

MEMORANDUM OF UNDERSTANDING
California Department of Food and Agriculture (State)
And the
California Crop Improvement Association (Association)

COOPERATIVE PARTICIPATION IN PHYTOSANITARY EXPORT
CERTIFICATION

ARTICLE 1 – PURPOSE

This Memorandum provides for the cooperative participation between the parties to perform inspections of potatoes. These inspection results may then be used to support the issuance of Federal Phytosanitary Certificates for seed potatoes, including mini-tubers, at California interior points of origin.

ARTICLE 2 – AUTHORITY

This Memorandum is entered into by virtue of California Food and Agricultural Code (FAC) Section 482 (a), which provides for cooperative agreements with associations for the purpose of controlling diseases; and Title 7, Code of Federal Regulations, Section 353, *et. al.*, which provides for the export certification of plants and plant products.

ARTICLE 3 – RESPONSIBILITIES

This Memorandum serves to establish the parties' responsibilities under the cooperative program, and to define in general terms the basis on which the parties will cooperate.

ARTICLE 4 – MUTUAL AGREEMENT

The cooperating parties agree:

- a. Overall direction and control of this cooperative program will be maintained by the State.
- b. Designated agents will remain administratively responsible to the Association.
- c. The State shall be responsible for ensuring that inspection and certification is conducted in accordance with State/Federal regulations.

ARTICLE 5 – ASSOCIATION RESPONSIBILITIES

1. To cooperate with the State in the inspection of potatoes and documentation of the results of any inspections that may be used to support the subsequent issuance of a Federal Phytosanitary Certificate.

2. To nominate to the State qualified Association agents to perform such inspection work.
3. That nominees for designation as agents under this Memorandum shall meet or exceed the basic requirements as defined in Export Certification Regulation 7 CFR 353.6 (a) (2).
4. To submit to the State, for review and concurrence, the names and qualifications covering those personnel nominated for designation as agents.
5. Agents authorized to perform inspections under this Memorandum shall participate in an orientation and training program conducted by the State.
6. The Association will designate a person(s) to be the control person, to coordinate the export certification activity between the Association and the State. The control person shall be responsible for the accuracy of documents used to support the issuance of Federal Phytosanitary Certificates.
7. The Association agrees to certify seed potatoes that meet these criteria:
 - a. They are produced from 1) tissue culture potatoes that are free of regulated pests or 2) from other entry level materials such as line selected hill units or parent plants used in stem cuttings that are free of regulated pests;
 - b. They are produced under a limited generation system;
 - c. They have undergone at least two field inspections to ensure compliance with tolerances set forth in Annex 2 found in the State National Harmonization Program (SNHP) for Seed Potatoes, Memorandum of Understanding between California and the USDA.
 - d. They are subjected to post-harvest testing for recertification;
 - e. They are produced and stored in a cooperating state under the SNHP
8. The Association will administer the following activities:
 - a. Ensure that certification practices in California conform fully to the requirements listed in Article 4 of the MOU;
 - b. Maintain adequate records relating to all aspects of the certification regime, including records to enable trace-back of the certified seed to its field generation and parent material and to ensure lot identification;
 - c. Perform any required testing using generally recognized diagnostic methods and protocols;
 - d. Provide to APHIS a quality manual describing seed certification procedures, pest tolerances, and testing methodologies, together with mechanisms for ensuring compliance. The quality manual shall consist of the most current certified seed potato standards for CCIA and a brief handbook outlining the various standards and protocols for disease testing;

ARTICLE 7 – STATE RESPONSIBILITIES

1. To issue a letter of designation as an agent to those qualified Association personnel meeting the prescribed educational and experience requirements contained in Export Certification Regulation 7 CFR 353.6 (a) (2).
2. To conduct orientation and training programs for designated agents.
3. To provide designated agents with information, as necessary, to enable the proper inspection/documentation of potato plants or plant products to be exported.

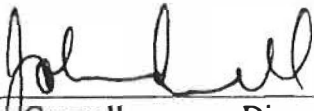
ARTICLE 8 – FINANCIAL OBLIGATION

This Memorandum defines the basis on which the parties voluntarily cooperate and as such does not constitute a financial obligation to serve as a basis of expenditures. Responsibilities assumed by each of the cooperating parties are contingent upon funds being available to cover expenditures. The Association may establish a fee schedule as authorized by 7 CFR 354.3 (g) and charge for any service, work, travel, overtime, or related service needed as a basis to issue a Federal Phytosanitary Certificate.

