there is any prospect of general funds being provided to the Program.

Chris Zanobini replied that he would not count on general funds returning to the Program.

Marc Meyer expressed concern that if the cash balance is drawn down too far, there may be a need to increase the assessment in the future just to keep the reserve amount above the minimum level presented in the calculation.

Heaton admitted that it's difficult to know how much value is going to be added to seed in the future. On the average however, seed sales reported to CDFA have gone up about 6% per year during the last 20 years.

Chris Zanobini noted that the carryover from FY2012 is estimated to be \$1.6 million but the Program only needs about \$500,000 in reserve. He suggested the difference is excessive and would seem to indicate another reduction in the assessment rate might be appropriate.

He added that in 2011 there was an attempt to preserve general funds for the seed lab. During that time, there was also an attempt to determine how essential the various activities of the seed lab were. Zanobini did not believe that such a determination was ever made, and since a consensus has not been reached about how essential the various activities of the lab are, it is appropriate for the Program to now justify their request for funding the lab with a proposed budget for the lab; just as the SBC provided. Once the Board has a clear picture of the costs for the various activities, then they will be in a position to consider the level of funding. He did not believe there was adequate justification to increase funding for the lab just because the Program has adequate reserve in the cash balance.

Heaton replied that the bulk of the lab's expenditures are for personal services.

Deborah Meyer added that the lab is currently staffed with 2.6 scientists and two technicians plus two or three seasonal employees that work part-time. She noted that

only about 60% of her salary is being paid for by the lab budget as she has assumed other duties supervising other scientists in other labs of the Plant Diagnostic Center.

John McShane commented that his recollection was that the Board agreed to augment the lab budget due to the cut in general funds, but that was a stop-gap measure while a determination was made if the lab could operate at the \$500,000 level.

Deborah Meyer stated that funding at the \$500,000 level would mean the lab would lose one scientist and one technician.

McShane agreed, but reiterated the Board wants to know if the lab can operate with reduced staff at the \$500,000 level. He inquired if there is a separate seed lab budget.

Heaton replied that he did not provide a separate budget for the lab because it was previously always a general fund budget and he thought it was understood the major expenses were for personal services of about \$500,000 and an additional \$150,000 for facilities and operations.

Board members expressed concern that if the industry funds the entire seed lab budget, they will set a precedent and in the future the amount will exceed \$650,000. In addition, there will likely be cost increases for the Seed Services Program as well. They asked why the industry should fund the lab when the state is making the regulations. They suggested the state should be funding the lab.

Heaton reminded the Board that historically (1921) the industry requested the state to assist in providing an orderly market for seeds. Over the years there have been changes to the law but he does not believe those changes occurred because the government imposed them upon the industry but rather the industry was requesting the laws and regulations for an orderly market. He did concede however that sometimes laws or regulations are adopted to bring uniformity between states and sometimes that has the appearance of the government imposing laws or regulations.

Chris Zanobini stated he believes the real question is; what is the seed lab doing, and what must it really do to support the seed law? He added that the industry should only pay for activities the lab must do to enforce and support the seed law.

He suggested that is not uncommon for unsupported activities to creep into a Program's day to day activities. For this reason he felt it was important to get a clear understanding of the cost of all activities by the lab. Once that analysis is done, it's not inconceivable that perhaps the industry should actually be paying more.

Marc Meyer inquired about the status of the pay-for-services concept? He wanted to know if the lab could charge for non-regulatory samples.

Deborah Meyer replied that the lab does charge for service samples and she provided the board with the new proposed fee schedule. She acknowledged that samples sent to the lab from other CDFA or county staff are exempt from fees.

Heaton added that the testing of samples Deborah Meyer is referring to are required by law and the lab cannot charge for them.

Zanobini commented that the requirement is not required by the seed law.

Heaton stated the testing is required by the Food and Agricultural code.

Several members asked why the seed industry should pay for those tests.

Zanobini noted that his organization was able to obtain a complete analysis of the activities in the feed lab. He suggested that an analysis of activities in the seed laboratory may reveal that the feed industry should be paying for testing of feed mill certification samples.

Deborah Meyer noted that the amount of money from feed mill certification samples would not be great because the lab only processes about 150 to 200 mill samples.

Betsy Peterson suggested that the cost for processing mill samples should be on par with the cost of regulatory samples, which should be calculated by analyzing the lab funding per regulatory sample. She noted the current cost per regulatory samples is about \$600 per sample, which is unreasonable.

Heaton questioned if it was fair to attempt to assess the value of the lab based on the number of samples processed each year. He suggested that the value of activities by the lab should also be determined by the savings that occur when problems are found and addressed by the lab staff. He cited examples of lab staff performing weed seed identifications that allowed shipments of seeds and other commodities to reach their destination without undo enforcement activities such as denial of port entry. The potential loss from seed destructions or additional cost for return transportation can be very expensive. In addition, the lab has been instrumental in processing investigative samples for seed complaints, which resulted in tens of thousands of dollars in savings, if not more, from unnecessary lawsuits.

Peterson inquired if it would be possible to put those kinds of activities in a different format than cost per sample so that there could be justification for expenditures in the seed lab of \$500,000, \$650,000 or even possible an \$800,000 level of funding.

Heaton did not believe a meaningful valuation for such activities could be done, He stated that the lab does not usually know the value of shipments they test samples for. He suggested the Board should consider the value of the international reputation the lab has as evidenced by the fact that visitors from around the world regularly visit the lab to learn how CDFA conducts testing of seed and enforces the seed law. He suggested the reputation for excellence in the lab enhances the reputation of California seed and perhaps adds to its marketability. He does not know how he can arrive at a value amount for that kind indirect role. He believes the Board is in a better position to make that determination.

Peterson commented that she believed CDFA staff was asking the Board to make a decision without enough information.

Zanobini noted that budgets are not done on value but are done on expense. He said once the Board knows the expense for the activities to enforce the seed law, the Board can make a decision about the value of the seed lab.

Deborah Meyer asked Heaton how he would do enforcements without a lab. He replied that compliance sampling would stop because he cannot make enforcements based on determinations of private labs.

Paul Frey inquired if CDFA could outsource to private labs if they were certified.

Heaton replied that the law states that a written report from the state seed lab is prima facie evidence as to the true condition of the seed lot.

Zanobini commented that the law could be changed.

Heaton noted that the Board previously explored the concept of using a private lab for seed analysis of regulatory samples. The Program would still incur significant costs because the only person who could provide proper oversight of a private lab would be a registered seed technologist (RST). In order to be registered seed technologist a person has to spend 10% of their time working in a seed lab. This means the state would still have to maintain at least one RST and one functioning seed lab. Heaton noted this is the same scenario that the California Crop Improvement Association (CCIA) faced several years ago and why they had to reopen their lab. They now have an RST that works in their lab at least 10% of the time and also audits various labs that are accredited by CCIA to test seeds for certification. Heaton stated that when inquired about the cost of the CCIA lab with their director, he was told that \$500,000 was probably a close estimate.

Mike Campbell inquired if the two labs could work together.

Heaton replied that since the CCIA lab is not the designated state lab and since their RST does not work for the state, he cannot use her test results as prima facie evidence.

Campbell suggested that since the industry is now faced with paying the entire cost of the lab and the industry also pays for the CCIA lab, the industry needs to explore how efficiencies can be created to better serve the customers.

Heaton replied that he did not believe consolidations necessarily offer the best efficiencies.

Chris Zanobini commented that efficiencies do not necessarily mean consolidation. He noted that for another program, a recommendation has been made that routine samples be sent to an outside lab and the lab will only do what is absolutely needed for enforcement of the law. In this way the industry is not paying for all of the government overhead.

Zanobini stated the Board needs numbers to explain how the \$650,000 was spent in FY2012 and what activities were regulatory and which ones were not. He did not believe the Board can make a sound decision until that data was provided. He acknowledged that as a percentage of sales it seems that funding for the overall Program has not change much but seed business operating in the state have experienced all kinds of increased costs because of government regulations. If one were to consider the percentage of profitability for seed businesses over time, the story about costs as a percentage of sales might be completely different.

Heaton stated that if the Board wants to recommend cutting the lab to a level of funding to only handle the regulatory samples, there would probably be some drastic cuts. He added that he believes the other activities performed by lab staff are extremely valuable for the industry and he urged the Board to consider some of the previous discussions about the value of the herbarium, rulemaking, workshops and foreign visitors.

Kelly Keithly asked if there was a time limit on the decision facing the Board.

Heaton replied that the fiscal year is starting July 1, 2013. The approved spending plan for FY2013 was previously approved and it provided a \$500,000 level of funding for the lab. Heaton fears that the lab will be over their budget of \$650,000 for FY2012 and since the approved level of funding for FY2013 is lower at \$500,000 the Financial Services Unit will demand immediate cuts. Because of that situation, he needs a decision by July 1, 2013. In addition, Heaton is requesting the Board to also recommend a budget for FY2014 because the Financial Services Unit will request proposed spending plans for FY2014 before the November Board meeting.

Chris Zanobini wanted to know why the Program was not asking for more than \$650,000 if the projections for expenditures are \$676,000. He cited this difference as all the more reason to have sound data to make the decision. He suggested that if Program staff knew that only \$500,000 was previously approved and they were going to seek an additional \$150,000, they should have brought adequate justification so the Board could exercise their fiduciary responsibility.

Betsy Peterson suggested that a breakdown by percentage of staff time spent on the various kinds of samples would be useful. That way the Board can identify activities that other industry groups should pay for.

Robert Price stated that about 90% of the lab's activities involve regulatory samples. Other activities such as feed mill samples and weed seed identifications take less than 10% of their time. He suggested consideration that the lab does have to maintain a certain number of mission critical salaries to function as a state lab.

Kelly Keithly was in favor of the kind of analysis/justification Chris Zanobini requested. He was interested in exploring an outside source to process the samples.

Heaton replied that if an outside lab was designated to be the state seed lab and they had registered seed technologists, they could perform the tests if the law was changed that way. He noted however that private labs would still continue to perform seed analyses for their normal customers. The situation might occur where the original analysis of failed regulatory sample came from the same lab testing the regulatory samples. This situation could present a conflict of interest for the lab if the seed was found to be out of compliance and the seed company wanted to seek remedy from the lab that provided the original information.

Chris Zanobini suggested that staff provide a similar analysis as previously provided for expenditures to fund counties in seed subvention program.

Bill White asked if the work could be completed if only \$500,000 was provided.

Heaton said he imagined it would happen at some level but not at the 600 sample level.

Paul Frey motioned that the Board accept the Fund Condition Report.
Marc Meyer seconded the motion. Motion carried.

Marc Meyer asked if the Board should expect to continue increasing the fund level for the lab each year?

Deborah Meyer replied that the request for the increase in funding is a direct result of the cut in general funds. The lab has already made some drastic cuts and lost several positions that will not be coming back.

