

Seed Advisory Board Meeting
 CDFA Plant Diagnostics Center
 3294 Meadowview Road
 Sacramento, CA
 8:15 AM, Thursday May 5, 2011

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1. Call to Order – Roll call

Chairman Hansen called the meeting to order at 8:15 am. The following members and guests were present:

Kelly Keithly	Paul Frey	John Heaton
Rick Falconer	Larry Hirahara	Sue DiTomaso
Gabe Patin	Michael Campbell	Robert Stewart
Ken Scarlett	Tad Bell	Tim Tidwell
John McShane	Betsy Peterson	Allen Van Deynze
Marc Meyer	Connie Weiner	Robert Price
George Hansen	Deborah Meyer	Jim Effenberger

2. Administration of Oaths

Chairman Hansen announced the reappointments of Board members McShane, Choate, Falconer and Hansen. He then introduced the Board's newly appointed public member Michael Campbell. Appointed members agreed to serve from April 1, 2011 through March 31, 2014. John Heaton administered the oath to the new members present.

3. Acceptance of minutes from November 4, 2010 meeting

Chairman Hansen noted two corrections to the minutes;

- Removal of Kent Bradford from the list of attendees
- Correction of fiscal years on page 8. Funding of SBC is good through June 2013.

Kelly Keithly motioned that the corrected minutes be accepted.

Rick Falconer seconded the motion. Motion carried.

4. Seed Services News – Items of Interest

Heaton provided each Board member with copies of new articles that reported on the following important issues.

- Value of Plant Breeding – sustained investment in plant breeding is important for significant increases of grain and oilseeds. Requires a continuing investment.
- Some farmers are finding it difficult to find conventional seed. PVP is important to the development of more varieties.
- An article about seed producers launching a preemptive strike against Monsanto regarding disputes involving contamination from GE plants. Heaton cited the article as evidence of how important it was for CA legislators to pass AB541 and place Article 2.6 in the CA Seed Law in order to deal with such disputes.
 - Member Paul Frey commented that the issue for the filing parity is really more involved with overturning patent law than the concepts presented in the article.
- A graph about which smaller organic food companies are owned by larger food companies.
- An article about the fact that people don't realize there are genetically engineered organisms all around them.
- A personal genome machine that may have technology applications for plant breeding
- False marking can create a liability. Packaging should not give the impression that a seed variety is patented.
- USDA names new members for Plant Variety Protection Board.
 - Heaton noted that a speaker at the ASTA meeting discussed an industry concern that basic germplasm development is not happening because the PVP may not be robust enough. There is some discussion about providing certificate holders a period of protection before breeders can begin to use their PVP varieties in breeding programs.
- An article about USDA outsourcing the review of biotech studies. The idea is that through outsourcing the review, USDA can reduce the delays for approval of GM crops.
- An article about USDA APHIS' seed re-export procedures. Heaton commented that the North American Plant Protection Organization (NAPPO) worked hard on this effort and he believes it was recently also adopted by OECD.
 - It was noted that CDFA employee, Jim Lawrence, attended the recent meeting of ASTA to explain the procedures for seed re-export. Jim explained in detail that it is the responsibility of the company requesting inspections to identify any

additional pests that may be required for issuance of a re-export certificate. He emphasized the importance of having some sort of official communication from the importing country, which states the additional pests are actually a requirement.

- An article reporting that the lab at CalWest Seeds just became a USDA Accredited Seed Lab.
- An article about a seed liability bill being considered in India. The article was presented as an example of measures that are sometimes taken when a country does not have adequate seed testing and enforcement programs to ensure that quality seeds are being delivered to farmers.
- An FAO article about the formation of a seed testing network in Africa. The author argued that Africa missed much of the green revolution because they did not have viable testing and enforcement programs for major crops. Poor seed quality has plagued African farmers for years.

5. Seed Biotechnology Center Activities Report

Sue DiTomaso provided a PowerPoint slide presentation to highlight the recent activities at the UC Davis Seed Biotechnology Center.

- Personnel changes
 - Jamie Miller accepted a new position as Corporate Relations Analyst for the campus
 - Dr. Martina Newell McGloughlin joined the UCD SBC. She will continue her work on international biotechnology and various other projects.
 - Sue introduced Rale Gjuric, who is the Director of the Plant Breeding Academy and the SBC Education Director.
- Courses
 - Seed Business 101 has been very well received. The focus of the program is on five major areas of a seed company.
 - Research and Development
 - Seed Production
 - Operations
 - Seed Sales and Marketing
 - Administration
 - In February, the SBC sponsored a Seed Biology, Production and Quality Course. There were sixty six participants.
 - Allen Van Deynze will be offering a Breeding with Molecular Markers course in February 2012. He is also offering the course at other locations with collaborators of his SOLCAP Grant.
- Plant Breeding Academy
 - The SBC is currently in PBA3 of the domestic program.
 - The PBA has had fifty two participants to date
 - Class one of the European PBA has 14 participants and the SBC is currently accepting applications for European -PBA2 class
 - SBC is currently exploring a PBA model for Asia
- Seed Central
 - Mike Campbell and Francois Korn are presently working on a joint project with the Seed Biotechnology Center and Seed Quest to promote the region around UC Davis as an area of seed and plant science innovation and excellence.

- Outreach
 - Developed website and educational materials about biotechnology and sustainability.
 - Utilized a display at Capital Ag Days, Picnic Day and the County fair, to present the role of seed biotechnology and sustainability .
 - Organized networking events that showcased research
 - Worked on redesign of CSA Logo
 - Provided scientific advice and policy analysis for APHIS and various other organizations.
- Research
 - Dr. Allan Van Deynze presented some results from a study on the movement of bees and alfalfa gene flow. The study has been accepted for publication.
 - SBC is utilizing technology developed by Ravi and Chan and striving to produce haploid lines in various crops.
 - Developed a central website for relating plant breeding projects and USDA projects.
 - Dr. Bradford co-authored a paper about a genetic locus and gene expression patterns associated with the priming effect on lettuce seed germination at elevated temperatures.
 - Dr. Bradford is continuing his research on lettuce thermotolerance.
 - Dr. Bradford is also working on a project with HortCRSP and USAID to demonstrate novel methods for drying and storing seeds by using desiccant beads made of clay
- Financial
 - Sue DiTamoso provided a summary of the 2010 SBC expenditures. She noted that CDFR switched the funding mechanism from a contract to a three year grant that will assist with core expenditures for 2010, 2011 and 2012.
 - SBC Advisory Council noted that current administrative salaries are about \$296,689. If the SAB/CDFR grant was the only source of funding for just Allan and Sue, the grant funding would not quite cover their current full time salaries. A projection for 2011-12 showed that after salary adjustments, the grant would only cover about 86% of Allan and Sue's adjusted salaries. The SBC will continue however, to work diligently on cost sharing.
- Next Steps
 - Continue to focus on educational programs that serve the needs of the seed industry
 - Support development of Seed Central
 - Update the strategic plan
 - Focus on coexistence in agriculture
 - Continue building the research program.

6. Summary of Activities by the Seed Laboratory and the Seed Services Program

Activities of the Seed Laboratory

Deborah Meyer provided an initial draft of the seed lab's annual report titled "2010 ANNUAL REPORT OF THE SEED SCIENCE LABORATORY" [attachment 1] to summarize the workload of samples received by the lab for the last two years. She

noted a 16% increase in samples from 2009 to 2010. Service samples generate about \$30,000 each year. Seventy-five percent of the services samples are vegetable seeds.

A chart [figure 2 of attachment 1] depicted the various kinds of seed submitted for regulatory testing during FY2009.

Member Paul Frey asked if a sample pulled by a government official for testing before export is an official sample or service sample?

Deborah replied that such a sample is a service sample; one that was pulled as a service to the company. Service sample reports are sent to the company, not the enforcement program.

Member Michael Campbell asked about the cost to process a normal sample.

Deborah explained that fees are only associated with service samples and not the other kinds of samples, such as regulatory or quarantine samples. She explained that fees are based on a rate of about \$60 per hour and the time required for testing depends upon the tests requested.

Member Campbell commented that the fees listed in the regulations seem low.

Deborah agreed but explained that the fees for the California Seed Lab are higher than any other state's fees. She noted that the fees were set by the Department, which then placed them into the regulations. If the fees are increased, it is likely that firms will use labs in other states, thereby reducing revenue to the California seed lab.

Member Paul Frey asked what portion of the 4200 tests, are regulatory.

Deborah replied that about 45 to 50% of the tests performed are for regulatory samples.

Member Hanson noted that from 2005 to 2009, there was a reduction of total tests by about one-third. He asked for an explanation.

Deborah explained that the reduction in total tests can be attributed to fewer quarantine samples being submitted by counties and firms no longer participating in the origin point inspection program; mainly firms in Oregon that used to be sampled by the Oregon Department of Agriculture, which sent the samples to CDFSA.

A handout summarizing the kinds of crops that were sampled for regulatory compliance monitoring, tested and noted for labeling violations was provided to the Board [attachment 2]. Another chart depicting the number of samples and violations in each county was also reviewed [attachment 3].

Deborah Meyer noted the lab is also working on a project for USDA APHIS to develop a lucid key for weed seed identification. There is concern about shipments of grapes being rejected by other countries because of weed seeds that are hitch-hiking on the grapes, as well as on other commodities.

Activities of the Seed Services Program

Heaton reported that the Seed Services Program currently has one seed complaint in progress. A meeting for mediation has been scheduled for May 12, 2011. The complaint involves poor germination of a sugar beet seed lot. He noted that the case actually started in late 2009. It exemplifies how seed complaints have a timeline that is completely different than what is prescribed in the regulations. Heaton noted that he may have trouble obtaining authorization to travel to Imperial Valley for the mediation, due to the current state budget situation.

Heaton also reported his involvement in a review of the National Seed Health System (NSHS) and recent participation at a meeting in Little Rock, Arkansas with the USDA/NPB Strategy Team. The big problem for the NSHS is funding. It is important for the industry to maintain the NSHS because it allows accredited entities to perform certain inspections necessary for the export of seeds during an era when it is becoming more difficult for government programs to provide the inspection services.

7. Seed Services Finances

Out of State Trip Proposals

Heaton provided a list of out of state trips for FY2012. He explained that most of the trips are to national meetings that staff in the Seed Services Program and the seed lab should attend. The list is approximately one-half of what was requested for the prior year. He noted that for FY2011, the whole Pest Exclusion Branch was only authorized to spend \$6,700 for out of state trips. The bulk of the approved trips were for the Seed Services Program and staff in the seed lab; \$4,350. Heaton stated that the Department would probably not get approval for the proposed list of trips totaling \$22,000 in FY2012, but he felt it was essential to request approval for the trips anyway.

Heaton emphasized that the trips are very important so staff can participate at national meetings and develop systems that are urgently needed by the industry. One example is the process being developed by the Association of American Seed Control Officials (AASCO) to accredit seed sampler trainers. Without accredited seed sampler trainers, the industry will have to rely on government seed samplers, which are becoming fewer because of budget cuts.

Member Gabe Patin motioned that the Board accept the out of state trip proposals. Member Kelly Keithly seconded the motion. Motion carried.

Fund Condition Report for the Seed Laboratory

Heaton provided the Board with a fund condition report for the Seed Lab – Ag Fund (PCA 13016 – attachment 4). He reminded the Board that this account is only used to deposit revenue collected from service samples, and the only expenditure is the payment for the bond debt. Since the bond payment is approximately the same as the revenue collected, the cash balance of this account is not expected to change much. Last year it was noted that the cash balance appeared to be growing. Heaton noted that the reason for that apparent growth was due to some reporting errors in the financial statements that he was provided from the accounting system. Those mistakes have been identified and were addressed in the present report.

Of note was the failure of the prior year financial statements to capture the Plant Lab Bond Debt payment. In addition, there was an error in total revenue collected due to revenue from other labs being mistakenly deposited into the seed lab account. Once those corrections were made, the cash balance for PCA 13016 at the beginning of FY2011 became \$89,493 and was projected to be \$89,042 at the beginning of FY2012. If revenue continues to offset the bond debt payment, it appears that the cash balance of PCA 13016 will remain around \$89,000 until the bond debt is completely paid off in FY2012 (more specifically May 2013).

Member Gabe Patin asked how the revenue from service samples would be used once the bond debt is paid.

Heaton replied that the revenue would be used to offset expenditures of the seed lab prior to calculation of total lab expenditures. This subtraction occurs per the MOU before Heaton calculates the final amount of support to transfer from the Seed Services Program to the Seed Lab.

Deborah Meyer commented that she heard that once the bond debt is paid off, the lab may begin to incur a rent charge. Heaton wasn't sure if the rent would be in addition to the facilities and utilities charges already being incurred.

Member Kelly Keithly motioned to accept the fund condition report for PCA 13016. Member Rick Falconer seconded the motion. Motion carried.

Fund Condition Report for the Seed Services Program

Heaton reported that the beginning cash balance of the Seed Services Program for FY2008 was \$824,587 [attachment 5]. This cash balance has grown however, since the program has implemented expenditure reduction measures for several years and has also experienced higher than expected revenue collections. The beginning cash balance for the current fiscal year (FY2011) is \$1,532, 617.

The bulk of collections in the Program come from an assessment on reported sales. The reported sales for FY2010 were \$497,134,286, which is a 4.6% increase over the prior year.

Five hundred twenty-one companies obtained authorization to sell seed in FY2011. Heaton estimated that total expenditures for the Seed Services Program during FY2011 will be \$1,275,000.

He noted that for projected sales in FY2011, the collections from assessments should be about \$1,556,000. This estimate of revenue collection is based on a 20 year trend line for reported sales, which is projected to be 12% higher than seed sales reported for FY2010. Heaton expressed some reservation and concern about the projection but he wanted to stay with the estimate based on the twenty year trendline. His concern about a shortfall led to his development of a worksheet [attachment 6] to assist companies in accurately identifying their sales. The worksheet was mailed to companies one month before the renewal period. He is hopeful that the worksheet will bring reported sales to the projected level.

Although expenditures for FY2012 were originally projected to be \$1.7 million during the Board meeting of May 2010, the furlough program and other cost saving

measures have created significant savings. Heaton highly doubts expenditures will be anywhere near the originally projected \$1.7 million. This means that the cash balance will continue to grow and that the Seed Services Program will start FY2012 with a cash balance of approximately \$1.9 million; assuming the assessment rate of twenty eight cents per one hundred dollars of reported sales remains in effect.

The point Heaton emphasized to the Board is that the cash balance is still projected to grow even though the Secretary recently cut the assessment rate from thirty two cents per hundred dollars of sales to twenty eight cents.

Heaton also reviewed the reserve requirement for the Seed Services Program and the balance of the Seed Services' Ag Trust Fund. He explained that the Secretary may designate a certain percentage from each program's budget be deposited into the Ag Trust Fund. The aggregate money from all the programs is then available if any of the programs have an emergency. The money draws a small amount of interest.

The Program's cash balance is more than adequate to fulfill the reserve requirement.

Member John McShane motioned that the Board accept the Fund Condition Report for the Seed Services Program. Member Marc Meyer seconded the motion. Motion carried.

Seed Laboratory Level of Funding – MOU

Heaton provided a handout for the Board to review his estimate of the level of funding that should be provided to the seed laboratory [attachment 7]. He estimated that for FY2012, the total expenditures by the seed laboratory would be \$977,128 which is a one percent increase over the prior year estimate. This means the Board would need to approve an MOU in the amount of \$488,564 which is slightly higher than what the Board approved for FY2010.

Heaton noted that the actual amount the Seed Services Program paid per the MOU in FY2009 was \$379,000, which was considerably lower than the \$497,000 approved. This means that the lab's expenditures were actually \$118,000 lower than what was projected in FY2007 for FY2009. Heaton stated that the savings were a result of furloughs and other cost saving measures.

Member Ken Scarlett asked if the Seed Services Program is continuing to fund fifty percent of the Seed Lab's expenditures.

Heaton replied that for several years the Board has agreed to pay fifty percent of the lab's total expenditures even though the law (FAC 52356) says funds collected from assessments shall only be used to cover one-third the cost of testing regulatory samples. He added that the one half level of funding was based on the report that approximately one half of the tests performed by the lab are for regulatory samples.

Member Paul Frey inquired about how cuts in the general funds will affect the lab.

Heaton stated that he has heard that the lab will suffer a \$210,000 cut in general funding for FY2011.

Deborah Meyer stated that she was told the lab will lose all of its general funding over the next two years. She read in the newspaper that the seed lab will receive a cut but the details have not been communicated to the staff.

Member Paul Frey asked if the Board or the California Seed Association should advocate on behalf of the Seed Lab.

Tad Bell commented that when the Governor released his budget in January 2011, it requested that the Department of Food and Agricultural take \$15 million general funding cut in FY2011 and then another \$15 million general funding cut in FY2012. This request was made prior to Secretary Ross coming to CDFA. Consequently the Governor asked for a consortium of agricultural groups to look at ways to shift funding away from the general fund. So basically in about a three week period, a small group of folks who had working knowledge of CDFA, worked with Nate Dechoretz and Bob Wynn to evaluate the general funds used by all the Divisions, which is about \$96 million.

Tad summarized some of the other cuts already outlined in the Governor's budget. He noted that the Pierce's Disease Program will receive a cut of just over one million dollars. Since that Program has adequate revenues, they will simply shift some of their reserve to support their cut. Another strategy being used by other programs is to charge fees for services that were previously covered by general funds.

There has been some discussion to place a surcharge on every phytosanitary certificate issued in order to generate funds to cover the loss of general funds for the seed laboratory. This is being explored in the larger context of all of the services being provided by the Pest Exclusion Branch so that phytosanitary certificates can be issued.

Deborah Meyer commented that the seed laboratory already charges a fee for samples that need to be tested before a phytosanitary certificate can be issued.

Another example Tad noted was a \$1.9 million cut to the Border Inspection Stations and a strategy to hire seasonal employees to cover that cut. He also mentioned that the LBAM project will take a cut of \$700,000.

The Weed Management Program was eliminated through a \$1.5 million cut. That effort will now have to be supported by the counties.

Anything that was not deemed essential function or mission critical was subject to cuts. The \$205,000 cut to the seed lab is supposed to be offset through efficiencies.

While this scenario is not good, there is a possibility in the future that the Secretary will be asked to prepare for the complete elimination of general funds, which is presently around \$96 million.

Chairman Hansen asked Deborah Meyer if she could identify savings to offset the \$205,000 cuts.

Deborah stated that if the lab did not fill two vacant positions, the savings would be approximately \$150,000. She would have to look for additional savings to make up the difference for the first round of cuts.

Chairman Hansen noted that the Seed Services Program has adequate reserve to cover the remaining shortfall, if necessary.

Member Ken Scarlett felt the industry should only fund the percentage of lab activities that are critical to the seed industry. He questioned whether analyses of quarantine samples are that important to the seed industry. He emphasized that the lab needs to identify what is essential to the seed industry, not to the entire state.

Deborah agreed and stated that she has already done this and passed the information to the Department's administrative staff. She explained that some of the lab's activities are to support the Department's broader mission, and not just the activities of the seed industry, such as analysis of feed mill samples.

Tad Bell suggested that the Board can make recommendations to the Secretary. There should be a clear articulation of what the lab does for the industry and that other activities need to be paid for by fees from the other industries that use those services. This may involve a representative from the Seed Lab or Board communicating the cost of those services to the affected group or industry.

Member Marc Meyer noted that the Board has no idea what the costs of other activities conducted by the lab are. He stated that it would be critical to identify those activities and the costs associated with them.

Deborah Meyer replied that the lab serves the industry and will be responsive to the priorities the industry identifies.

Tad Bell noted that when the CSA Board was surveyed about which services of the seed lab are important to them, they basically identified everything the lab does. Some activities are obviously more important to different companies than other activities. It is important however, to communicate that to the industry.

Member Kelly Keithly urged the Board to be careful about eliminating certain activities because their importance may not be obvious until they are no longer being performed. There is generally a reason why certain things are being done routinely.

Chairman Hansen requested that Deborah Meyer develop a definitive list of essential activities performed in the lab.

Deborah suggested that it might be useful to survey the lab's clients so they can identify the essential activities they use.

Chairman Hansen agreed and instructed Deborah Meyer to proceed. He requested that the survey be completed in one month.

Betsy Peterson commented that it is important to determine how much other activities cost, so that the industry can assist CDFFA in finding a way to fund activities that are not as essential to the industry but important to CDFFA.

Chairman Hansen asked Heaton if the lab is currently in an emergency financial situation or if this is the status we are anticipating for next year.

Heaton replied that for fiscal year 2011-12, the Board previously authorized a maximum payment to the lab of \$481,553. By comparison, in fiscal year 2009, the Seed Services Program only transferred \$379,000 to the lab. This means that the lab's total expenditures in fiscal year 2009 were about \$760,000. If we assume the current expenditures remain about the same as fiscal year 2009, the Board would need to consider providing about \$279,000 more than the maximum amount of \$481,553 previously approved for fiscal year 2011 in order to completely fund the lab at the baseline level of FY2009 expenditures. The Seed Services Program has more than this in reserve if it became necessary to cover more expenditures of the lab.

Heaton added that the Board simply needs to make a recommendation to the Secretary that a certain amount of the funds collected from assessments be used to fund the seed laboratory. Heaton stated that even with the lower assessment rate on sales in FY2010, he believes the collections after July 2011 will be more than adequate to cover the expenditures of the Seed Services Program and most of a larger MOU with the lab, if that is what the Board decided.

Member John McShane inquired how closing the Seed Lab would affect the Seed Services Program.

Heaton replied that he would not feel comfortable relying on outside labs to test seeds for purposes of seed law enforcement. He noted that the reputation of the state seed lab saves him time because it provides firm authority for his enforcements.

Tad Bell suggested that the Board provide a copy of the budget recommended by the Board and a letter highlighting several activities and expenditures that the Board wishes to see, such as out-of-state travel for staff to attend important meetings. It may also be useful to note the importance of the seed laboratory for the seed industry in California, and that the Board is looking at the proposed reductions and will work to come up with a plan to evaluate the functioning and revenues of the program. He stated it's important to let the Secretary know that the Seed Advisory Board is engaged.

Chairman Hansen directed John Heaton to work with CSA and the Board to draft such a letter.

Member Paul Frey asked Tad Bell if the Secretary is reaching out to CSA for advice?

Tad replied that he, Chris Zanobini, Dennis Albani and the consortium are very engaged with the Secretary; looking at revenues coming into the Department. One idea previously mentioned at CSA meetings, is a proposal by the Citrus Industry to put a surcharge on all nursery stock sales to support the entire Pest Prevention System; generating approximately \$60 million for the Plant Division. This would mean a tax on seed sales, which is an idea not supported by the seed industry.

Member Ken Scarlett motioned that the Board approve the proposed MOU between the Seed Services Program and the Seed Lab. The level of funding should not exceed

one-half the total expenditures of the seed lab in FY2012. The Seed Services Program should therefore provide a maximum of \$488,564 to the Seed Lab in FY2012.

Member Rick Falconer seconded the motion. Motion carried.

Seed Services Proposed Budget

Heaton directed the Board's attention to a handout titled Seed Services – Sales, Assessment and Funding [attachment 8]. It provided the data for a graph comparing reported sales and program budgets over the last 18 years [attachment 9]. He stated that the graph may be useful for the discussions that the industry needs to have about funding the Seed Services Program and the lab.

Board members were also provided a handout titled "Proposed Budget for FY2012" [attachment 10]. The total amount is actually lower than what was approved for FY2011. The reduction in the proposed budget reflects savings in expenditures primarily due to furloughs. Categories of expenditure were comparable to the prior year's budget. The proposed budget included the \$488,564 recommended for partial funding of the seed lab in FY2012. The total budget amount proposed for the Seed Services Program in FY2012 was \$1,577,396. Heaton noted that this amount was based on a trendline projection from the graph depicting sales and funding over the last 18 years. It included expenditures for seed subvention to the Agricultural Commissioners (\$120,000), UCD Seed Biotechnology Center (\$200,000) and the state seed lab (\$488,564). In addition, there were some large expenditures for Pro Rata and various division costs.