Heaton did not believe requests for continued large increases in funding for the lab are in the future.

Chairman Falconer asked for a motion about the proposed budgets.

h) Seed Laboratory Level of Funding (Memorandum of Understanding)

Mike Campbell made a motion the Seed Services Program enter into an MOU with the Seed Laboratory and support the estimated operating cost of the lab during fiscal year 2013-2014 to a maximum amount of \$500,000 until staff can provide a detailed expense analysis and a detailed analysis of costs for the various activities of the lab at which time the Board will consider any augmentations to the 2013 budget. In addition, staff should present information about collections from the fee-for-services activities performed by the lab.

John McShane seconded the motion. Motion carried.

John McShane motioned to accept scenario one of the proposed budget for FY2014-15 with a level of funding for the lab at \$500, 000 thereby making the budget of the Seed Services Program \$1,774,669. He added that the Board will consider augmenting the level of funding for the lab once CDFA staff provides a detailed expense analysis and a detailed analysis of costs for the various activities of the lab.

George Hansen seconded the motion. Motion carried.

8. Recommendation for Assessment Rate

Heaton stated that regardless of whether the Board funds the lab at the \$500,000 level or the \$650,000 level, his projections and the value of the cash balance indicate that it is not necessary to increase the assessment.

Chris Zanobini suggested that the Board consider lowering the assessment rate to reduce the cash balance.

The Board did not wish to change the assessment rate. No motions were made.

9. Legislative Report

Chris Zanobini reported that SB 348, a bill concerning renewal of the seed subvention program, is moving through the legislature.

Heaton informed the Board that he has performed several bill analyses for SB566; a bill to redefine marijuana so that industrial hemp can be grown in California once the Federal government makes it legal. He stated that the Seed Services Program expects to regulate industrial hemp seeds in the same manner as other agricultural crops if the bill passes.

10. Nominating Committee Report

Chairman Falconer will appoint a nominating committee at a later date. He noted that the following members have terms expiring March 31, 2014:

John McShane
Rick Falconer

George Hansen
Bill White

Mike Campbell

11. Closed Executive Session

No requests

12. Reconvene Executive Session

Not necessary

13. Public Comment

Chairman Falconer asked if there were any additional comments from the public in attendance. None were made.

14. Other Items – Next Meeting Date

Chairman Falconer set the fall meeting to be Thursday November 14, 2013 at 8:15 am. He noted the Board would likely meet via conference call in late May of early June.

15. Adjournment

George Hansen motioned for adjournment.
John McShane seconded the motion. Motion carried.
Chairman Falconer adjourned the meeting at 12:30 p.m.

16. Attachments 1 through 12

Respectfully Submitted

John Heaton
Senior Environmental Scientist
CDFA Seed Services Program



California Seed Advisory Board Meeting May 7, 2013

Seed Biology, Production & Quality

February 12 – 14, 2013
UC Davis



This course was expanded to include both hands-on exercises and detailed discussions of seed production and seed technology.

57 participated in the 2.5 day course.

Overlapped with Seed Central



- Speakers:**
 J. Derek Bewley
 Kent J. Bradford
 Lindsey du Toit
 Bob Gilchrist
 Henk W.M. Hilhorst
 Peter Marks
 Deborah Meyer
 Hiroyuki Nonogaki

Breeding with Genomics: February 11-13, 2014

Two new courses



January 22-23, 2013, UC Davis
 A new module in the Seed Captain series of the International Seed Academy was offered for the first time in the US. It targeted experts and professionals in seed technology. This advanced course cover the latest technologies for seed coatings, seed identification, systemic markers and related topics. 15 participants attended.



September 17 – 19, 2013, UC Davis
Program Management for Plant Breeders will teach the principles of employee and resource management in a modern agricultural research program. This course is designed for professionals directing plant breeding and laboratory programs. Registration is open at sbc.ucdavis.edu. See new date.

SEED Business 101SM

One week program to shorten the learning curve for employees new to the seed industry.
 Conducted 9 sessions.



185 students have participated.

Two programs – Field and Horticulture.

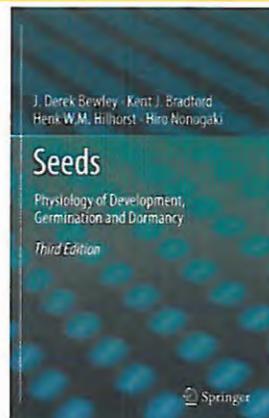


Taught by industry experts.
 Next sessions:

- Field: September 23 - 27, 2013, Guelph, Canada
- Horticulture: January 20 – 24, 2014 Monterey, CA (ASTA Veg & Flower meeting starts on the 25th)



New Book



Plant Breeding Academy

- 114 participants so FARI
- UC Davis Class IV
- Class II of the EPBA graduating in June
- Class III of the EPBA starts in October 2013 -Applications now being accepted
- Asian PBA to began on November 26, 2012 in Thailand
- African PBA in association with African Orphan Crops Consortium Dec 2, 2013
- Rita Mumm joined PBA as one of our lead instructors



<http://pba.ucdavis.edu>

Plant Breeding Center

- Search for Director now
- Up to 5 new Plant Breeding associated positions
- Work across commodities
- Enhance educational and professional educational programs
- Coordinate with Seed Central and SBC



New Plant Breeding Website

New Research Projects 2012/2013



Spinach Sequencing



Cotton Breeding Germplasm Diversity



Eggplant Sequencing
Looking for partners

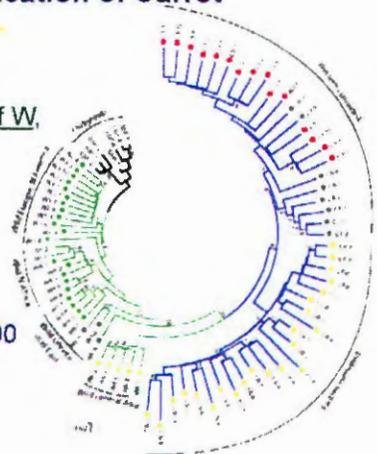


Pepper Virus Resistance

Domestication of Carrot

Phil Simon- U of W,
Bejo,
Takii,
Vilmorin,
Rijk Zwaan,
Nunhems

4000 SNPs x 200 lines



2012 Publications

- Ashrafi, H., Hill, T., Stoffel, K., Kozik, A., Yao, J., Reyes Chin-Wo, S. and Van Deynze, A. 2012 De novo assembly of the pepper transcriptome (*Capsicum annuum*): a benchmark for in silico discovery of SNPs, SSRs and candidate genes. *BMC Genomics* 13:571
- Boddy, L.G., Bradford, K.J. and Fischer, A.J. 2012 Population-based threshold models describe weed germination and emergence patterns across varying temperature, moisture and oxygen conditions. *Journal of Applied Ecology* 49:1225-1236
- Hamilton, J.P., Sim, S.C., Stoffel, K., Van Deynze, A., Buell, C.R. et al. 2012 Single Nucleotide Polymorphism Discovery in Cultivated Tomato via Sequencing by Synthesis. *Plant Genome* 5(1):17-29
- Merk, H.L., Yarnes, S.C., Van Deynze, A., Tong, N., Menda, N., Mueller, L.A., Mutschler, M.A., Lowen, S.A., Myers, J.R. and Francis, D.M. 2012 Trait Diversity and Potential for Selection Indices Based on Variation Among Regionally Adapted Processing Tomato Germplasm. *Journal of the American Society for Horticultural Sciences* 137(6):427-437
- Peterson, A.H., Van Deynze, A., et al. 2012 Repeated polyploidization of *Gossypium* genomes and the evolution of spinnable cotton fibres. *Nature* 492:423-427
- Sim, S.-C., Durstewitz, G., Pleske, J., Wieseke, R., Ganai, M.W., Van Deynze, A., Hamilton, J.P., Buell, C.R., Causse, M., Wjeratne, S. and Francis, D.M. 2012 Development of a Large SNP Genotyping Array and Generation of High-Density Genetic Maps in Tomato. *PLoS ONE* 7:e40563
- Stoffel, K., van Leeuwen, H., Kozik, A., Caldwell, D., Ashrafi, H. et al. 2012 Development and application of a 8.5 million feature Affymetrix GeneChip(R) for massively parallel discovery of single position polymorphisms in lettuce (*Lactuca spp.*). *BMC Genomics* 13(1):165
- Yu, J.Z., Kohel, R.J., Fang, D.D., Cho, J., Van Deynze, A., Ulloa, M., Hoffman, S.M., Pepper, A.E., Steily, D.E., Jenkins, J.N., Saha, S., Kumpatia, S.P., Shah, W.Y., Huggs, M.R. and Percy, R.G. 2012 A High-Density Simple Sequence Repeat and Single Nucleotide Polymorphism Genetic Map of the Tetraploid Cotton Genome. *Genes/Genomes/Genetics* 2:43-58

2013 Publications

- Hill, T.A., Ashrafi, H., Reyes Chin-Wo, S., Yao, J., Stoffel, K., Truco, M.J., Kozik, A., Michelmore, R.W. and Van Deynze, A. 2013 Genome-wide analysis of *Capsicum annuum* germplasm quantifies diversity and identifies informative polymorphisms within and between pungent and non-pungent germplasm. *PLOS ONE* 8:e56200
- Yarnes, S., Ashrafi, H., Hill, T.A., Reyes Chin-Wo, S., Stoffel, K. and Van Deynze, A. E. 2013. Identification of QTLs for capsaicinoids, fruit quality, and plant architecture-related traits in an interspecific *Capsicum* RIL population. *Genome* 1-14
- Truco, M.J., Ashrafi, H., Kozik, A., van Leeuwen, H., Bowers, J., Reyes Chin-Wo, S., Stoffel, K., Xu, H., Hill, T., Van Deynze, A.E. and Michelmore, R.W. 2013 An ultra-high-density, transcript-based, genetic map of lettuce. *G3* doi:10.1534/g3.112.004929

Seed Central/Food Central

Forum Events (monthly) & Science and Brainstorming sessions (3 times per year)
 Connecting university faculty, researchers and students with seed and food industry members.



Upcoming Events:

May 9, 2013, UC Davis (1:30 pm)

Dr. Theresa Hill, UC Davis Seed Biotechnology Center
 Thomas Williams, UC Davis

Brainstorming (3:00 pm): The initiation to standardize identification of plant pathogen strains and races using differential hosts – an ASTA CPPSI project

Dr. Dan Flynn, UC Davis Olive Center (4:30 pm)

Note: June 13th program will be in Salinas

2nd Thursday of every month



Seed Central

➤ **Collaborative Research (CoRe) Lab**

Establishing facilities on the UC Davis campus for collaborative, pre-competitive and private research for cell biology, genomics and plant breeding.



➤ **Corporate Affiliates Partnership Program**

The Plant and Seed Sciences Partnership Program was formally approved in Fall 2012. Established this model to facilitate research agreements. Currently in use.

➤ **Other Activities**

Numerous student outreach programs, AA seed technician program with Hartnell, "Science Finder" and more.



Financial Update

UC Davis Seed Biotechnology Center
 2010-Current Budget
(third of three year grant)

	Actual 2010-11	Actual 2011-12	Actual 4-30-13 2012-13	Budget 2012-13
INCOME				
1 California seed assessment	\$ 200,000	200,000	200,000	200,000
EXPENSES RELATED TO THE CDFA GRANT				
2 Personnel salaries & benefits	\$ 170,339	161,713	143,567	163,000
3 Computer equipment and software	2,523	317	2,867	3,000
4 Office communications	6,819	5,665	4,115	6,000
5 Publications	4,046	-	5,481	6,000
6 Office supplies and misc. expenses	1,868	2,782	1,277	3,000
7 Industry outreach travel and meeting expenses	13,695	9,503	12,666	18,000
8 Research and program support	-	-	-	500
9 Other	630	-	-	500
TOTAL EXPENSES	\$ 200,000	200,000	169,975	200,000
NET INCOME OVER EXPENSES	\$ -	-	30,025	-

Funds Overview

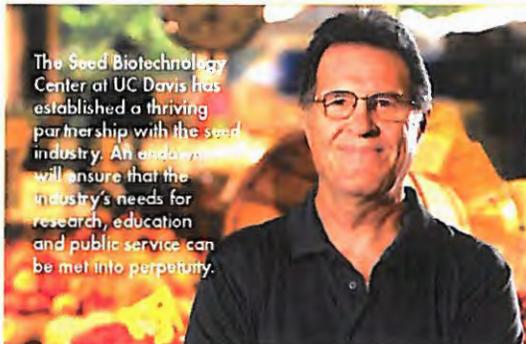
Seed Biotechnology Center
 Fund Overview

Income	
CDFA Seed Assessment	\$ 200,000
College of Ag & Env Sciences	27,000
*Courses & Outreach	527,000
Research Grants	1,409,000
Total	\$ 2,163,000
Expenses	
*Salaries	\$ 1,006,000
General Office & Travel	27,000
Course & Outreach Operations	527,000
Research Grants	615,000
Total	\$ 2,163,000

* Some tuition outstanding
 **Report does not include Director's Salary 4/30/2013

An Endowment

The Seed Biotechnology Center at UC Davis has established a thriving partnership with the seed industry. An endowment will ensure that the industry's needs for research, education and public service can be met into perpetuity.



SBC Staff



Kent Bradford Director
Allen Van Deynze Research Director
Rale Gjurić Education Director
Sue DiTomaso Associate Director



Joy Patterson Program Rep. Plant Breeding Academy
Sally Mohr Program Representative
Donna Van Dolah Administrative Assistant

UC Davis Seed Biotechnology Center
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(third of three year grant)

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8 Research and program support	-	-	-	500
9 Other	630	-	-	500
TOTAL EXPENSES	\$ 200,000	200,000	169,975	200,000
NET INCOME OVER EXPENSES	\$ -	-	30,025	-

1 Funds collected by the CDFA and allocated by recommendation of the Seed Advisory Board.

2 Partial expenses for the following: Administrative Assistant (~25%), Associate (50-75%) and Research (~70%) Directors.

3 Computers, software, projectors and other technical equipment. Internet communications, programming and web server support

4 Office communications (phone, fax, copier and postage).

5 Publications including annual reports, newsletters, brochures and special publications.

6 Office supplies and miscellaneous.

7 Meeting and conference expenses including travel and registration fees.

8 Staff funds for exploratory research or service-oriented projects.

9 Expenses incurred for special projects (i.e., start-up fees for mapping program, workshops, Plant Breeding Academy etc.).

Analysis of Weed Seeds Found in Regulatory Seed Samples

Presented to the California Seed Advisory Board

May 7, 2013

The Department is completing a review of the pest ratings system and as part of that effort to provide transparency in regulation of commodities containing noxious weed propagules, the Department has determined that all noxious weed species, as defined in CCR 4500, need to be designated as “prohibited” or “restricted” for consideration by seed labelers in accordance to the California Seed Law. There has been concern in previous years that such a development may create an increased burden for seed labelers.

To determine the extent of weed propagule contamination in regulated seed lots in California, an analysis of common and noxious weed seeds found in regulatory seed samples tested in the CDFA Seed Laboratory from April 2002 – April 2013 was conducted. Regulatory seed samples tested were contaminated with 212 weed species, nineteen of which are classified as noxious. A summary of the frequency of weed (common and noxious) propagule contamination found during purity analyses of all agricultural kinds of seed tested (4,656 samples) is provided in Table 1.

Number of weed species found	Percentage of total samples tested
0	80.76
1	12.89
2	3.84
3	1.70
4	0.45
5	0.21
6	0.06
7	0.09

A summary of the frequency of noxious weed seed propagule contamination in all regulatory samples tested (8,017 samples) including both agricultural and vegetable seed kinds is provided in Table 2. Findings for noxious weed propagules in agricultural seed kinds are based on data from noxious weed seed examinations; such examinations are separate and more extensive than the purity analysis (examination of ten times the amount of seed required for a purity analysis). Since purity analyses and noxious weed seed contamination information is not required on seed labels for vegetable seed kinds, the findings for noxious weed propagules in vegetable seed are base on seed examined in preparation for the germination test.

Kind of seed category	Number of samples with noxious weed propagule contamination	Percentage of total samples tested (8017)
Agricultural seed	82	1.02
Vegetable	17	0.21
All contaminated samples combined	99	1.23

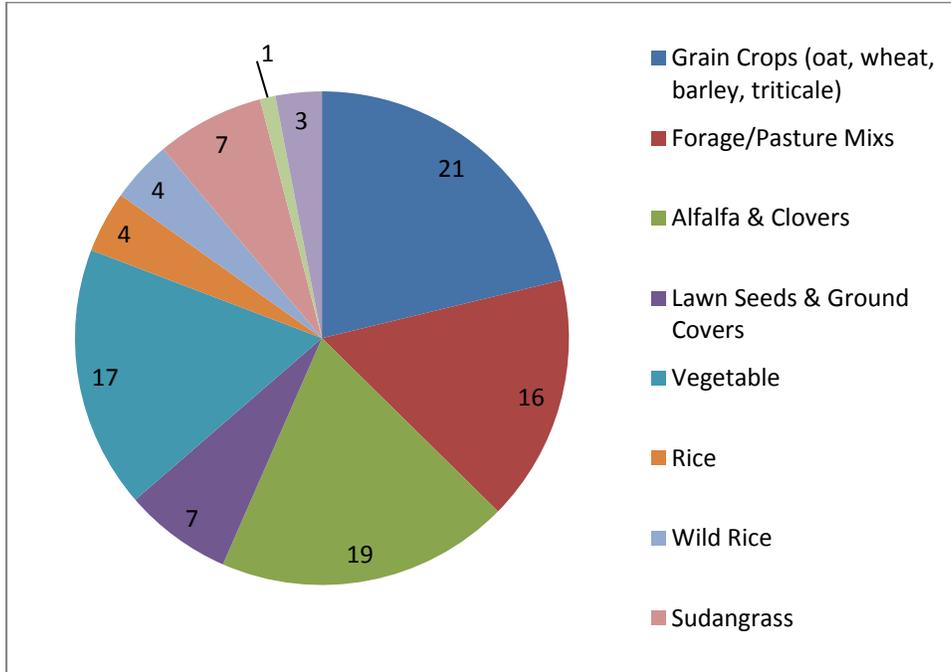
Table 3 provides an account of the noxious weed species found. Of the noxious weed propagules found, eighteen are California noxious weed species as defined in CCR 4500 and one is a Federal noxious weed as defined under section 201.16(b) of the Regulations under the Federal Seed Act for which there is no tolerance. Five California noxious weed species found are not currently classified as prohibited or restricted noxious weed seeds under the California Seed Law, these include: *Aegilops cylindrica*, jointed goatgrass; *Carduus crispus*, curly plumeless thistle; *Coronopus squamatus*, swinecress; *Salsola collina*, spineless Russianthistle; and *Salsola tragus*, common Russian thistle.

Table 3. Numbers, names, and types of noxious weed species found contaminating regulatory seed samples (agricultural and vegetable kinds) submitted to the California State Seed Laboratory from 2002-2013.				
Noxious weed species	Number of samples	CDFA or Other Pest Rating	CCR 4500	CA Seed Law Prohibited or Restricted
<i>Convolvulus arvensis</i> , Field bindweed	37	C	Yes	R
<i>Cuscuta</i> spp., dodder (native/non-native)	17	C/A	Yes	R
<i>Sorghum halepense</i> , Johnsongrass	14	C	Yes	R
<i>Salsola tragus</i> [<i>S. australis</i>], common Russianthistle	6	C	Yes	
<i>Elymus repens</i> [<i>Elytrigia repens</i>], quackgrass	5	B	Yes	R
<i>Aegilops cylindrica</i> , jointed goatgrass	4	B	Yes	
<i>Centaurea solstitialis</i> , yellow starthistle	3	C	Yes	R
<i>Onopordum acanthium</i> , Scotch thistle	3	A	Yes	P
<i>Cirsium arvense</i> , Canada thistle	2	B	Yes	P
<i>Malvella leprosa</i> , alkali mallow	2	C*	*	R*
<i>Allium vineale</i> , wild garlic	1	B	Yes	R
<i>Asphodelus fistulosus</i> , onionweed	1	Federal	No	
<i>Carduus crispus</i> , curly plumeless thistle	1	A	Yes	
<i>Chorispora tenella</i> , Purple mustard	1	B	Yes	R
<i>Coronopus squamatus</i> , swinecress	1	B	Yes	
<i>Cynodon dactylon</i> var. <i>dactylon</i> , bermudagrass	1	C*	*	
<i>Cyperus esculentus</i> , yellow nutsedge	1	B	Yes	R
<i>Salsola collina</i> , spineless Russianthistle	1	A	Yes	
<i>Tribulus terrestris</i> , puncture vine	1	C	Yes	R
Total number of contaminated samples	102			

*Species recently removed from the CCR4500 list no longer classified as noxious weeds in California.

The kinds of seed tested found to be contaminated with noxious weed species are shown in Figure 1. Eighty-three percent of the contaminated seed lots were of agricultural crop kinds and 17 percent were vegetable seeds.

Figure 1. Numbers of regulatory samples contaminated with noxious weed species grouped by crop kinds.



Conclusion

The analysis concerning frequency of noxious weed propagule contamination in regulatory seed samples over an eleven year span supports the conclusion that the Department’s plan to designate all noxious weed species, as defined under CCR 4500 as either ‘restricted’ or ‘prohibited’ under the California Seed Law should not create a significant increased burden for seed labelers and would also provide needed clarity in the regulations.

102 regulatory samples out of 8017 regulatory samples were found to have noxious weed seeds.