Heaton noted that the trendline is projecting reported sales for FY2011 to reach \$549 million. This would generate approximately \$1.54 million dollars in assessments. Although this amount is slightly lower than the proposed budget, Heaton was not too concerned because the Program has been under budget for several years, mainly because expenditures such as vehicle purchases don't always occur. He believes that even with a budget of \$1,577,396 the actual expenditures will only be in the neighborhood of \$1.4 million. This means the Program will add about \$150,000 to the reserve, even after the cut in the assessment from \$0.32 to \$0.28 per \$100 of sales.

Member Ken Scarlett motioned that the Board accept and recommend the approved budget, totaling \$1,577,396.

Member Falconer seconded the motion. Motion carried.

Recommendation for the assessment rate

Chairman Hansen noted that according to the projections provided, an assessment rate of twenty-eight cents per one hundred dollars value of reported seed sales would generate assessment collections that are about \$21,000 less than the proposed budget. He asked the Board if this was a concern.

Heaton stated that other fees would cover the \$21,000 shortage and that the Program has demonstrated a pattern of being significantly under the budget approved by the Board. He reminded the Board that the proposed budget also has items that are for

unforeseen circumstances and which frequently are not spent; such as vehicle purchases in case of auto accidents and out-of-state travel expenditures. Heaton did not think the expenditures in the proposed budget will actually exceed the collections in the final accounting.

Member Scarlett commented that he saw no reason to allow the Program's reserve to continue to grow to almost \$2 million. He motioned that the Board recommend the Secretary reduce the assessment rate to twenty-five cents (\$0.25) per \$100 of reported seed sales. Member Marc Meyer seconded the motion. Several members agreed with the motion before Chairman Hansen called the vote. The motion passed unanimously.

8. Legislative Report

Betsy Peterson reported that several groups worked very hard to make the Legislators aware of Ag Day at the Capital. Various Legislators spoke at a breakfast and numerous industry people attended so they could later visit the Legislators in the Capital. CSA, the California Crop Improvement Association and the UCD Seed Biotechnology Center were present with booths at Ag Day, representing various interests about seed.

There was also an evening event for some of the freshman Legislators to meet some of the Board members. Betsy reported that these new Legislators were very anxious to learn about the seed industry.

Tad Bell added that Secretary Ross is finalizing her selection for Deputy Legislative Secretary and she is very interested in sustainability, particularly efforts concerning coexistence.

9. Nominating Committee Report

Chairman Hansen noted that member Marc Meyer was appointed Chairman of the nominating committee during the November 2010 meeting. He reminded the nominating committee that three members have terms set to expire on March 31, 2012. Consequently, the Board should be looking for nominations for three seats occupied by:

Ken Scarlett

Gabe Patin

Larry Hirahara

During the November 2011 meeting, the Chairman will request nominations for the three expiring terms. The Board will then be able to vote on the recommendations, after which time CDFA staff will follow-up with the important notification of vacancies and request appointments of eligible applicants by the Secretary.

In addition, the Board should start thinking about nominations for new officers. The current meeting (May 2011) is the halfway point for the present slate of officers. Chairman Hansen's two year term is set to expire in May 2012. The nominating committee should also identify candidates for President and Vice Chair at the next meeting in November 2011. The Board will then vote for new officers during the May 2012 meeting. The new Chairperson will assume responsibilities after the May 2012 meeting, conducting their first meeting in November 2012.

10. Closed Executive Session

Chairman Hansen inquired if there was a need for a closed executive session. There were no requests.

11. Reconvene Executive Session

Not necessary

12. Public Comment

Chairman Hansen asked if there were any additional comments from the public in attendance.

None were made.

13. Other Items – Next Meeting Date

Chairman Hansen tentatively set the date for the next meeting on Thursday

November 3, 2011 at 8:15 a.m.. The location will most likely be at the CDFA Plant

Diagnostic Center unless there are timely requests to hold the meeting elsewhere.

14. Adjournment

John McShane motioned for adjournment.

Rick Falconer seconded the motion. Motion carried.

Chairman Hansen adjourned the meeting at 11:50 a.m.

15. Attachments 1 through 10

Respectfully Submitted

John Heaton

2010 ANNUAL REPORT OF THE SEED SCIENCE LABORATORY

SEED LABORATORY RESPONSIBILITIES

- Prevent introduction and dissemination of noxious weed pests via contaminated seed lots moving into and through California.
- Provide required phytosanitary testing for seed export.
- Provide quality assessment testing.
- Substantiate label information on seed lots in the marketplace.
- Provide identification of agricultural, vegetable, flower, native and weed seeds and other plant disseminules.
- Serve as a resource of scientific expertise in seed identification, seed physiology and seed quality assessment for the Department and the seed industry.
- Serve as a repository for seed and fruit specimens and associated literature used for morphological identification.

BACKGROUND

The Seed Science Laboratory (SSL) serves the Department and other clients in a variety of ways by identifying seed and other plant disseminules, evaluating seed lot purity, viability and seedling growth potential, researching and developing new and better ways to assess the value of seed for planting, and training others in the field of seed science and technology. Samples are submitted to the laboratory by regulatory enforcement programs within the Department (primarily through the Pest Exclusion Branch), other state, county, and federal agencies, and by non-regulatory clients such as seed producers and distributors, commercial and private seed laboratories, academic institutions, museums, and private citizens.

While only 3% of all crop acreage in the state is dedicated to seed production, a recently published study shows that the seed produced represents about 13% of the U.S. seed market and nearly 8% of the global seed market (see *The California Seed Industry: A Measure of Economic Activity and Contribution* available at <http://aic.ucdavis.edu>). The seed industry in California generates more than \$1 billion in domestic seed sales and nearly \$3 billion in gross revenue worldwide annually. Good seed quality contributes significantly to the value of seed in the marketplace. The ultimate purpose of the seed testing conducted by the SSL is to determine the value of seed for planting, thereby protecting against potential crop failure and the invasion of weed pests. The primary role of the SSL is to serve

as the official regulatory seed testing laboratory for California. Testing in this capacity is conducted in accordance with the Federal Seed Act (FSA) Regulations. The FSA regulates interstate shipment of agricultural and vegetable seeds and requires that seeds in interstate commerce be labeled with certain information required for the consumer to make informed decisions based on truthful labeling and advertising.

In addition to the role of a regulatory testing laboratory, the SSL is regarded by the seed industry as an impartial authority and serves as a primary resource for seed quality assessment. The laboratory provides critical analyses necessary for seed lot labeling, trade documentation, and phytosanitary export clearance. Seed quality assessments provided by the laboratory are frequently utilized in resolving contract disputes among seed trade parties. Laboratory testing for these purposes is specifically conducted in accordance with internationally recognized methods and procedures published by the Association of Official Seed Analysts (AOSA) and the International Seed Testing Association (ISTA).

Seed quality testing is only one function of the SSL. Samples are also received for seed and fruit identification, quarantine check for noxious weed seeds, feed mill certification check for viable weed seeds, special investigation in crop failure cases, inter-laboratory ring testing for method validation

and training purposes, and proficiency testing to maintain accreditation.

Seed Science Laboratory scientists conduct research, either individually or in cooperation with scientists from other laboratories, to improve methods for laboratory seed testing. Many of the methods used throughout North America today are the result of such work.

SAMPLE WORKLOAD

The 2010 SSL sample workload was segregated into seven general categories: (1) identification of unknown seeds and fruits submitted from a variety of sources, including federal, state, county, university, and private entities; (2) mill approval inspection for viable weed seeds in livestock feed; (3) phytosanitary inspection in support of federal certification to meet export requirements; (4) quarantine noxious weed seed examination in support of both interior and exterior quarantine inspection programs; (5) referee, investigation, and proficiency testing; (6) regulatory label compliance and seed quality assessment testing in support of the seed regulatory enforcement program; and (7) fee-based seed quality assessment testing as a service to the seed industry. Roughly three-quarters of the laboratory testing workload in 2010 was dedicated to seed quality testing. A summary of the 2010 Seed Laboratory sample workload based on time per sample type is given in Figure 1.

SEED QUALITY ASSESSMENT TESTING

California is ecologically diverse; therefore, the variety of crops grown is diverse. California is both a consumer of seed for crop production, and a seed producer. In 2010, the SSL tested a wide variety of crop seeds as a service to the seed industry and for seed law enforcement, including agricultural crops, herbs and spices, vegetables, forage grasses and legumes, lawn grasses, native species, and tree seeds (Figure 2).

The purpose of seed quality assessment is to determine the value of the seed for planting. The tests used to assess seed quality are based on standardized protocols used by all seed laboratories worldwide. Seed quality assessment results form the basis upon which the market value of seed is determined. Accurate and timely testing of seed is critical to the movement of seed in the marketplace

In addition to required academic degrees, scientists in the SSL have obtained professional accreditations in the field of seed technology from the following organizations: Association of Official Seed Analysts (AOSA) and the Society of Commercial Seed Technologists (SCST).

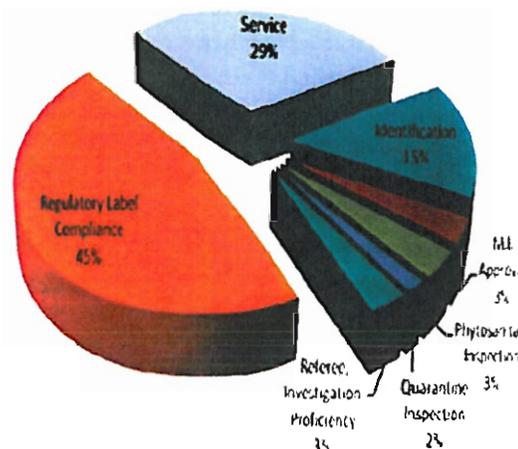


Figure 1. Seed Laboratory sample workload for 2010. Note: Quarantine, phytosanitary and noxious weed seed examinations require identification of 25,000 seeds per sample. Purity analyses require identification of 2,500 seeds per sample. Total numbers of seed identifications are in excess of 16,700,000. Germination tests require the evaluation of 400 seedlings per sample; the total number of seedlings evaluated is in excess of 365,600.

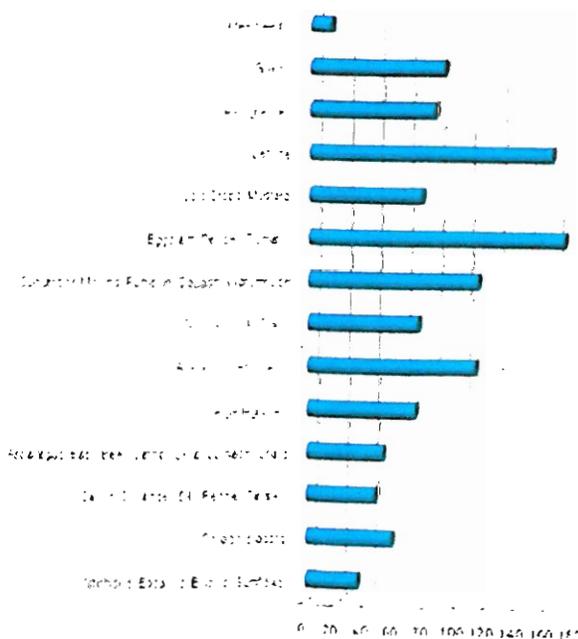


Figure 2. Kinds of seed submitted to the Seed Science Laboratory for seed quality assessment in 2010.

and to provide information necessary for the consumer to make a well informed purchase decision.

The assessment is performed on representative samples drawn from seed lots in the marketplace or from seed lots being prepared for the marketplace. In general, the assessment involves visual inspection of the seed sample to verify the identification of the kind of seed and to retrieve and identify all contaminants, such as inert matter and disseminules of other plant species, including species designated as noxious weeds (Figure 3). Such tests require microscopic examination of thousands of seeds per sample. High quality seed lots contain few contaminants, while low quality seed lots contain a higher percentage of contaminants. The percentage by weight of pure seed, other crop seeds, inert matter, and weed seeds is determined and this information is found on the seed lot label and other documentation used in seed trade.

Once the pure seed is separated from the contaminants the samples are evaluated for the ability of the pure seed to produce well-developed seedlings. Hundreds of seedlings from each sample are individually evaluated to determine if the structures essential to produce normal plants under favorable conditions are present (Figure 4). High quality seed lots produce high germination percentages under optimum laboratory conditions. This can, but does not always, indicate the potential for good field stand. Further testing may be required to separate seed lots with high germination potential and good vigor from those with high germination potential but low vigor. High vigor seed will usually perform well under a wide variety of field conditions, while low vigor seed will not.

This year the SSL was awarded a USDA-APHIS-PPQ grant in support of "Enhancing Laboratory Diagnostics Technology to Support California Agriculture." The grant funds were used to purchase a digital X-ray unit enabling scientists to examine the internal structures of plant propagules and seedlings in non-destructive ways. Examples of applications in which X-ray technology enhances the lab's ability to assess seed quality include examining embryo structures of seeds prior to germination in order to determine how various malformations of the embryo can lead to development of particular

seedling abnormalities (Figure 5) and ascertaining seed unit fill as a means to determine potential planting value without employing destructive dissection techniques (Figure 6).



Figure 3. Lawn grass mixture sample contaminated with Canada thistle (red circle) and purple mustard (white circles), both noxious weeds. Photograph by Deborah Meyer

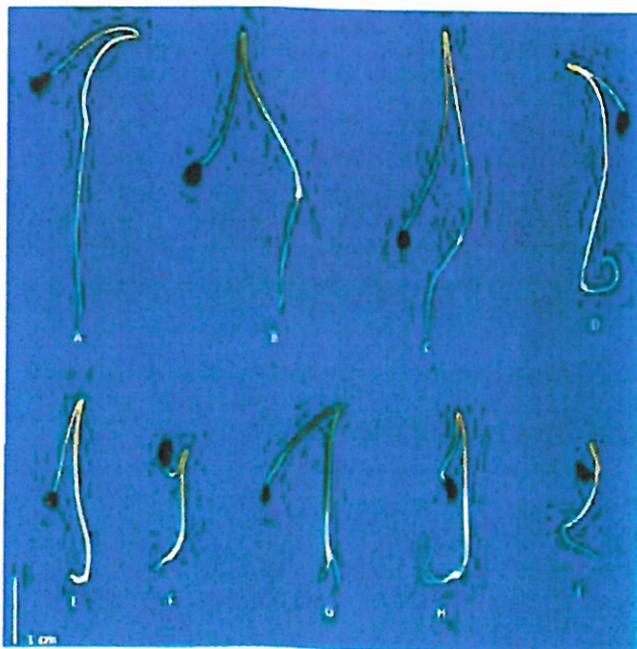


Figure 4. Onion seedlings in a germination test demonstrating some common types of root abnormalities (B-I) encountered in the laboratory. Seedlings with such abnormalities indicate the seed lot is of poor quality and the crop would most likely fail in the field. Photograph by Riad Baalbaki.

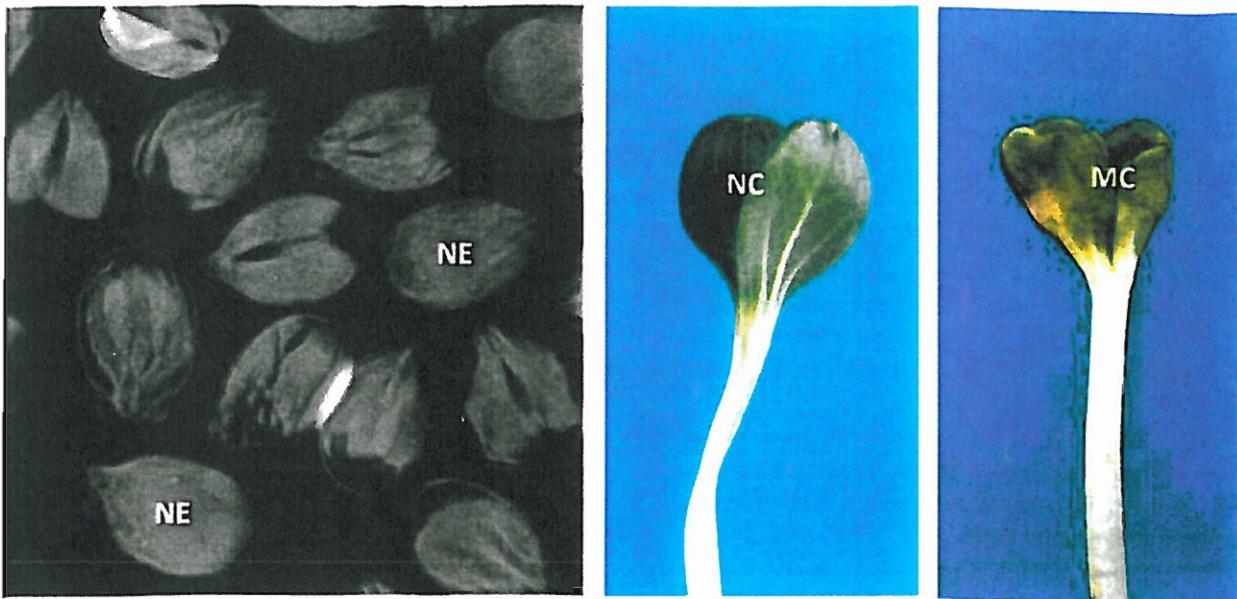


Figure 5. X-ray image of watermelon [*Citrullus lanatus* (Thumb.) Matsum. & Nakai var. *lanatus*] seed sample containing two seeds with normally formed embryos (NE) among numerous seeds with malformed embryos (left). Seedling developed from normally formed embryo; note the well formed (normal) flat cotyledons (NC) (middle). Seedling developed from malformed embryo; note the folded and misshapen cotyledons (MC) (right). Photographs by Riad Baalbaki.

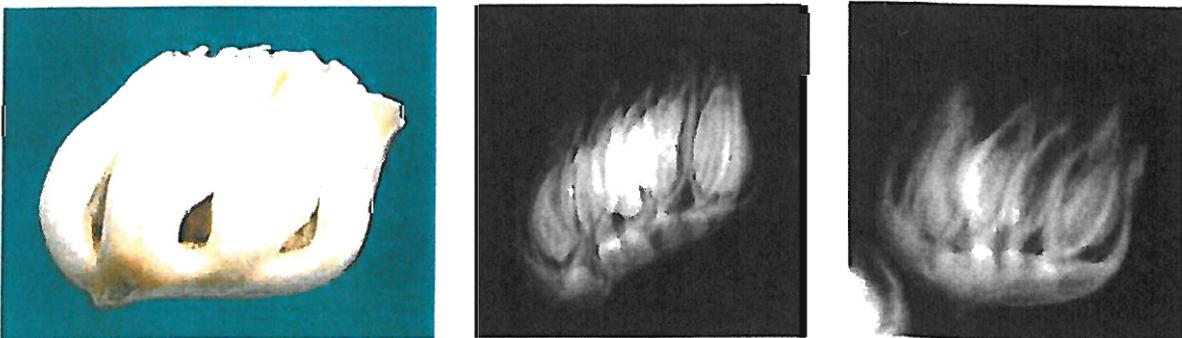


Figure 6. Buffalo grass [*Bouteloua dactyloides* (Nutt.) Columbus] seed unit consisting of several fused spikelets forming a tough exterior surrounding several seed grains (caryopses) (left). X-ray imaging can be used to determine whether or not the seed unit contains grains. In the middle image the unit contains several grains, while the image at right does not contain grains and is of no planting value. Photograph by Deborah Meyer.

SEED IDENTIFICATION

The SSL houses the second largest seed herbarium in North America (Figure 7) and because of this the lab is considered an important resource for anyone in need of assistance with identifications of seeds, fruits, and other plant disseminules. Specimens for identification are received from a variety of sources including county agricultural inspectors, border inspection stations, private seed testing laboratories, seed companies, government seed laboratories from other states, archaeologists, environmental



Figure 7. A small portion of the CDFA Seed Herbarium.

consultants, veterinarians, university researchers and private citizens. The need to know the identity of a seed specimen varies considerably from one source to another and is not always related to agriculture. Whether the specimen is taken from a seed lot, found in or on agricultural commodities, farm equipment, heavy equipment, recreational vehicles, or self movers, found stuck to the side of a house or a landscape plant, found in the stomach of a dead animal, retrieved from the site of an ancient civilization, or found at the scene of a crime, we will attempt to identify it because the information is important to the person that submitted the specimen.



Figure 8. Example of digital image submitted by the Needles Border Inspection Station via email to the Seed Science Laboratory for rush identification of a contaminant found in a 40,000 lb load of alfalfa hay from Colorado entering California. The specimen was identified as *Salsola collina* Pall., spineless Russian-thistle, an A-rated noxious weed pest.

Most commonly, seed and fruit specimens are received via the mail or other delivery service. Specimens are usually identified within a day or two of arrival and the information sent to the requesting party. In an effort to service our clients more efficiently we also accept specimens via emailed photographs. Depending on the quality of the image, tentative identifications can be made while the actual specimen is en route to the laboratory. This has proven quite useful for CA border inspection stations needing to clear shipments for entry into the state (Figure 8) and for seed testing laboratories needing rush identifications (Figure 9).

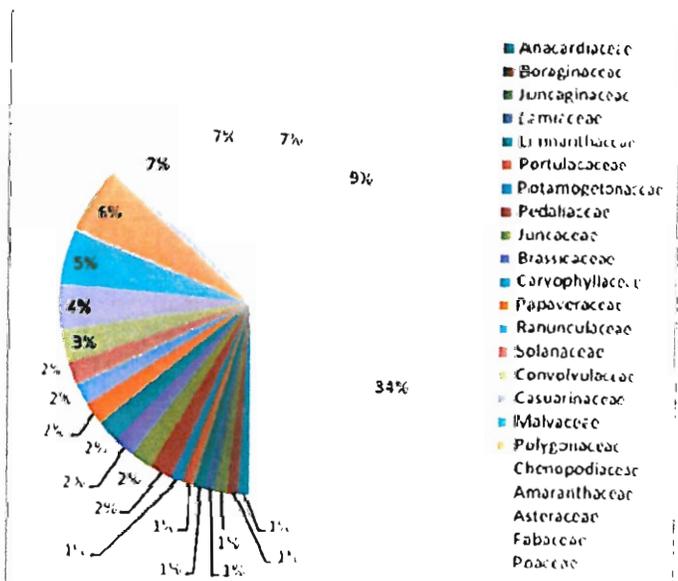


Figure 9. Digital images submitted by the Canadian Food Inspection Agency – National Seed Herbarium for identification of seeds that were found in a sunflower seed lot imported from California. The specimen was identified as *Pistacia chinensis* Bunge, Chinese pistache.

In 2010, the Seed Science Laboratory received specimens from other seed laboratories, including private and industry laboratories, and government seed laboratories from other states and countries, needing assistance with seed and fruit identification of contaminants found during seed lot quality assurance testing. The specimens represented a wide variety of plant families, but more than one-third of the specimens were from the Poaceae or grass family (Figure 10).

Aside from specimens obtained during routine seed quality testing, the SSL provided assistance to the CDFA Bio-control Program identifying numerous specimens of weeds from the Brassicaceae or

Figure 10. Plant families represented in identification samples received from private and industry seed laboratories, and government laboratories from other states and countries.



mustard family. Also identified were approximately 300 seed and fruit samples for the US Geological Survey – Western Ecological Research Center Field Station, Dixon, California. These specimens, often quite weathered and sometimes partially germinated, were obtained from pasture cores and wetland water samples in northeastern California and southeastern Oregon for an investigation of waterfowl habitat quality in relation to land use practices. A variety of carbonized seed and fruit specimens were received for identification from archaeologists studying a pre-historic site in the San Emigdio Hills of Kern County, southwest of Bakersfield, CA.