88 of those 102 samples had noxious weed seeds that were already designated as prohibited or restricted. Only 14 samples out of 8017 regulatory samples collected would have been affected by the new categorization of noxious weeds as restricted or prohibited.

**Weed Species of CCR
4500
per 5/2013**

<i>Scientific Name</i>	Common Name	19	21	Found by
		Currently Prohibited	Currently Restricted	Lab in Reg Samples 2002 - 2012
<i>Acacia paradoxa</i>	Kangaroo thorn			
<i>Acaena anserinifolia</i>	bidly bidly			
<i>Acaena novae-zelandiae</i>	bidly bidly			
<i>Acaena pallida</i>	bidly bidly			
<i>Achnatherum brachychaetum</i>	punagrass			
<i>Acroptilon repens/ Centaurea repens</i>	Russian knapweed	X		
<i>Aegilops cylindrica</i>	jointed goatgrass			Y 4x
<i>Aegilops ovata</i>	ovate goatgrass			
<i>Aegilops triuncialis</i>	barb goatgrass			
<i>Aeschynomene rudis</i>	rough jointvetch			
<i>Alhagi maurorum</i>	camelthorn	X		
<i>Ailanthus altissima</i>	tree of heaven			
<i>Allium paniculatum</i>	panicked onion			
<i>Allium vineale</i>	wild garlic		X	Y 1x
<i>Alternanthera philoxeroides</i>	alligatorweed			
<i>Alternanthera sessilis</i>	sessile joyweed			
<i>Ambrosia trifida</i>	giant ragweed			
<i>Araujia sericofera</i>	bladderflower			
<i>Arctotheca calendula</i>	capeweed, as seed or fertile plants			
<i>Arundo donax</i>	giant reed			
<i>Atriplex amnicola</i>	swamp saltbush			
<i>Berteroa incana</i>	hoary alyssum			
<i>Cabomba caroliniana</i>	Carolina fanwort			
<i>Cardaras chalepensis</i>	lens-podded hoary cress	X		
<i>Cardaria draba</i>	heart-podded hoary cress	X		
<i>Cardaria pubescens</i>	globe-podded hoary cress	X		
<i>Carduus acanthoides</i>	plumeless thistle	X		
<i>Carduus crispus</i>	curly plumeless thistle			Y 1x
<i>Carduus nutans</i>	musk thistle	X		
<i>Carduus pycnocephalus</i>	Italian thistle		X	
<i>Carduus tenuiflorus</i>	Italian thistle		X	
<i>Carthamus baeticus</i>	smooth distaff thistle		X	

<i>Carthamus lanatus</i>	woolly distaff thistle		X	
<i>Carthamus leucocaulos</i>	whitestem distaff thistle	X		
<i>Cenchrus echinatus</i>	southern sandbur		X	
<i>Cenchrus incertus</i>	coast sandbur		X	
<i>Cenchrus longispinus</i>	mat sandbur		X	
<i>Centaurea calcitrapa</i>	purple starthistle			
<i>Centaurea diffusa</i>	diffuse knapweed			
<i>Centaurea iberica</i>	Iberian starthistle			
<i>Centaurea maculosa</i>	spotted knapweed			
<i>Centaurea melitensis</i>	toçalote			
<i>Centaurea solstitialis</i>	yellow starthistle		X	Y 3x
<i>Centaurea squarrosa</i>	squarrose knapweed			
<i>Centaurea sulphurea</i>	Sicilian thistle			
<i>Ceratopteris thalictroides</i>	watersprite			
<i>Chondrilla juncea</i>	skeletonweed			
<i>Chorispora tenella</i>	purple mustard		X	Y 1x
<i>Cirsium arvense</i>	Canada thistle	X		Y 2x
<i>Cirsium japonicum</i>	Japanese thistle			
<i>Cirsium ochrocentrum</i>	yellowspine thistle			
<i>Cirsium undulatum</i>	wavyleaf thistle	X		
<i>Cirsium vulgare</i>	bull thistle			
<i>Convolvulus arvensis</i>	field bindweed		X	37x
<i>Coronopus squamatus</i>	swinecress			Y 1x
<i>Cortaderia jubata</i>	jubata grass			
<i>Crupina vulgaris</i>	bearded creeper			
<i>Cucumis melovar. var. dudaim</i>	dudaim melon	X		
<i>Cucumis myriocarpus</i>	paddy melon			
<i>Cuscuta spp.</i>	dodder		X	17x
<i>Cynara cardunculus</i>	artichoke thistle			
<i>Cyperus esculentus</i>	yellow nutsedge		X	Y 1x
<i>Cyperus rotundus</i>	purple nutsedge		X	
<i>Cytisus scoparius</i>	Scotch broom			
<i>Diodia virginiana</i>	Virginia buttonweed			
<i>Drymaria cordata</i>	whitesnow, tropical chickweed			
<i>Egeria najas</i>	anacharis			
<i>Elytrigia repens / Agropyron repens</i>	quackgrass		X	Y 5x
<i>Euphorbia esula</i>	leafy spurge	X		
<i>Euphorbia graminea</i>	grassleaf spurge			
<i>Euphorbia oblongata</i>	oblong spurge			

<i>Euphorbia serrata</i>	serrate spurge			
<i>Euphorbia terracina</i>	carnation spurge			
<i>Fatoua villosa</i>	hairy crabweed			
<i>Gaura drummondii</i>	scented gaura			
<i>Gaura sinuata</i>	wavyleaf gaura			
<i>Genista monspessulana</i>	French broom			
<i>Halimodendron halodendron</i>	Russian salt tree			
<i>Halogeton glomeratus</i>	halogeton		X	
<i>Helianthus ciliaris</i>	blueweed	X		
<i>Heteropogon contortus</i>	tanglehead			
<i>Hydrilla verticillata</i>	hydrilla			
<i>Hygrophila polysperma</i>	Indian swampweed			
<i>Hyoscyamus niger</i>	black henbane			
<i>Hypericum canariense</i>	Canary Island St. Johnswort			
<i>Hypericum perforatum</i>	Klamath weed		X	
<i>Isatis tinctoria</i>	dyer's woad			
<i>Lagarosiphon major</i>	oxygen weed, African elodea			
<i>Lepidium latifolium</i>	perennial peppergrass	X		
<i>Limnobium spongia</i>	American spongeplant, American frog's-bit			
<i>Limnophila indica</i>	Indian marshweed			
<i>Limnophila sessiliflora</i>	Asian marshweed			
<i>Linaria genistifolia ssp. dalmatica</i>	Dalmatian toadflax			
<i>Ludwigia peruviana</i>	Peruvian primrose-willow			
<i>Lythrum salicaria</i>	purple loosestrife			
<i>Muhlenbergia schreberi</i>	nimblewill			
<i>Myosoton aquatica</i>	giant chickweed			
<i>Nothoscordum inodorum</i>	false garlic			
<i>Nymphaea mexicana</i>	banana waterlily			
<i>Ononis alopecuroides</i>	foxtail restharrow			
<i>Onopordum</i>	spp. onopordum thistles	X		Y 3x
<i>Orobanche ramosa</i>	branched broomrape			
<i>Oryza rufipogon</i>	red rice			
<i>Panicum antidotale</i>	blue panicgrass			
<i>Peganum harmala</i>	harmel			
<i>Pennisetum clandestinum</i>	Kikuyugrass			
<i>Physalis virginiana var. sonora</i>	smooth groundcherry			
<i>Physalis viscosa</i>	grape groundcherry			

<i>Polygonum cuspidatum</i>	Japanese knotweed			
<i>Polygonum polystachyum</i>	Himalayan knotweed			
<i>Polygonum sachalinense</i>	giant knotweed			
<i>Potentilla recta</i>	sulphur cinquefoil			
<i>Prosopis strombulifera</i>	creeping mesquite			
<i>Retama monosperma</i>	bridal veil broom			
<i>Rorippa austriaca</i>	Austrian fieldcress	X		
<i>Rorippa sylvestris</i>	creeping yellowcress			Y
<i>Salsola australis</i>	common Russianthistle			Y 6x
<i>Salsola collina</i>	spineless Russian thistle			Y 1x
<i>Salsola paulsenii</i>	barbwire Russianthistle			
<i>Salsola vermiculata</i>	wormleaf salsola			
<i>Salvia aethiopis</i>	Mediterranean sage		X	
<i>Salvia virgata</i>	meadow sage			
<i>Scolymus hispanicus</i>	golden thistle			
<i>Senecio jacobaea</i>	tansy ragwort			
<i>Senecio linearifolius</i>	fireweed groundsel			
<i>Senecio mikanioides</i>	Delairea odorata			
<i>Senecio squalidus</i>	Oxford ragwort			
<i>Sesbania punicea</i>	red sesbania, rattlebox			
<i>Setaria faberi</i>	giant foxtail			
<i>Solanum cardiophyllum</i>	heartleaf nightshade			
<i>Solanum carolinense</i>	Carolina horsenettle	X		
<i>Solanum dimidiatum</i>	Torrey's nightshade			
<i>Solanum elaeagnifolium</i>	white horsenettle	X		
<i>Solanum lanceolatum</i>	lanceleaf nightshade			
<i>Solanum marginatum</i>	white-margined nightshade			
<i>Sonchus arvensis</i>	perennial sowthistle	X		
<i>Sorghum halepense</i>	Johnsongrass and other perennial Sorghum spp. including but not limited to Sorghum almum and perennial sweet sudangrass			X Y 14x
<i>Spartina alterniflora and hybrids</i>	smooth cordgrass and hybrids			
<i>Spartina anglica</i>	common cordgrass			
<i>Spartina densiflora</i>	dense-flowered cordgrass			
<i>Spartina patens</i>	saltmeadow cord grass			

<i>Spartium junceum</i>	Spanish broom			
<i>Sphaerophysa salsula</i>	Austrian peaweed			
<i>Striga lutea</i>	witchweed			
<i>Symphytum asperum</i>	rough comfrey			
<i>Taeniatherum caput-medusae</i>	medusahead		X	
<i>Tagetes minuta</i>	wild marigold			
<i>Tamarix chinensis</i>	salt cedar			
<i>Tamarix gallica</i>	salt cedar			
<i>Tamarix parviflora</i>	salt cedar			
<i>Tamarix ramosissima</i>	salt cedar			
<i>Tribulus terrestris</i>	puncture vine		X	Y 1x
<i>Ulex europaeus</i>	gorse			
<i>Viscum album</i>	European mistletoe			
<i>Zostera japonica</i>	dwarf eelgrass			
<i>Zygophyllum fabago</i>	Syrian beancaper			

156 In CCR4500

POTENTIALLY 114 MORE
WEEDS THAN WHAT ARE
ALREADY PROHIBITED OR
RESTRICTED

Summary

All of the Noxious Weeds in CCR4500 would become designated as "prohibited" or "restricted"

Expected Impact to seed labelers ? Minimal

Why minimal?

From more than 8,000 regulatory samples take over a decade, only 13 samples had noxious weed seeds that were not already listed as prohibited or restricted.

<i>Aegilops cylindrica</i>	jointed goatgrass			Y 4x
<i>Carduus crispus</i>	curly plumeless thistle			Y 1x
<i>Coronopus squamatus</i>	swinecress			Y 1x
<i>Salsola australis</i>	common Russian thistle			Y 6x
<i>Salsola collina</i>	spineless Russian thistle			Y 1x

Proposed changes to 4603

(f) Seed Testing. Where noted below, the hourly rate is \$60 per hour.

(1) Agricultural seed.

	Purity Analysis ⁽¹⁾	Germination Test ⁽²⁾	Tetrazolium (TZ) Test ⁽²⁾
Alfalfa	39.00	30.00	60.00
Barley	63.00	29.00	75.00
Beans	30.00	47.00	60.00
Beet	56.00	51.00	100.00
Bentgrass	101.00	41.00	90.00
Bermudagrass	90.00	40.00	90.00
Bluegrass	53.00	36.00	90.00
Brome	Hourly	38.00	90.00
Burclover	58.00	31.00	60.00
Clover	48.00	31.00	60.00
Corn, field	30.00	37.00	60.00
Cotton	39.00	55.00	60.00
Cowpea	30.00	46.00	60.00
Dichondra	30.00	40.00	60.00
Fescue	Hourly	36.00	75.00
Horsebean	30.00	55.00	60.00
Mustard	57.00	36.00	75.00
Oat	75.00	31.00	90.00
Orchardgrass	Hourly	42.00	90.00
Pea, field	30.00	36.00	60.00
Rice	54.00	36.00	75.00
Ryegrass	Hourly	36.00	90.00
Safflower	33.00	36.00	90.00
Sorghum	60.00	36.00	90.00
Sudangrass	84.00	36.00	90.00
Sunflower	33.00	54.00	90.00
Sweetclover	90.00	31.00	60.00
Trefoil	48.00	36.00	60.00
Vetch	62.00	31.00	90.00
Wheat	65.00	29.00	75.00
Wheatgrass	Hourly	38.00	90.00

¹ Purity Analysis requires a minimum sample of 30,000 seed units and includes California Noxious Weed Seed examination. Samples submitted not meeting the minimum unit requirement shall not be run analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

² Germination or Tetrazolium test requires a minimum sample of 1,000 seed units. Samples submitted not meeting the minimum unit requirement shall ~~not~~ be ~~run~~ analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

~~For germination tests of mixtures of two or more kinds of lawn or pasture seed, which require a purity separation before a germination test is made, the fee will include a purity analysis report if specifically requested. For germination test of mixtures of two or more kinds of lawn or pasture seed or all other kinds, the fee will be the sum of the fees established for germination tests of the several components. For a purity analysis of such mixtures, the fee is the same as for that component of the mixture for which the highest charge would be made if analyzed separately. The minimum fee for any mixture will be \$60.00.~~

For a purity analysis of mixtures of two or more kinds of seed, the fee will be based on time required to perform the analysis at \$60.00 per hour. For germination test of such mixtures following a purity analysis, the fee will be the sum of the fees established in 4306(f)(1) and (2) for germination tests of each component or at \$60.00 for kinds not listed.

(2) Vegetable seed.

	Purity Analysis ⁽¹⁾	Germination Test ⁽²⁾	Tetrazolium (TZ) Test ⁽²⁾
Asparagus	35.00	40.00	90.00
Beans	30.00	47.00	60.00
Beets	56.00	51.00	100.00
Broccoli	57.00	31.00	75.00
Brussels sprouts	57.00	31.00	75.00
Cabbage	57.00	31.00	75.00
Carrot	61.00	40.00	90.00
Cauliflower	57.00	31.00	75.00
Celery	69.00	40.00	90.00
Chard, Swiss	56.00	51.00	100.00
Chicory	60.00	36.00	75.00
Chives	49.00	35.00	75.00
Corn, sweet	37.00	40.00	60.00
Cucumber	42.00	31.00	60.00
Dill	60.00	40.00	90.00
Eggplant	36.00	36.00	75.00
Endive	60.00	40.00	75.00
Lettuce	52.00	36.00	75.00
Melon	42.00	36.00	60.00
Mustard	57.00	36.00	75.00

Okra	49.00	31.00	75.00
Onion	49.00	31.00	75.00
Parsley	60.00	40.00	90.00
Parsnip	60.00	40.00	90.00
Peas	30.00	36.00	60.00
Pepper	36.00	36.00	75.00
Pumpkin	42.00	40.00	60.00
Radish	40.00	31.00	60.00
Spinach (except New Zealand)	37.00	31.00	75.00
Squash	42.00	40.00	60.00
Tomato	36.00	36.00	75.00
Turnip	57.00	36.00	75.00
Watermelon	42.00	36.00	60.00

¹ Purity Analysis requires a minimum sample of 30,000 seed units and includes California Noxious Weed Seed examination. Samples submitted not meeting the minimum unit requirement shall ~~not~~ be ~~run~~ analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

² Germination or Tetrazolium test requires a minimum sample of 1,000 seed units. Samples submitted not meeting the minimum unit requirement shall ~~not~~ be ~~run~~ analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

- (3) Fees for additional tests, examinations, and services are as follows:
 - California or All States Noxious Weed Seeds examination¹...\$35.00³
 - Clean-out Test.....\$60.00⁴
 - Complete Other Species examination¹.....\$35.00³
 - 500 gram Dodder Check.....Hourly
 - Foreign Noxious Weed Seeds examination¹.....\$35.00³
 - Livestock or Bird Feed Weed Seed Exam & Viability Test.....Hourly
 - Ryegrass Fluorescence².....\$20.00⁴
 - Sclerotia Percentage.....\$35.00³
 - Seed Identification (for non-enforcement purposes).....Hourly
 - Seed Moisture Determination.....\$30.00
 - Sod Quality Exam.....Hourly
 - Soil Percentage.....\$35.00³
 - Soil Seed Bank Examination.....Hourly
 - Thermo Gradient Seed Viability.....\$90.00

Thermo Gradient Seed Vigor Tolerance Test.....	\$120.00
Treated, Pelleted, Coated, or Encrusted Seed.....	\$ 8.00 ⁵
Vigor Testing.....	\$120.00
X-ray Analysis (<u>50 seeds per sample</u>).....	\$35.00

¹ California, All State and Foreign Noxious Weed Seed examinations and Complete Other Species examination require a minimum sample of 30,000 seed units. Samples submitted not meeting the minimum unit requirement shall ~~not~~ be ~~run~~ analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

² Ryegrass Florescence test requires a minimum sample of 1,000 seed units. Samples submitted not meeting the minimum unit requirement shall ~~not~~ be ~~run~~ analyzed to the extent possible; however, the analysis report will state the deviation from the standard testing methods. For the minimum weight for a kind of seed, contact the California Seed Laboratory prior to submitting a sample for testing.

No changes to footnotes 3 and 4.

⁵Toxic waste disposal fee added to total cost of all tests per sample.

Charges for tests of ~~agricultural and vegetable~~ seed kinds not listed and for seed that is unclean, field run, or excessively dirty will be based ~~on the cost of a similar test, or~~ on the time required to run the test a \$60.00 per hour (~~\$60.00 minimum charge~~). Fees for specialized tests and services not listed will be based on the time required to perform the tests at \$60.00 per hour plus the cost of laboratory supplies.

Fees for special handling and services are as follows:

International Seed Testing Association (ISTA) <u>Rules for Seed Testing</u>	\$20.00 ¹
Canadian Seed Act & Regulations (CSAR) <u>Methods and Procedures for Testing Seed</u>	\$20.00 ¹
Express mailing (Federal Express or others).....	Actual costs
FAXing test results.....	\$3.00 per page

¹ ~~Additional fee for~~ In addition to purity testing fee.

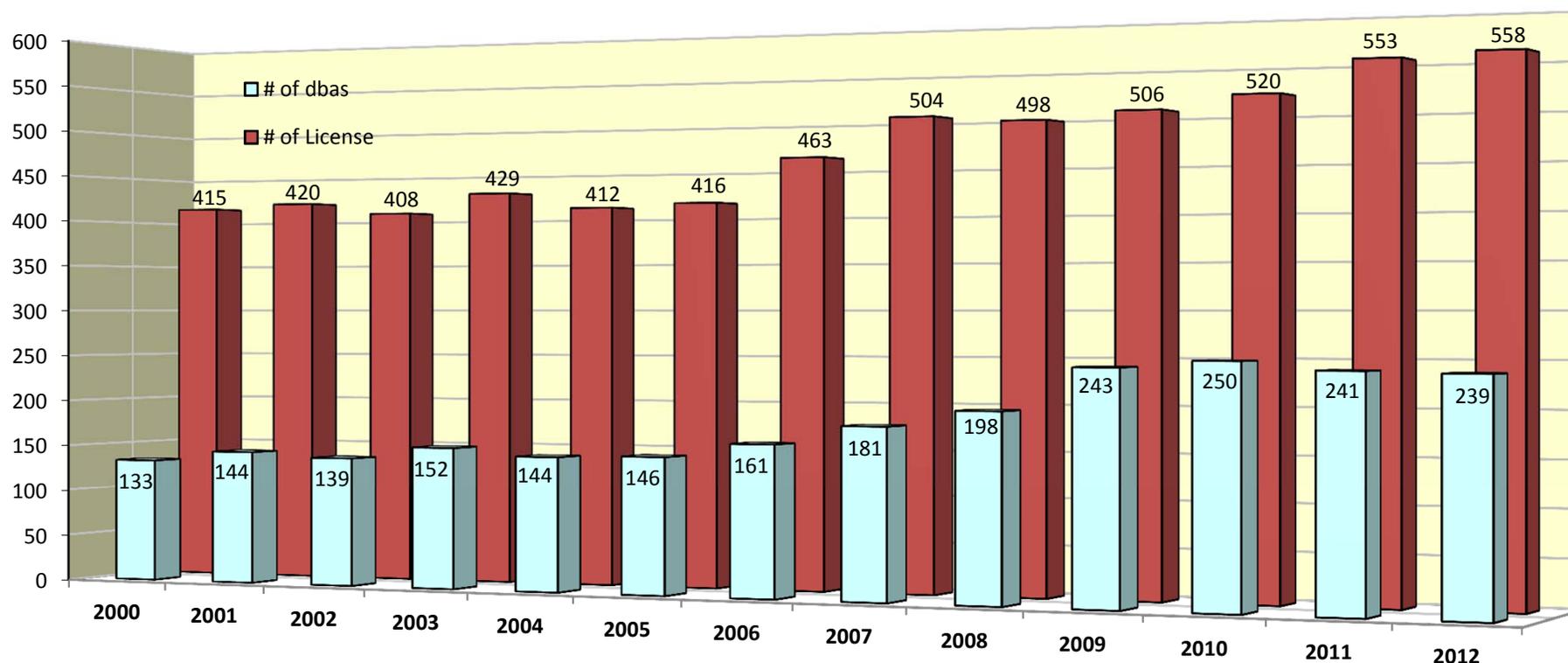
OST Travel Blanket for Seed Services FY 2014-15