Nearly half of all identification samples received from CDFA Border Inspection Stations in 2010 were A- and B-rated target noxious weed pests, primarily thistles (*Carduus nutans*, *Onopordum acanthium*), knapweeds (*Acroptilon repens*, *Centaurea diffusa*, and *C. maculosa*), spineless Russian-thistle (*Salsola collina*), hoarycresses (*Cardaria draba* and *C. pubescens*), and halogeton (*Halogeton glomeratus*) (Figure 11). The remaining samples received from the Border Stations consisted of an assortment of plant disseminules that look similar to and in some cases are closely related to many of the target species of concern to California agriculture.

Designed primarily to assist CDFA Plant Quarantine Inspectors with identification of suspect plant material encountered at border stations, SSL scientists published the California Noxious Weed Disseminules Identification Manual. The manual is a photographic key to 164 species recognized as noxious weeds or potentially invasive species in California (Figure 12). The publication is available for free download at http://www.cdfa.ca.gov/plant/ppd/PDF/2010_CA_Noxious_Weed_Disseminules_Identification_Manual.pdf

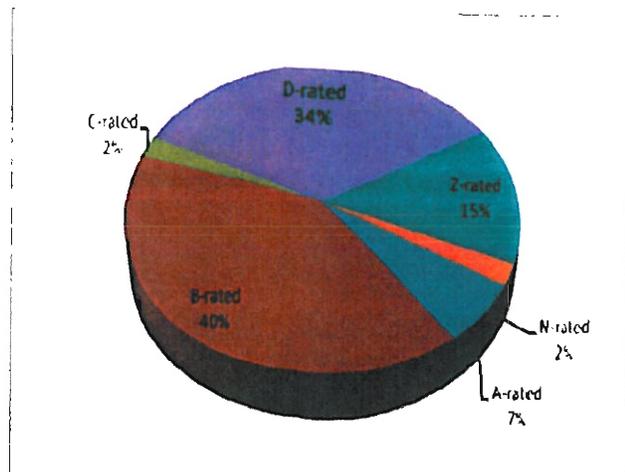


Figure 11. Percentages of samples in each pest rating category received from CDFA Border Inspection Station in 2010. A-, B-, and C-rated pests are of greatest concern requiring quarantine action by the state or county. D-rated specimens are non-target species. N-rated specimens are fragmentary and considered non-threatening. Z-rated specimens are from non-native species that are already widely established in California.

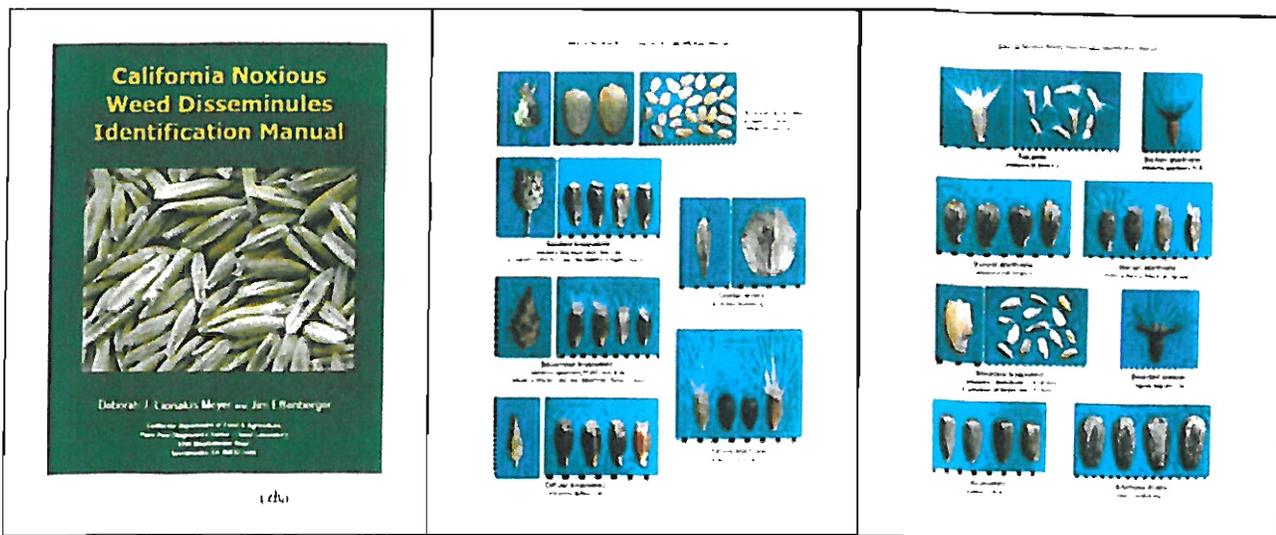


Figure 12. Excerpts from California Noxious Weed Disseminules Identification Manual.

COOPERATIVE PROJECTS

Seed quality testing based on the AOSA Rules for Testing Seeds forms the framework upon which standardization among seed testing laboratories in North America is built. The AOSA Rules are continuously updated via adoption of new or improved methods resulting from cooperative research. The AOSA Seedling Evaluation Handbook is part of the official rules of seed testing and is the authoritative reference used in evaluating seedlings for germination testing. Though the Handbook underwent some changes since its original publication in 1992, it has not undergone a significant revision. A major revision is currently underway to update the content, and expand the scope to include previously undescribed normal and abnormal seedling morphologies for many commercially grown crops. The revision will include hundreds of detailed color photographs of normal and abnormal seedling structures aimed to improve seedling evaluation and further standardize germination test results among laboratories

conducting testing for labeling and enforcement purposes. This multi-year project will be a collaborative effort led by three editors, Drs. Miller McDonald (Ohio State University), Sabry Elias (Oregon State University), and Riad Baalbaki (CDFA-SSL). The editors will develop new content as necessary, revise and update current contents, and edit the final version of the new Handbook. Seedling photography will take place at the SSL (see example of onion seedling abnormalities in Figure 4). As needed, AOSA/SCST members will be asked to review descriptions of each plant family.

The pre-clearance program negotiated by USDA for the export of California Table Grapes to Australia and New Zealand requires that specific weed disseminules of concern are properly identified in order for the lot to be certified for export. This program involves the movement of millions of boxes of table grapes annually. The limited or nonexistent resources to rapidly identify specific target species in

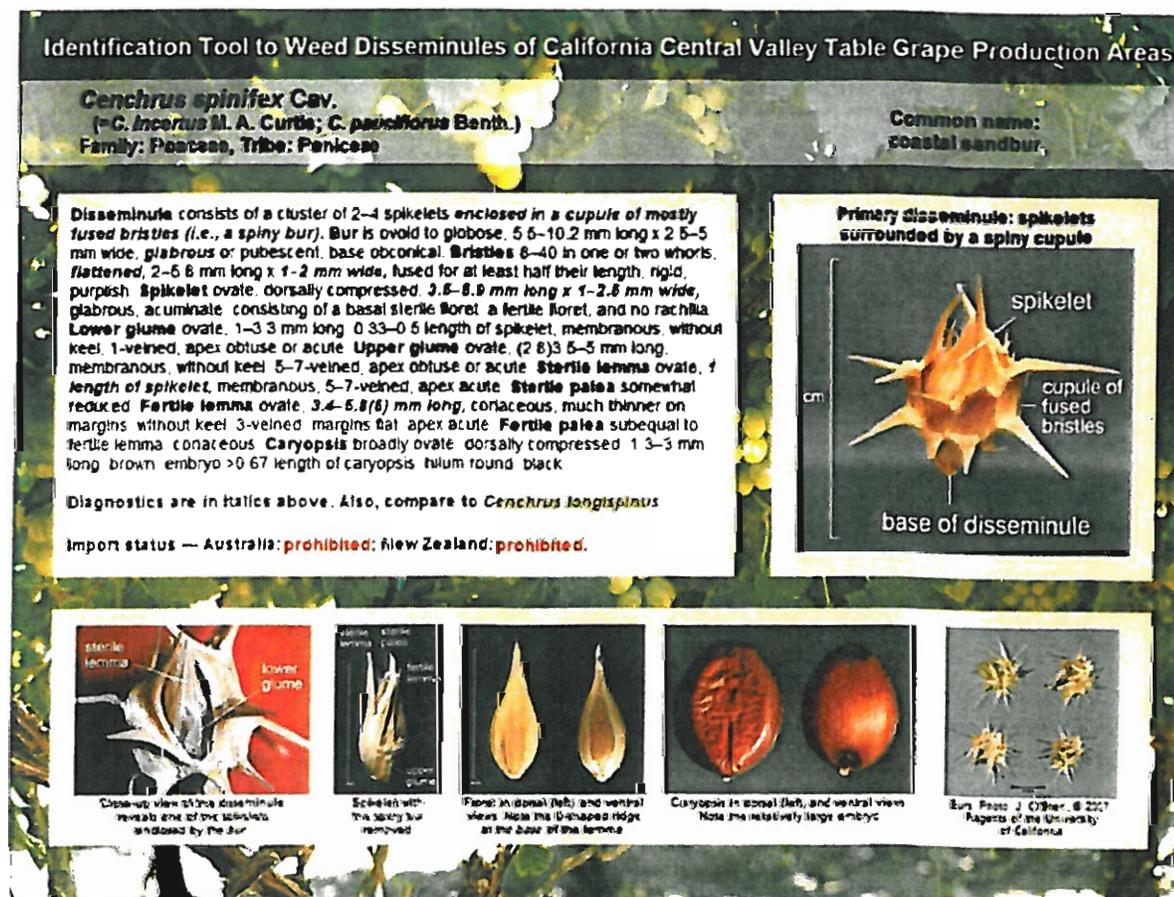


Figure 13. Example of the taxonomic fact sheet for *Cenchrus spiniflex* Cav., coastal sandbur, to be included in the interactive matrix style identification key being developed cooperatively by CDFa SSL and USDA-APHIS-PPQ-CPHST using Lucid® software.

these shipments results in cancellation orders or removal of perishable grape lots pending the identification of contaminants prior to phytosanitary certification. This unnecessarily stops the movement of grape lots when government inspectors are unable to identify contaminants due to the lack of adequate resources in the field, packing houses, shipping terminals, and ports. In order to limit losses and delays due to inadequate weed seed identification capabilities the USDA-APHIS-PPQ-CPHST and CDFA SSL are working cooperatively on development of a digital diagnostic tool for weed disseminules that can be found in table grapes grown in the Central Valley of California. The tool will significantly upgrade identification capabilities for county, state, federal, and international quarantine regulators, growers, and the industry representatives involved with international shipments of California table grapes. The SSL has sent nearly 300 specimens of target weed species to USDA-APHIS-PPQ-CPHST to be digitally photographed and incorporated into the interactive matrix style identification key developed using Lucid® software. Scientists in the SSL will also provide taxonomic and identification guidance to the



USDA tool developer and will provide critical review of the taxon fact sheets. This is a multi-year project with target completion in early 2012. An example of the fact sheet for *Cenchrus spinifex* Cav. (coast sandbur) is shown in Figure 13.

One of the more interesting projects the scientists are involved in is cooperative work with ethnobotanist Dr. Kat Anderson, USDA, Natural Resource Conservation Service (NRCS), National Plant Data Center, and the Phoebe A. Hearst Museum of Anthropology (PAHMA), UC Berkeley. The project involves identification of seed, fruit, and plant fragment samples collected from tribal members of California's indigenous people. The samples were collected in the early part of the twentieth century and have been stored, untouched, at the PAHMA until this study was undertaken. The purpose of the study was to determine what plant species were collected and used for food, fiber, and medicine by the various tribes. During this two-year project (2009 and 2010) scientists in the SSL identified nearly 169,000 seeds, fruits, and vegetative materials from 187 taxa representing 112 genera. An example of one sample featured in the soon to be published project report is shown in Figure 14.