Destination	Date of Trip	Class Title	Total Attending	# of Trips	# of Days per Trip	Total Days of Trip	Cost	PCA	Funding	Purpose / Justification (include benefit to state)
TBD	Nov-14	Sr Environmental Scientist - Supervisor	1	1	5	5	\$2,310	15551	SF	California seed firms contribute an estimated \$2.8 billion annually to the economy of California. For this reason, the California Seed Advisory Board has requested a representative from CDFA to attend the American Seed Trade Association's (ASTA) Annual Farm and Lawn Seed Conference. Legislation concerning the seed law is often initiated by ASTA. Direct observation and participation in sessions during this meeting provide staff with new information and an understanding of issues important for accurate legislative analysis. Important issues discussed will be labeling of genetically modified seeds, federal and state quarantine pests in grass seeds, and export requirements related for phytosanitary regulations. Participation benefits California because it will promote an equitable and orderly marketplace for California seed products nationwide and ensure that quality seed products are available to California farmers and consumers. Attendance will also provide the Seed Services Program Supervisor an opportunity to communicate state and local issues, labeling requirements and proposed legislation affecting the seed industry and export markets. There will be one five-day trip for one person.
Denver, CO, Riverdale, MD, Tampa FL, Pullman WA.	TBD	Sr Environmental Scientist - Supervisor	1	4	5	20	\$0	15551	Other	These trips are necessary to participate in a continuing audit of the National Seed Health System (NSHS), which is being conducted in association with the National Plant Board and USDA. The NSHS promotes measures to prevent the spread and introduction of pests on plant products, including seeds. Seed health testing may be required prior to shipment of seeds to other countries. Certification of seed health to minimize the risk from plant pests is consistent with the mission of CDFA. The NSHS accredits both private and public entities to perform certain inspections and tests prior to the issuance of Federal phytosanitary certificates that accompany seed shipped internationally. Since the California seed industry is the largest seed exporter, there is tremendous economic benefit to California in maintaining a viable NSHS. Direct participation by a California representative of the National Plant Board is important to provide the national control program (USDA) with a degree of separation for the audit of their sponsored entity (NSHA). Expenses to participate on these audits will be paid by the National Plant Board and/or USDA/APHIS. No conflict of interest will occur. There will be four five-day trips for one person.
TBD	Jun-14	Sr Environmental Scientist - Supervisor	1	1	5	5	\$0	15551	Other	To attend the Joint Annual Meeting of the Association of Official Seed Analysts (AOSA) and the Society of Commercial Seed Technologists (SCST); a meeting of domestic and foreign government officials and seed industry representatives involved in the testing of seed moving in global commerce, which are subject to a variety of labeling and quarantine laws. The AOSA/SCST are responsible for developing internationally recognized official procedures for seed quality testing (AOSA Rules), which serve as the official methods for seed testing in most state seed laws, and are routinely adopted by the Federal Seed Act. The designee for this trip serves as the President of the Association of American Seed Control Officials. A duty of the President is to attend and participate at meetings of affiliate organizations the work cooperatively with Seed Control Officials. The California Seed Advisory Board supports participation of CDFA staff in professional organizations that identify and work to resolve critical issues for the California seed industry. Expenses to participate at this meeting will be paid by the Association of American Seed Control Officials. No conflict of interest will occur. There will be one five-day trip for one person.
TBD	Jul-14	Sr Environmental Scientist - Supervisor	1	1	6	6	\$2,900	15551	SF	To attend the annual meeting of the Association of American Seed Control Officials (AASCO). The designee serves as the President of AASCO and is obligated to conduct the entire meeting. As President, the designee serves on several panels and will usher in a newly developed procedure for AASCO to accredit seed sampler trainers. There is tremendous benefit to the state for this process to be completed. The Seed Services Program will significantly reduce critical hours and expenditure for training seed samplers. In addition, outside accreditation of seed samplers will reduce the burden on county inspectors to collect seed samples, a service few counties have trained staff to provide. California seed companies will finally have another option for collecting seed samples. Additionally, the Seed Control Officials will vote on changes to the Recommended Uniform State Seed Law (RUSSEL) and changes to the Official Seed Sampling Manual. The California seed industry currently provides almost \$3 billion of seed sales to the California economy per year. The training and knowledge gained at this meeting are critical for the Department's ability to maintain orderly markets for seed sales, prevent the introduction of pests in seed, and retain seed businesses in California. Participation by the designee at this meeting is strongly supported by the California seed industry. No general funds will be used for this one six day trip.
Gastonia, NC	TBA	Senior or Associate Seed Botanist or Program Supervisor	1	1	6	6	\$1,325	15551	SF	To attend the USDA Seed Regulatory and Testing Branch (STRB) Seed Workshop providing state of the art instruction in purity analysis and identification crop and weed seeds, with emphasis on recognition of new and emerging seed contaminant species, particularly noxious-weed seeds, seed health issues, and the use of DNA-based and immunological testing for discrimination of new crop plant cultivars and genetically modified crops. This type of training is critical to the function of the CDFA Seed Lab and necessary for the preparation for this Seed Botanist to qualify for the Certified Seed Analysts accreditation examination. Accreditation of this individual is mission critical for the CDFA Seed Lab in order to be recognized nationally and internationally as qualified to conduct seed testing for the CDFA seed enforcement program and phytosanitary testing for the movement of seed in the global market in order to support and protect the multi-billion dollar seed industry in California. Training is provided under a cooperative agreement with the USDA to facilitate Federal Seed Act enforcement. There will be one six-day trip for one person.

OST Travel Blanket for Seed Services FY 2014-15

Destination	Date of Trip	Class Title	Total Attending	# of Trips	# of Days per Trip	Total Days of Trip	Cost	PCA	Funding	Purpose / Justification (include benefit to state)
TBD	Jun-14	Sr. Seed Botanists or Program Supervisor	2	1	8	16	\$2,500	15551	SF	To attend the Association of Official Seed Analysts (AOSA) and the Society of Commercial Seed Technologists (SCST) Meeting and Training Workshops. Attendees include domestic and foreign government officials and seed industry representatives involved in laboratory quality assessment and phytosanitary certification of seed lots moving in global commerce and subject to a variety of labeling and quarantine laws. The AOSA/SCST develop internationally recognized procedures for seed quality and phytosanitary testing (AOSA Rules), which serve as the official seed testing methods for states seed enforcement laws, and are routinely adopted into the Federal Seed Act. The CA Seed Advisory Board has determined that participation by the CDFA Seed Lab scientists is both mission critical and beneficial to the state because important changes to the AOSA Rules will be considered and it's vital that CA regulatory and consumer interests be represented during debate and voting on any changes that could impact the state's multi-billion dollar seed industry. Attendance is required to participate in the voting process. Both Seed Botanists serve as chairpersons for various AOSA/SCST committees responsible for AOSA Rules development research and will make presentations. Attending the workshops provides training in state of the art diagnostic techniques and AOSA mandated protocols for seed quality assessment. Lab scientists are responsible for prompt and accurate identification of all plant species via seed morphology and other methods, diagnosing seedling abnormalities that can lead to crop failure, and is crucial for the health of California's seed industry. Attending these trainings are crucial to be able to pass the AOSA/SCST proficiency tests and to meet continuing education requirements to maintain AOSA/SCST seed technologist accreditation. There will be one eight-day trip taken by two employees. Partial funding may be provided by AOSA/SCST. No conflict of interest.
TBD	Sept. 2014	Sr Environmental Scientist - Supervisor	1	1	5	5	\$1,450	15551	SF	To represent the Association of American Seed Control Officials on the trainer panel of the annual Basic Inspector Training Seminar (BITS). The BITS meeting provides hands-on training to inspectors from all states about the proper methods for sampling numerous agricultural commodities, including seed. The proper training of inspectors is critically important to California since two-thirds of the \$3 billion of seed annually produced in California are exported to other states or countries. Incorrect sampling leads to erroneous laboratory results and wrongful enforcements that cause unnecessary delays, additional expenditures and ultimately lost revenue to the California economy. As President of the Association of Seed Control Officials, the trip designee has the official duty to represent AASCO at critical meetings and training seminars. Expenses to participate at this meeting will be paid by the Asscoiation of American Seed Control Officials. No conflict of interest will occur. This will be one five-day trip for one person.
Brookings, SD	13-14 TBD	Associate Environmental Scientist	1	1	5	5	\$2,745	15551	SF	To attend training to become accredited seed samplers for the International Seed Trade Association (ISTA). Sampling Rules for various types of seed, sealing seed lots and subdividing samples according to specifications of the International Seed Testing Association (ISTA), the Association of Official Seed Analysts (AOSA), the United States Department of Agriculture (USDA) and the Canadian Food Inspection Agency (CFIA) are becoming increasingly important for seed testing and the export of seeds. Enforcement activities of the California Seed Law require accurate sampling of seeds, however sampling procedures are changing in an effort to standardize procedures for testing seed quality throughout the world. Mid-West Seeds in Brookings, S.D. is one of only four accredited ISTA laboratories and is the only lab offering training. Both Assoc Ag Biologists must be accredited in order to perform their job duties. There will be one-four day trip.
Chicago, IL	Dec-14	Sr Environmental Scientist - Supervisor	1	1	5	5	\$2,946	15551	SF	To attend the annual meeting of the American Seed Trade Association(ASTA), one of the oldest trade organizations in the United States. Its membership consists of about 850 companies involved in seed production and distribution, plant breeding, and related industries in North America. Teh California Seed Advisory Board has expressed their desire for a representative from the CDFA Seed Services Program to attend this meeting. Since ASTA advocates science and policy issues of industry-wide importance, the Board believes it is important for the designee to participate on panel that discuss issues relevant to seed law enforcement in California. There will be one five day trip for one person.
Totals			10	12	50	73	\$16,176			

Number of Firms Authorized to Sell Seed in California



Analysis of Enforcements

415 firms authorized to sell in 2000 versus 558 firms authorized to sell in 2012. Enforcement efforts resulted in 34% increase (4.6% inc./yr since 2005.)

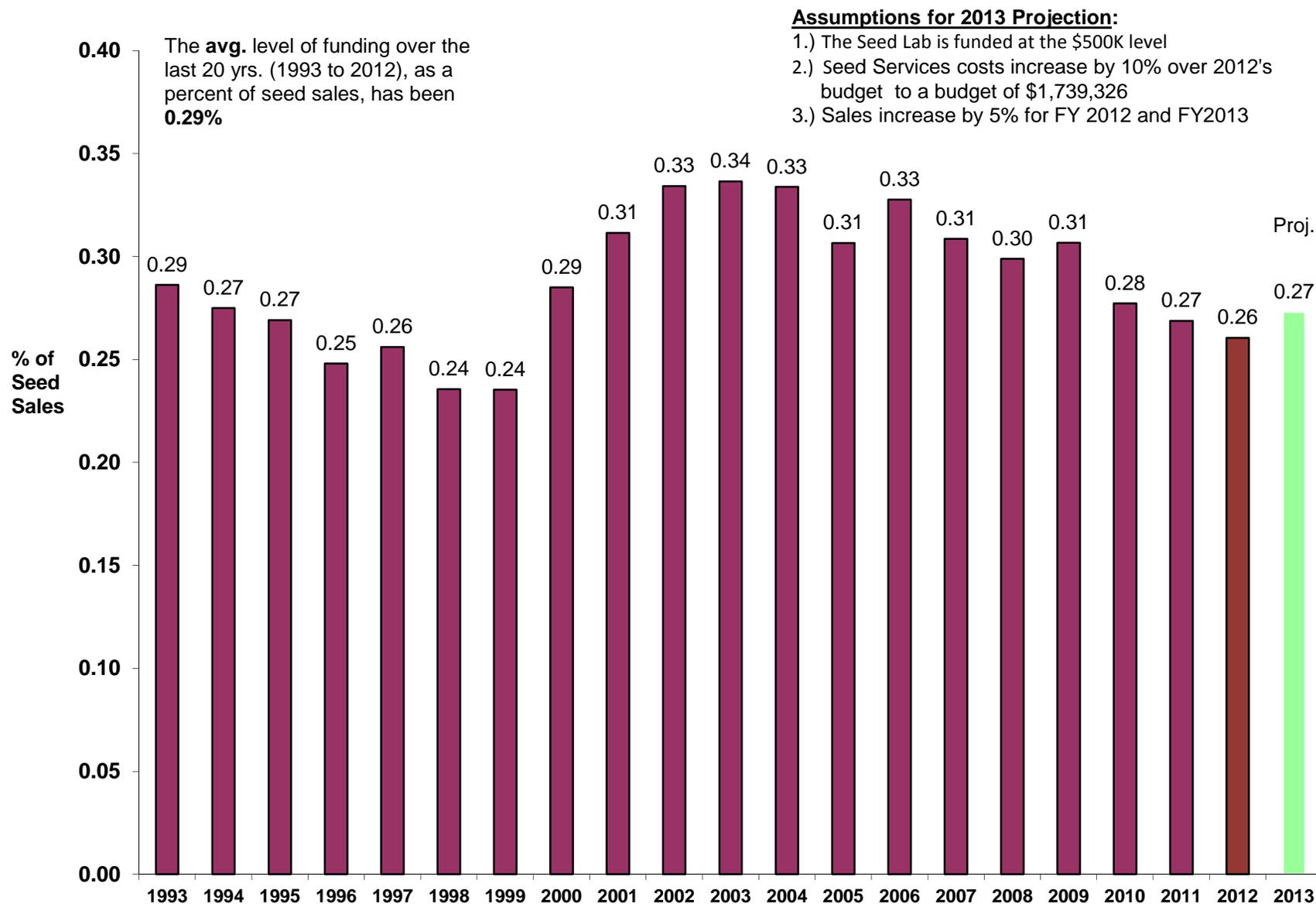
DBAs 133 firms identified in 2000 versus 239 DBAs identified in 2012. Enforcement efforts resulted in 80% increase for DBAs (9% inc./yr since 2005.)

Combined 548 firms names identified in 2000 versus 797 identified in 2012. Enforcement efforts resulted in 45% increase. (6% inc./yr since 2005.)

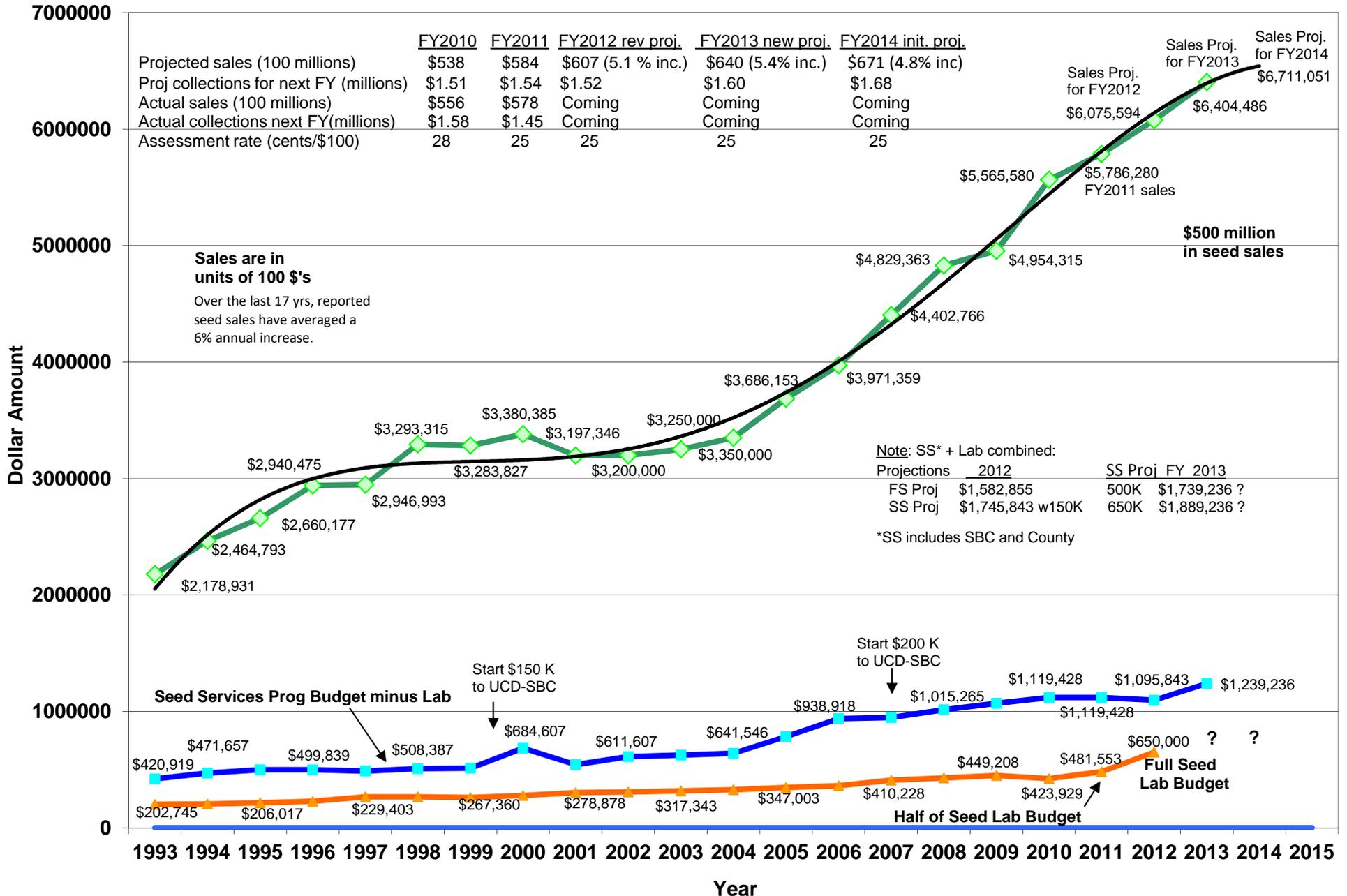
Direct Benefit of Enforcements

More orderly market. Better protection to the reputation of the industry and to the consumer. Conceivably one-third of the firms selling seed in CA in 2005 were not registered, not being inspected and not paying into the program. Approximately one-third of the seed complaints during that time period were against firms selling seeds without authorization. Enforcements have brought more firms into the program and allowed the SAB to recommend two decreases in the assessment rate representing a combined reduction in the assessment fee of 23%. Equally important has been the increased awareness of consequence for violation of the seed law.

Total Program Budget (w/o General Funds) as a Percentage of Reported Seed Sales



19 Year Comparison: Reported Seed Sales (scaled) versus the Seed Services Budget versus the Seed Lab Budget



SEED LABORATORY 13015 "GEN. FUND" BUDGET RPT.

May 7, 2013

	PPY 2010/11	PY 2011/12 Estimate	CY 2012/13 Estimate	2013/14 Projection	2014/15 Projection
CASH BALANCE FORWARD	186,014	125,451	128,417	128,049	157,736
Uncleared revenue (suspense)	-24,121	6,075	1,031	1,031	1,031
Transfer between codes (actually Bond Debt - see below)					
Controller Transfers	0	0	0	0	0
BEGINNING CASH BALANCE	161,893	131,526	129,447	129,080	158,767
Prior Yr Expenditures - Adjustment	-148	-2,577	65	-887	-887
Prior Prior Yr Expenditures - Adjustment	0	-35	731	232	232
ADJUSTED CASH BALANCE	161,745	128,914	130,243	128,425	158,112
REVENUE					
<i>Testing Fees & Services</i>	35,001	32,401	30,000	30,000	30,000
Miscellaneous	-238	0	0	-79	-79
Interest	963	342	342	342	342
TOTAL REVENUE COLLECTED	35,726	32,743	30,342	30,263	30,263
TOTAL CASH BALANCE (AG FUND)	197,471	161,657	160,585	158,688	188,375
EXPENDITURES (Ag Fund)					
Plant Lab Bond Debt **	70,313	33,240	31,620	0	0
Seed Lab Ag Fund: salary	0	0	0	0	0
Other	1,707	0	916	953	991
TOTAL PROGRAM EXPENDITURES	72,020	33,240	32,536	953	991
BALANCE (ENDING RESERVE)	125,451	128,417	128,049	157,736	187,384
AG TRUST FUND	14,423	14,496	14,554	14,600	14,646
Interest	73	58	46	46	46
TOTAL AG TRUST FUND (RESERVE)	14,496	14,554	14,600	14,646	14,692

FY 2012 should be end of Bond Debt Repayment

Brief Budget Report for PCA 13015 Seed Lab "General" Fund	PY 2011/12 Estimate	CY 2012/13 Estimate	2013/14 Projection	2014/15 Projection
FY 2011 EOY	701,000			
FY2012 EOY Projection.		676,000	?	?