Figure 14. Cat. No. 1-11969. In July 1907, Samuel A. Barrett collected "uncleaned and unseparated seeds of 6 different kinds" from the Yuki in Round Valley. There were four main components of this seed sample identified (CDFA Report No. 3479): fiddleneck, possibly Menzies' fiddleneck [*Amsinckia menziesii* (Lehm.) A. Nelson & J. F. Macbr.] (bottom left), California buttercup (*Ranunculus californicus* Benth.) (bottom middle), smooth tidytips (*Layia chrysanthemoides*) ray cypselae enclosed in bracts (bottom right) and disk cypselae (top right), and shortbush seablush [*Plectritis congesta* (Lindl.) DC.] (top left).

TRAINING WORKSHOP

Laboratory seed analyses serve as the basis for seed trade and thus the exchange of billions of dollars in seed sales globally. Standardization of laboratory test procedures is crucial to the success of the seed industry. With the goal of promoting standardization among seed testing laboratories, providing training via workshops and supervision of individualized

training programs in the field of seed technology is one of the missions of the SSL. Over the years, many individuals that have received training from the CDFA Seed Laboratory staff have received Registered Seed Technologist (RST) or Certified Seed Analyst (CSA) accreditation following passage of nationally administered examinations.

In 2010 the SSL hosted a Seed Workshop, September 22 – 24, at the Plant Pest Diagnostics Center. Workshop participants received various publications and a CD-ROM produced by the SSL staff containing valuable information and personal observations on seed and fruit identification, seedling morphology, seedling abnormalities and quality evaluations. These publications and CD-ROM contained diagnostic keys, color photographs and illustrations highlighting key structures of seeds, fruits and seedlings critical for seed quality assessment. Workshop participants enjoyed a mixture of lectures and hands-on practical training exercises. Seed and fruit specimens were provided for participants to enhance seed reference collections in their own laboratories. The SSL scientific staff made presentations on the following topics:

- The germination test: methods and procedures in the AOSA and ISTA Rules.
- Germination test setup: proper conditions and common pitfalls.
- Seedling evaluation: using virtual examples covering major families.
- The need for seed vigor testing (Figure 15).
- Brassicaceae: the taxonomy and identification of seeds and fruits of crop and weed species in the mustard family (Figure 16).
- Changes to the California noxious weed list.
- Prohibited and restricted noxious weed seeds in the California Seed Law (Figure 17).
- Problems with the current AOSA pure seed unit definitions.
- The identification of crop and noxious Sorghum species.



Figure 16. *Bunias orientalis*, hill mustard, a Eurasian weed species introduced to North America. Seed (left) and fruits (right). Photographs by Robert Price.



Figure 15. Corn Cold Test – example of an AOSA seed vigor test in which seeds and seedlings are subjected to two stress factors; sub-optimal temperatures and soil-borne pathogens. Vigorous seedlings with good root and shoot development, indicative of the potential for seedling establishment under a wide variety of field conditions (top row) versus less vigorous seedlings displaying non-uniform development that are likely to have poor field stand under stressful conditions. Photograph by Riad Baalbaki.



Figure 17. Examples of some prohibited and restricted noxious weed seeds examined at the SSL Seed Workshop. Photographs by Deborah Meyer.

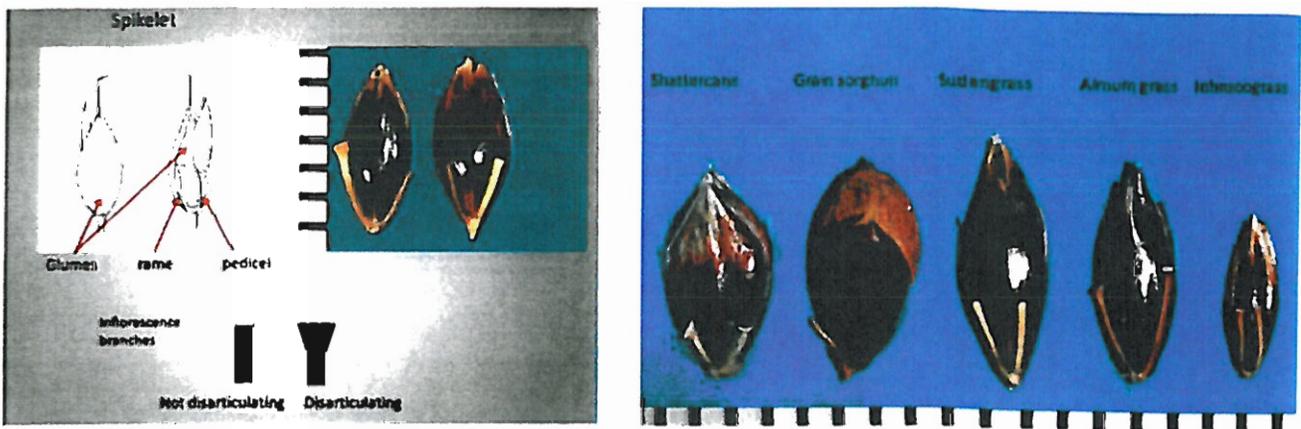


Figure 18. Diagnostic features of *Sorghum* spikelets (left) and five types of sorghum examined at the SSL Workshop. Photographs by Jim Effenberger.

SSL STAFF SERVICE TO PROFESSIONAL ORGANIZATIONS in 2010

Riad Baalbaki

- Chairperson – AOSA Germination and Dormancy Research Subcommittee
- Co-chairperson – AOSA Vigor Evaluation Research Subcommittee
- Editor – *Seed Technology*

Jim Effenberger

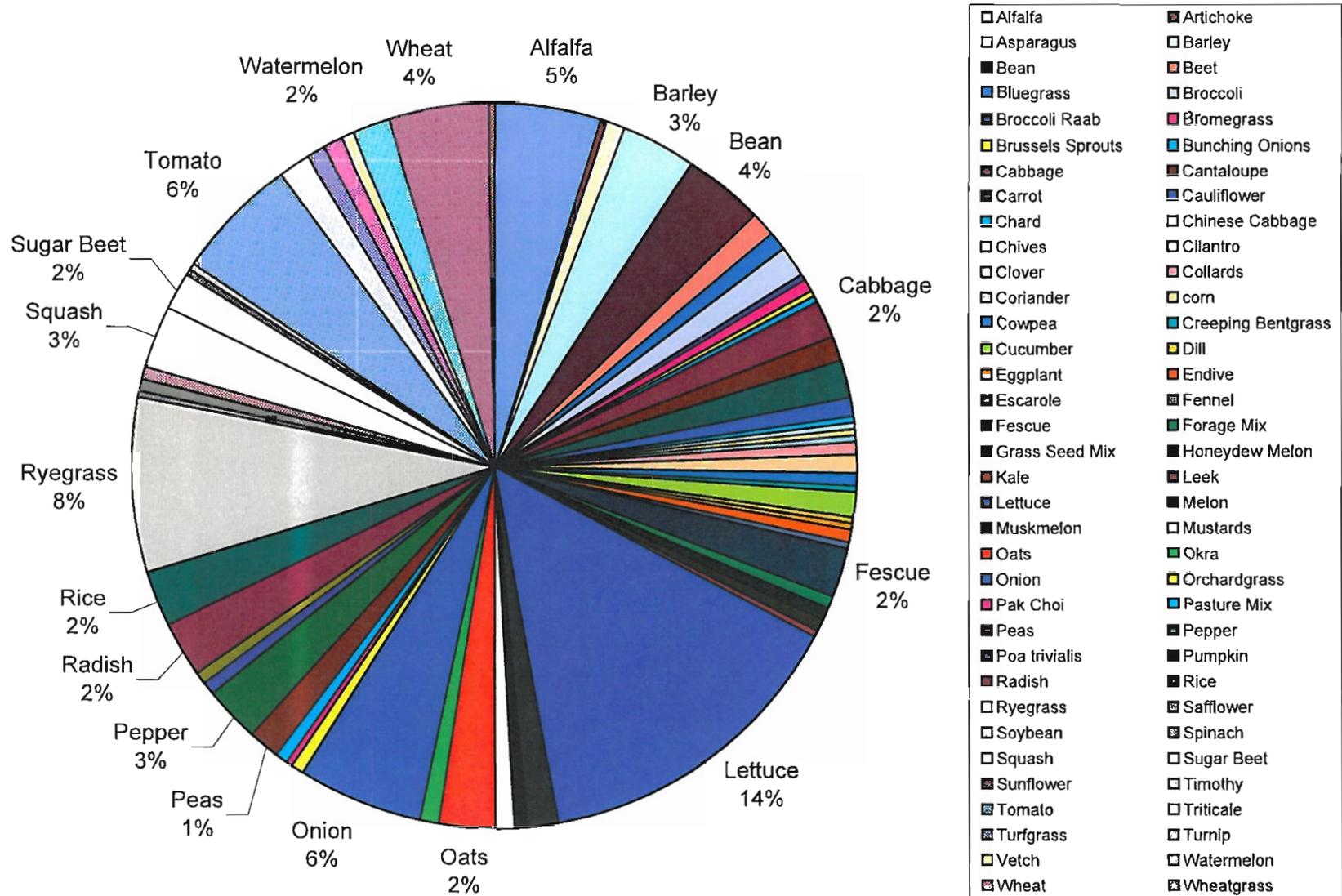
- Member – AOSA Purity Testing Research Subcommittee

Deborah Meyer

- Associate Editor – *Seed Technology*
- Chairperson – AOSA Rules Issues and Review Committee
- Chairperson – AOSA Purity Testing Research Subcommittee
- Member – Purity Committee, International Seed Testing Association (ISTA)
- Member – SCST Registered Seed Technologist Board of Examiners
- Member – Community Advisory Council of the College of Natural Sciences and Mathematics, California State University, Sacramento
- National Plant Board Representative – National Seed Health System – Policy and Procedures Advisory Board