Proposed Budget for FY 2014/15 - Scenario 1 w/o extra \$ for Seed Lab

SEED SERVICES PCA 15551

SAB Mtg. May 7, 2013

	PPY 2010/2011 per 4/29/2013	PY 2011/2012 per 4/29/2013	CY FY2012/13 EOY Proj	Static FY 2013/2014 App. 5/3/2012	Proposed FY 2014/2015 SAB 5/7/2013	
Permanent Sal	268,384	305,982	322,556	381,090	376,197	1
Temporary Help Sal	8,682	7,039		10,466	0	
Staff Benefits	124,972	142,674	145,090	158,514	169,218	2
Sal Sav	0	0	2,514	0	0	
Salary & Benefit Recovery	0	6,234	0	0	0	3
TOTAL PERSONAL SERVICES	402,038	461,929	470,160	550,070	545,416	
General Expenses	7,198	5,023	10,000	10,000	10,000	4
Printing	328	1,234	500	545	605	
Communications	4,799	4,797	4,800	5,808	5,808	
Postage	1,838	1,653	1,750	2,335	2,118	5
Insurance-Vehicles	1,249	1,274	1,500	1,542	1,815	6
Travel In-State	8,521	13,630	10,000	16,337	12,100	7
Travel Out-of-State	1,175	1,024	1,200	16,176	16,176	8
Training	500	25	1,500	1,000	1,000	
Facilities	37,391	29,589	38,000	51,999	51,999	
Utilities	450	472	600	726	726	
Cons & Prof	322	446	1,000	3,500	3,500	9
Data Processing	0	0	0	0	0	
Interdeptl Charges	0	0	0	0	0	
Division - Indirect	24,115	26,943	25,407	32,082	30,742	10
Dept. - Indirect - Exec/Admin	56,036	74,457	69,240	85,825	85,825	
Legal Svs-Indirect	0	0	0	0	0	
Production Services - Direct	0	0	0	0	0	
Plant IT	2,639	1,061	48,078	2,951	58,174	11
Centralized Svs	1,237	1,338	1,500	1,619	1,815	
Other Interdeptl Charges	0	0	0	0	0	
Pro Rata	56,137	51,541	49,078	69,107	60,000	12
Equipment	0	22,952	27,000	54,000	54,000	13
Misc. Ag. Services	0	0	0			14
Field Expenses/Agri Supplies	405	4,125	3,000	750	750	15
Vehicle Operations	8,746	9,309	10,000	12,954	12,100	16
Research Contracts UCD SBC	200,000	200,000	200,000	200,000	200,000	17
Other Misc. Charges (PY Expend & neg 24c)	98,714	34,612	1,530	0	0	18
Subtotal Oper Exp/Equip	511,800	485,505	505,683	569,256	609,253	
Ag Commissioners	120,000	120,000	120,000	120,000	120,000	
Seed Laboratory (Gen Fund) Annual Agreement	423,929	496,400	650,000	500,000	500,000	19
TOTAL OPER EXP/EQUIP	1,055,729	1,101,905	1,275,683	1,189,256	1,229,253	
TOTAL BUDGET w Personnel & Benefits	1,457,767	1,563,834	1,745,843	1,739,326	1,774,669	20
	PPY 10/11 Projection	PY 11/12 Projection	CY 12/13 EOY Proj.	FY 13/14 May 3, 2012 Approved	FY 14/15 Proposed Budget	
versus Previously approved by Seed Advisory Board	\$1,697,243	\$1,714,600	\$1,577,396	\$1,739,326	\$1,774,669	
% of Approved Budget Expended	used 86% of proj	used 91% of proj	used 111% of proj	not occurred	not occurred	

Proposed Budget for FY 2014/15 - Scenario 2 with \$150k extra for Lab

SEED SERVICES PCA 15551

SAB Mtg. May 7, 2013

	PPY 2010/2011 per 4/29/2013	PY 2011/2012 per 4/29/2013	CY FY2012/13 EOY Proj	Appvd 5/2012 +150K FY 2013/2014	Propsd+150K FY 2014/2015 SAB 5/7/2013	
Permanent Sal	268,384	305,982	322,556	381,090	376,197	1
Temporary Help Sal	8,682	7,039		10,466	0	
Staff Benefits	124,972	142,674	145,090	158,514	169,218	2
Sal Sav	0	0	2,514	0	0	
Salary & Benefit Recovery	0	6,234	0	0	0	3
TOTAL PERSONAL SERVICES	402,038	461,929	470,160	550,070	545,416	
General Expenses	7,198	5,023	10,000	10,000	10,000	4
Printing	328	1,234	500	545	605	
Communications	4,799	4,797	4,800	5,808	5,808	
Postage	1,838	1,653	1,750	2,335	2,118	5
Insurance-Vehicles	1,249	1,274	1,500	1,542	1,815	6
Travel In-State	8,521	13,630	10,000	16,337	12,100	7
Travel Out-of-State	1,175	1,024	1,200	16,176	16,176	8
Training	500	25	1,500	1,000	1,000	
Facilities	37,391	29,589	38,000	51,999	51,999	
Utilities	450	472	600	726	726	
Cons & Prof	322	446	1,000	3,500	3,500	9
Data Processing	0	0	0	0	0	
Interdeptl Charges	0	0	0	0	0	
Division - Indirect	24,115	26,943	25,407	32,082	30,742	10
Dept. - Indirect - Exec/Admin	56,036	74,457	69,240	85,825	85,825	
Legal Svs-Indirect	0	0	0	0	0	
Production Services - Direct	0	0	0	0	0	
Plant IT	2,639	1,061	48,078	2,951	58,174	11
Centralized Svs	1,237	1,338	1,500	1,619	1,815	
Other Interdeptl Charges	0	0	0	0	0	
Pro Rata	56,137	51,541	49,078	69,107	60,000	12
Equipment	0	22,952	27,000	54,000	54,000	13
Misc. Ag. Services	0	0	0			14
Field Expenses/Agri Supplies	405	4,125	3,000	750	750	15
Vehicle Operations	8,746	9,309	10,000	12,954	12,100	16
Research Contracts UCD SBC	200,000	200,000	200,000	200,000	200,000	17
Other Misc. Charges (PY Expend & neg 24c)	98,714	34,612	1,530	0	0	18
Subtotal Oper Exp/Equip	511,800	485,505	505,683	569,256	609,253	
Ag Commissioners	120,000	120,000	120,000	120,000	120,000	
Seed Laboratory (Gen Fund) Annual Agreement	423,929	496,400	650,000	650,000	650,000	19
TOTAL OPER EXP/EQUIP	1,055,729	1,101,905	1,275,683	1,339,256	1,379,253	
TOTAL BUDGET w Personnel and Benefits	1,457,767	1,563,834	1,745,843	1,889,326	1,924,669	20
	PPY 10/11 Projection	PY 11/12 Projection	CY 12/13 EOY Proj.	FY 13/14 May 3, 2012 Approved	FY 14/15 Proposed W 150 K	
versus Previously approved by Seed Advisory Board	\$1,697,243	\$1,714,600	\$1,577,396	\$1,739,326	\$1,924,669	
% of Approved Budget Expended	used 86% of proj	used 91% of proj	used 110% of proj	not occurred	not occurred	

FUND CONDITION FOR SEED SERVICES

May 7, 2013

	PPY 2010/11 EOY Estimate	PY 2011/2012 EOY Estimate	CY 2012/2013 EOY Estimate	2013/2014 Static Column Approved 5/3/2012	Projection for 2014/2015 Fund Condition
BEGINNING CASH BALANCE	\$1,822,385	\$1,799,441	\$1,846,680	\$1,899,580 orig pred. vs \$1,603,210 new EOY pred.	\$1,479,111 w/o 150k for lab FY13 \$1,329,111 if 150k to Lab in FY13
REVENUE CATEGORIES	had 28 cent assessment rate on sales in FY2009	had 28 cent assessment rate on sales in FY2010	had 25 cent assessment rate on sales in FY2011	With assessment at 25 cents /\$100 sales made in 2012	With assessment at 25 cents /\$100 sales made in 2013
Assessment \$	1,393,413	1,576,648	1,446,570	1,534,013	1,601,122
Miscellaneous	1,225	1,102	1,888	200	200
License Fees	21,010	22,280	22,080	22,400	23,000
Penalties	10,894	9,773	12,168	10,000	10,000
Interest	8,725	6,841	3,568	10,000	3,000
Interest from Infrfund Loan	1,872	555	147	700	500
TOTAL REVENUE	1,437,139	\$1,616,644	\$1,486,274	\$1,576,613	\$1,637,322
Reimbursement 224c - Admin	32,503	31,786	25,527	38,614	36,081
PY & PPY Adjustments and Encumbrances	(34,819)	(37,357)	(9,428)		
TOTAL RESOURCES before Expenditures	\$3,257,208	\$3,410,514	\$3,349,053	\$3,218,437 new pred. vs. \$3,514,807 orig. pred	\$3,152,514 if no \$150k to lab PY FY13 \$3,002,514 if \$150k to lab in PY FY13
EXPENDITURES				Previously Projected	Newly projected for FY2014
Seed Services	713,838	747,434	775,843	919,326	954,669
Seed Laboratory	423,929	496,400	650,000	orig 500,000 maybe 650,000	500,000 maybe 650,000 ?
Ag Commissioners	120,000	120,000	120,000	120,000	120,000
UCD SBC	200,000	200,000	200,000	200,000	200,000
TOTAL EXPENDITURES (BUDGET)	\$1,457,767	\$1,563,834	\$1,745,843	\$1,739,326 vs \$1,889,626	\$1,774,669 vs \$1,924,669
BALANCE IN AG FUND (Resources - Expenditures)	\$1,799,441	\$1,846,680	\$1,603,210	\$1,775,481 orig. pred vs. \$1,479,111 new pred.	\$1,377,845 if no \$150k to the lab FY13 & FY14 \$1,077,845 if \$150 to the lab FY13 & FY14
AG TRUST FUND				Figures below have been adjusted April 2013	
Interest	131,999	132,670	133,205	133,935	137,256
Interest	671	535	429	430	431
ENDING AG TRUST (RESERVE)	\$132,670	\$133,205	\$133,634	\$134,365	\$137,687
Notes of Interest					
Reserve Calculation: The amount required to keep in reserve = 1/4 budget (expenditures)	\$364,442	\$390,959	\$436,461	\$434,832 or \$472,407	\$443,667 or \$481,167
Number of Licenses	525	557	569	581	593
Reported Value of Seed Sold PY in CA	\$497,647,500	\$563,088,571	\$582,014,337	\$613,605,200	\$640,448,800
Assessment Rate	0.28	0.28	0.25	0.25	0.25
	4.7% inc sales value	6.8% inc sales value	3.5% inc sales value	used 18 yr graph	used 19 yr graph
NOTES of Interest	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Approved by Board at Prior Meetings	\$1,697,243	\$1,714,600	\$1,557,396		
Estimated Total Expenditure	\$1,457,767	\$1,563,834	\$1,745,843	\$1,739,326 vs \$1,889,626	\$1,774,669 vs \$1,924,669
Difference SAB Approv-Proj Expend	\$239,476	\$150,766			
% of approved budget spent	86% of SAB Approv	91% of SAB Approv	110% of init approv.	Not yet occurred	Not yet occurred