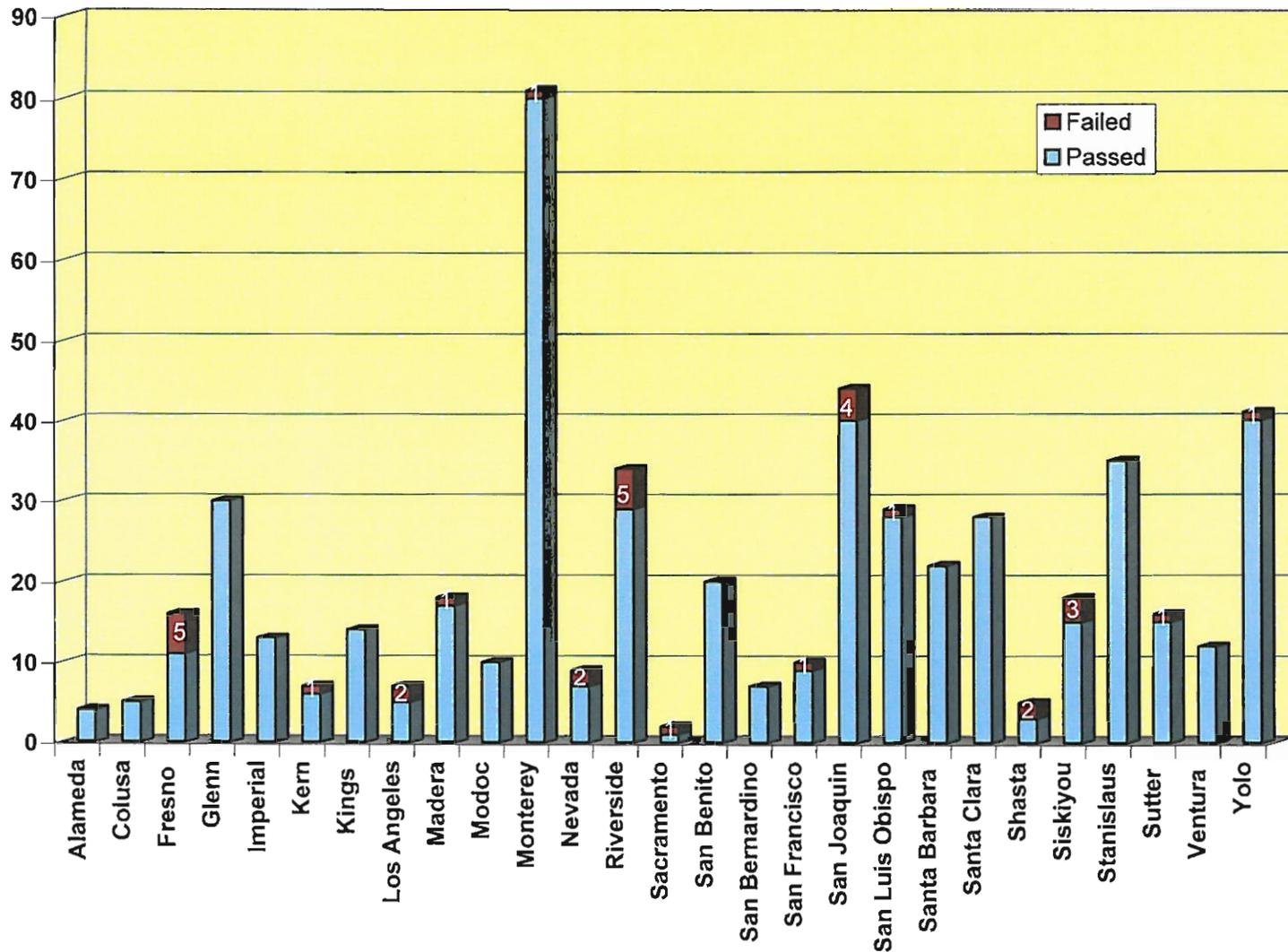
Regulatory Samples

Kinds of Regulatory Seed Samples Tested @ the CDFA Lab in FY 2009/10



Regulatory Samples

Comparison by County of Passed and Failed Seed Samples in FY 2009/10



AG FUND CONDITION

SEED LABORATORY 13016

May 5, 2011

	PPY 2008/09	PY 2009/10	CY 2010/11 EOY Proj	2011/12 Estimate	2012/13 Estimate
CASH BALANCE FORWARD	66,757	115,975	186,014	89,493	89,042
Uncleared revenue (suspense)	6,647	1,089	-24,121	1,089	1,000
Transfer between codes (actually Bond Debt - see below)					
Controller Transfers		0	-70,313	0	0
BEGINNING CASH BALANCE	73,404	117,064	91,580	90,582	90,042
Prior Yr Expenditures - Adjustment	-2,782	-103	-299	-300	-300
Prior Prior Yr Expenditures - Adjustment	55	0	-88	0	0
ADJUSTED CASH BALANCE	70,677	116,962	91,193	90,282	89,742
REVENUE					
<i>Testing Fees & Services</i>	43,967	69,589	30,666	35,000	35,000
Miscellaneous	-130	180	0	0	0
Interest	1,461	652	498	500	500
TOTAL REVENUE COLLECTED	45,298	70,421	31,164	35,500	35,500
TOTAL CASH BALANCE (AG FUND)	115,975	187,382	122,357	125,782	125,242
EXPENDITURES (Ag Fund)					
Plant Lab Bond Debt **	0	0	29,590	33,240	31,620
Seed Lab Ag Fund: salary		0	0	0	0
Other	0	1,369	3,275	3,500	3,500
TOTAL PROGRAM EXPENDITURES	0	1,369	32,865	36,740	35,120
BALANCE (ENDING RESERVE)	115,975	186,014	89,493	89,042	90,122
AG TRUST FUND					
Interest	13,933	14,295	14,423	14,489	14,556
TOTAL AG TRUST FUND (RESERVE)	14,295	14,423	14,489	14,556	14,623

FY 2012 (May 2013) should be end of Bond Debt Repayment

FUND CONDITION FOR SEED SERVICES - May 5, 2011

	PPY 2008/2009	PY 2009/2010	CY 2010/11 Rev Proj. vs Expend SAB Approv 5/9/2009	Fixed 2011/2012 Rev Proj. vs Expend SAB Approv 5/12/2010	2012/2013 Fund Condition Est. 1% Inc Sales
BEGINNING CASH BALANCE	\$824,587	\$1,120,313	\$1,555,002	\$1,712,540	\$1,912,540
REVENUE CATEGORIES				Note: Subsequent to approval, 20 yr trend line (4/2011) predicted \$1.54 million collections.	Balance 200k G.T. PY: Orig est for SS & Lab Expend. too high
Assessment \$	1,535,186	1,520,461	1,391,976	1,556,023	1,556,023
Miscellaneous	630	1,706	1,496	200	200
License Fees	19,884	20,220	20,850	20000	20000
Penalties	13,768	42,302	10,883	10,000	10,000
Interest	34,279	18,131	8,732	14000	14000
Interest from Infrfund Loan	2,646	638.92	3540.4	750	750
TOTAL REVENUE	\$1,606,393	\$1,602,820	\$1,433,936	\$1,600,223	\$1,600,223
Reimbursement 224A - Admin	32,293	34,483	31,595	43219	31595
TOTAL RESOURCES before Expenditures	\$2,463,273	\$2,757,617	\$3,020,533	\$3,355,982	\$3,544,358
EXPENDITURES					
Seed Services	554,458	502,704	608,082	913,021	775,843
Seed Laboratory	428,502	379,911	379,911	481,553	481,553
Ag Commissioners	120,000	120,000	120,000	120,000	120,000
UCD SBC	240,000	200,000	200,000	200,000	200,000
TOTAL EXPENDITURES (BUDGET)	\$1,342,960	1,202,615	1,307,993	\$1,714,574	\$1,577,396
BALANCE IN AG FUND (Resources - Expenditures)	\$1,120,313	\$1,555,002	\$1,712,540	\$1,641,408	\$1,966,962
					Balance projected to still grow
AG TRUST FUND	127,520	130,835	131,999	134,099	136,339
Interest	3,315	1,164	2,100	2,100	1,492
ENDING AG TRUST (RESERVE)	\$130,835	\$131,999	\$134,099	\$136,199	\$137,831
Notes of Interest					
<u>Reserve Calculation:</u> The amount required to keep in reserve = 1/4 budget (expenditures)	\$335,740	\$300,654	\$326,998	\$428,644	\$394,349
Number of Licenses	497	506	521	500	500
Reported Value of Seed Sold in CA	\$479,745,484	\$475,144,159	\$497,134,196	\$555,722,500	\$555,722,500
Assessment Rate	0.32	0.32	0.28	0.28	0.28
			4.6% inc sales value	12% if hit target	0 or Straight Line
NOTES To Point Out to Board	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13
Approved by Board at Prior Meetings	\$1,553,629	\$1,674,291	\$1,697,243	\$1,714,600	\$1,577,396
Estimated Total Expenditure	\$1,342,960	\$1,202,615	\$1,307,993	-	-
Difference SAB Approv-Proj Expend	\$210,669	\$471,676	\$389,250	\$0	\$0
% of approved budget spent	86%	72%	Not occurred Yet	Not occurred Yet	Not occurred Yet

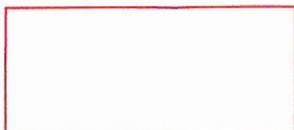


CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE

Karen Ross, Secretary

Authorization Number

April 21, 2011



Dear California Seed Labeler:

In little more than one month, you will receive notification for renewal of authorization to sell seed in California. This letter is being sent to you because our records indicate that you offer seed for sale in California under more than one business name. Although you are not required to pay a license fee for each of the business names you sell under, you are required to report the value of seed sales in California for each of those firms.

I am also reminding all applicants that "total seed sales" are the gross seed sales (not net seed sales) including any value added to the seeds. This means that the value added from technology traits, chemical treatments, and seed coatings must also be part of the total reported seed sales.

The following worksheet will assist you in calculating your reported total seed sales. You are not required to submit this worksheet with your application for renewal of authorization to sell seed; however, you may wish to retain this worksheet as a record of your calculations in the event of an audit.

The intent of this letter to assist companies that sell under multiple business names with their calculation of reported sales. By providing this letter and worksheet prior to the renewal notice, applicants will have a better understanding of the records needed to accurately complete the renewal application for authorization to sell seed in California.

If you have any questions or concerns, please don't hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads "John Heaton".

John Heaton
Sr. Agricultural Biologist –Supervisor
CDFFA Seed Services Program
(916) 654-0435
jheaton@cdfa.ca.gov

cc: California Seed Advisory Board Members

Worksheet for calculations used to report seed sales to the California Dept. of Food and Agriculture - Seed Services Program

Parent Company Name

Authorization Number

Parent Company Name <i>Additional DBA Names</i>	<i>Ending Invoice # as of June 30, 2011</i>	<i>Starting Invoice # as of July 1, 2010</i>	<i>Ending minus Starting equal Total # of Invoices during FY</i>	<i># of Invoices for CA Seed Sales only</i>	<i>Total \$ amount invoiced for plain seed sold in CA.</i>	<i>Total \$ amount invoiced for tech traits of seed sold in CA.</i>	<i>Total \$ amount invoiced for treatments added to seed sold in CA.</i>	<i>Total amount invoiced for coating added to seed sold in CA.</i>	<i>Total amount invoiced for seed, plus value added to seed sold in CA.</i>
<input style="width: 115px; height: 25px; border: 1px solid red;" type="text"/>									
<input style="width: 105px; height: 25px; border: 1px solid red;" type="text"/>									
<input style="width: 105px; height: 25px; border: 1px solid red;" type="text"/>									
<input style="width: 105px; height: 25px; border: 1px solid red;" type="text"/>									
Column Totals									Total Gross Sales to Report
									<input style="width: 65px; height: 35px; border: 1px solid black;" type="text"/>

**Please notify CDFA in writing if you need to make any corrections.*

ESTIMATE OF FY 2012 MOU BETWEEN SEED SERVICES AND THE SEED LABORATORY

Seed Laboratory MOU Calculation

	Unadjusted 10/11 EOY Proj Values	Adjustments	FY 10/11 Proj EOY	FY 11/12 SAB Approved in May 2010	FY 12/13 Estimate 1% overall increase from PY
PS, OE&E, SPEC ITEM (use 13015 3rd qtr proj YTD + Adj)	\$ 714,391.00	none	\$ 714,391.00	\$ 801,907.20	\$ 857,269.20
FACILITIES OPERATIONS (use PY of 13012)	\$ 204,638.00	16%	\$ 32,742.08	\$ 79,842.05	\$ 39,290.50
UTILITIES (use PY of 13012)	\$ 291,172.00	16%	\$ 46,587.52	\$ 56,694.53	\$ 55,905.02
SEED IT (use CY of 13010 3-27-426-08)	\$ 102,765.00	20%	\$ 20,553.00	\$ 24,662.88	\$ 24,663.60
TOTAL FOR SEED LABORATORY			\$ 814,273.60	\$ 963,106.66	\$ 977,128.32

MOU CALCULATION

Less Revenue from Service Samples	Now = \$0 since revenue is used to offset Bond Debt	\$ -	\$ -	\$ -
TOTAL REIMBURSEMENT EXPECTED 50% of Lab Costs = MOU Funding	\$ 407,137	\$ 481,553	\$ 488,564	
	SS will pay Lab in June 2011. Max by SAB was \$449,208	Max SAB recommends SS pay Lab in June 2012 per May 2010 Mtg.	Need Board Approval on May 5, 2011. Max Payment in June 2013 for Lab MOU	

Notes:

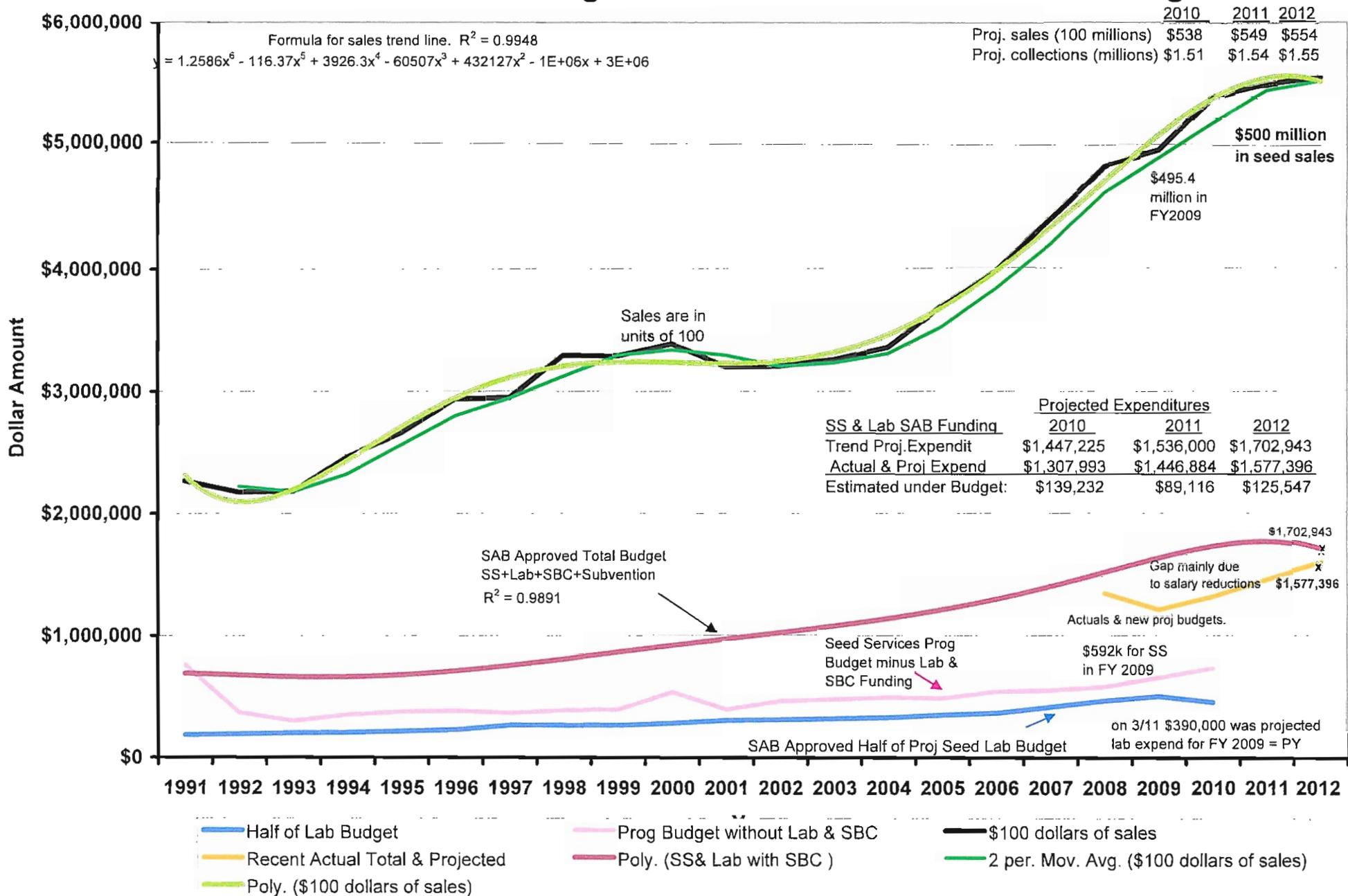
- 1.) Actual for FY 09-10 was \$379,910 of \$497,928 approved by SAB May 2008. (\$118K lower)
- 2.) Last Bond payment will be in May of 2013



Originally Presented to SAB June 2009; Updated April 2011

	FY	Assessment Rate \$ per \$100 Sales	Assessments \$ Collected	PY Annual Value Seed Sold In CA \$	Number of Licenses	Seed Services Part of App. Budget	Seed Laboratory Part of Budget	County Subvention	SAB Approved for Total Program	FY	Budget as % of Sales	% Inc in sales from PY	% Inc in Total Program	Year	Total Program w/o SBC	Budget as % of Sales w/o SBC	% Inc in Total Program w/o Funding SBC
ACTUAL	1991/92	\$0.25	\$ 566,514	\$ 226,605,600	401	\$ 760,549	\$ 185,977	\$ 120,000	\$ 1,066,526	1991/92	0.47	-	-	1991	\$ 1,066,526	0.47	-
	1992/93	\$0.25	\$ 543,214	\$ 217,285,600	401	\$ 369,952	\$ 193,091	\$ 119,993	\$ 683,036	1992/93	0.31	-4.11	-35.96	1992	\$ 683,036	0.31	-35.96
	1993/94	\$0.32	\$ 697,258	\$ 217,893,125	405	\$ 300,926	\$ 202,745	\$ 119,993	\$ 623,664	1993/94	0.29	0.28	-8.69	1993	\$ 623,664	0.29	-8.69
	1994/95	\$0.30	\$ 739,438	\$ 246,479,333	392	\$ 351,955	\$ 206,017	\$ 119,702	\$ 677,674	1994/95	0.27	13.12	8.66	1994	\$ 677,674	0.27	8.66
	1995/96	\$0.25	\$ 665,044	\$ 266,017,732	397	\$ 376,581	\$ 215,870	\$ 123,478	\$ 715,929	1995/96	0.27	7.93	5.65	1995	\$ 715,929	0.27	5.65
	1996/97	\$0.25	\$ 735,119	\$ 294,047,512	412	\$ 383,483	\$ 229,403	\$ 116,356	\$ 729,242	1996/97	0.25	10.54	1.86	1996	\$ 729,242	0.25	1.86
	1997/98	\$0.25	\$ 736,748	\$ 294,699,256	412	\$ 367,773	\$ 266,860	\$ 120,000	\$ 754,633	1997/98	0.26	0.22	3.48	1997	\$ 754,633	0.26	3.48
	1998/99	\$0.20	\$ 658,663	\$ 329,331,465	418	\$ 388,389	\$ 267,360	\$ 119,998	\$ 775,747	1998/99	0.24	11.75	2.80	1998	\$ 775,747	0.24	2.80
	1999/00	\$0.15	\$ 492,574	\$ 328,382,727	407	\$ 392,003	\$ 261,068	\$ 120,000	\$ 773,071	1999/00	0.24	-0.29	-0.35	1999	\$ 773,071	0.24	-0.35
	2000/01	\$0.20	\$ 676,077	\$ 338,038,475	412	\$ 564,607	\$ 278,878	\$ 120,000	\$ 963,485	2000/01	0.29	2.94	24.63	2000	\$ 963,485	0.29	24.63
ESTIMATED	2001/02	\$0.25	\$ 799,336	\$ 319,734,584	408	\$ 573,496	\$ 302,521	\$ 120,000	\$ 996,017	2001/02	0.31	-5.41	3.38	2001	\$ 846,017	0.26	-12.19
	2002/03	\$0.28	\$ 896,000	\$ 320,000,000	400	\$ 641,607	\$ 308,100	\$ 120,000	\$ 1,069,707	2002/03	0.33	0.08	7.40	2002	\$ 919,707	0.29	8.71
	2003/04	\$0.30	\$ 910,000	\$ 325,000,000	400	\$ 656,355	\$ 317,343	\$ 120,000	\$ 1,093,698	2003/04	0.34	1.56	2.24	2003	\$ 943,698	0.29	2.61
	2004/05	\$0.32	\$ 938,000	\$ 335,000,000	400	\$ 671,546	\$ 326,863	\$ 120,000	\$ 1,118,409	2004/05	0.33	3.08	2.26	2004	\$ 968,409	0.29	2.62
ACTUAL	2005/06	\$0.32	\$1,179,569	\$ 368,615,313	416	\$ 663,063	\$ 347,003	\$ 120,000	\$ 1,130,066	2005/06	0.31	10.03	1.04	2005	\$ 980,066	0.27	1.20
	2006/07	\$0.32	\$1,270,835	\$ 397,135,938	463	\$ 818,918	\$ 362,352	\$ 120,000	\$ 1,301,270	2006/07	0.33	7.74	15.15	2006	\$ 1,101,270	0.28	12.37
	2007/08	\$0.32	\$1,408,885	\$ 440,276,563	504	\$ 828,805	\$ 410,228	\$ 120,000	\$ 1,359,033	2007/08	0.31	10.86	4.44	2007	\$ 1,159,033	0.26	5.25
	2008/09	\$0.32	\$1,545,396	\$ 482,936,250	498	\$ 895,265	\$ 461,556	\$ 120,000	\$ 1,476,821	2008/09	0.31	9.69	8.67	2008	\$ 1,236,821	0.26	6.71
	2009/10	\$0.32	\$1,583,638	\$ 494,886,875	506	\$ 950,639	\$ 497,828	\$ 120,000	\$ 1,568,467	2009/10	0.32	2.47	1.61	2009	\$ 1,368,467	0.28	10.64
	2010/11 In Prog.	\$0.28	\$1,387,718	\$ 495,613,571	518	\$ 1,128,215	\$ 449,028	\$ 120,000	\$ 1,697,243	2010/11 In Prog.	0.34	0.15	2.37	2010	\$ 1,497,243	0.30	9.41

18 Year Comparison & Projections: Seed Sales (scaled) versus Qualified Seed Services Budget versus one-half the Seed Lab Budget



Proposed Budget for FY 2012/13

SEED SERVICES PCA 15551

SAB Mtg. May 5, 2011

	PPY 2008/2009 per 4/29/2011	PY FY 2009/2010 per 4/25/2011	CY 2010/2011 EOY Proj	FY 2011/2012 Approved SAB (5/12/10)	Proposed FY 2012/2013 SAB (5/5/11)	
Permanent Sal	284,763	250,354	266,339	393,750	282,319	1
Temporary Help Sal	15,140	17,014	8,485	17,865	17,865	
Staff Benefits	118,178	107,100	126,978	179,400	134,597	2
Sal Sav	-17,369	-18,237	0	0	0	
Salary & Benefit Recovery	-6,228	-6,540	0	0	0	3
TOTAL PERSONAL SERVICES	394,484	349,691	401,802	591,015	434,781	
General Expenses	9,071	8,037	6,596	10,000	10,000	4
Printing	439	342	400	850	500	
Communications	1,942	4,945	4,268	3,000	4,500	
Postage	784	698	1,557	1,200	1,750	5
Insurance-Vehicles	1,126	977	1,249	1,500	1,500	6
Travel In-State	7,240	9,706	7,328	11,502	10,000	7
Travel Out-of-State	4,694	3,968	4,300	41,311	22,008	8
Training	125	165	500	1,000	1,500	
Facilities	18,204	28,880	38,113	25,463	38,000	
Utilities	640	400	465	705	600	
Cons & Prof	407	241	750	10,000	10,000	9
Data Processing	0	0	0	0	0	
Interdeptl Charges	0	0	0	0	0	
Division - Indirect	22,046	24,478	21,913	24,306	25,000	10
Dept. - Indirect - Exec/Admin	52,503	45,043	49,728	66,913	60,000	
Legal Svs-Indirect	0	0	0	0	0	
Production Services - Direct	0	0	0	0	0	
Plant IT		0	2,277	500	2,500	11
Centralized Svs	922	850	1,647	1,017	1,750	
Other Interdeptl Charges	0	0	0	0	0	
Pro Rata	54,772	39,969	56,136	73,447	71,443	12
Equipment	0	0	0	30,520	54,000	13
Misc. Ag. Services	0	2,163	0	642	2,000	14
Field Expenses/Agri Supplies	0	1,703	53	500	1,000	15
Vehicle Operations	10,200	10,741	9,000	17,656	16,000	16
Research Contracts UCD SBC	239,741	200,000	200,000	200,000	200,000	17
Other Misc. Charges		2,000	0	0	0	
Subtotal Oper Exp/Equip	424,856	385,306	406,280	522,032	534,051	
Ag Commissioners	120,000	120,000	120,000	120,000	120,000	
Seed Laboratory (Gen Fund) Annual Agreement	428,502	379,911	379,911	481,553	488,564	18
TOTAL OPER EXP/EQUIP	973,358	885,217	906,191	1,123,585	1,142,615	
TOTAL BUDGET	1,335,549	1,202,615	1,307,993	1,714,600	1,577,396	19