ARTICLE 9 – EFFECTIVE DATE AND DURATION

This Memorandum shall become effective upon the date of final signature and shall continue indefinitely. It may be modified by mutual agreement between the parties in writing and may be discontinued at the request of either party. Request for termination, or any major changes, shall be submitted to the other party for its consideration not less than 90 days prior to the effective or desired date.

California Department of Food and Agriculture

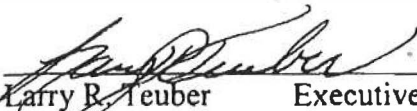


John Connell Director
Plant Health and Pest Prevention Services

10/28/2006

Date

California Crop Improvement Association



Larry R. Teuber Executive Director

FEBRUARY 20 2008

Date

California Crop Improvement Association

Fr. J. Parsons Seed Certification Center
University of California
One Shields Avenue
Davis, California 95616-8541

Phone: (530) 752-0544
FAX: (530) 752-4735
ccia.ucdavis.edu

April 7th, 2008

Ms. Susan McCarthy:
Senior Agricultural Biologist
Nursery, Seed & Cotton Program
California Department of Food and Agriculture (CDFA)
1220 N Street, Room A-372
Sacramento, CA 95814

Dear Susan:

I am including here the Memorandum of Understanding (CDFA/CCIA) related to the Potato Certification Program signed by Dr. Larry R. Teuber.

I have included the Qualification information from the new CCIA's personnel involved with this Program: Mr. Timothy Blank and Mr. Alex Mkandawire.

We are now four persons performing field inspections: Robert J. Simas, Timothy Blank, Alex Mkandawire and Pablo Guzman.

If you have any question, please do not hesitate to contact me.

Sincerely,

Pablo Guzman

Pablo Guzman
Manager Potato Certification Program

Timothy Blank

AFFILIATION

Field Services
California Crop Improvement Association
University of California, Plant Science Department
Parson Seed Certification Center
One Shield Ave
Davis, CA 95616

EDUCATIONAL QUALIFICATION

Timothy Blank attended UC Davis from 2001 to 2005. During these years, he worked on a campus farm as a professor's assistant, performing most of the planting, irrigating, fertilizing and cultivating of a field containing ~1500 varieties of vegetable crops, which were being grown for student observation and study. He graduated with a Bachelor of Science degree from UC Davis' College of Agriculture and Environmental Sciences, majoring in Entomology.

In 2005 he was employed by California Crop Improvement Association (CCIA) as a certified seed program representative. One of the chief responsibilities at CCIA is to annually conduct hundreds of field inspections of seed fields of several agronomic crops.

POTATO INSPECTION EXPERIENCE

As part of his training to recognize potato diseases and varietal differences, he traveled to Homestead, Florida in January, 2008, to observe winter test plots under the direction of Steve Marquardt from Nebraska Potato Certification along with potato inspectors from other states, including Rick Hafner, Kevin Bula (Senior inspectors from Wisconsin Potato Association), Jeff Axford (Michigan Seed Potato Association) and Al Todd (Maine Seed Potato Association). He observed symptoms of viral diseases such as Potato Virus Y (PVY) and Potato Leafroll Virus. He also learned how PVY shows different degrees of symptoms in different varieties.

In February he traveled with Pablo Guzman (manager of CCIA's certified potato program) to the Imperial Valley of California to inspect winter test plots from Idaho Crop Improvement Association (ICIA). He met with Mr. Doug Boze from ICIA and walked the plots planted in this location and noted the diseases present, including PVY and Potato Leafroll Virus. While in the Imperial Valley, he also inspected a certified potato field entered into the California Potato seed certification program.

In March, Timothy traveled to the San Joaquin Valley with Pablo Guzman and Alex Mkandawire to inspect a large certified potato field where it was explained the procedures for large scale potato inspections.

His training will continue during the 2008 season with field inspections and participation of professional meeting that will provide him with the knowledge and experience to perform adequately this service.

ALEX MKANDAWIRE

AFFILIATION

Field Services,
California Crop Improvement Association,
F.G. Parsons Seed Certification Center,
Plant Science Department,
UC Davis, CA 95616.

EDUCATIONAL QUALIFICATIONS AND EXPERIENCE

Undergraduate Program

1. B.Sc. (Agriculture) obtained from University of Malawi in October 1980.

Graduate Program

1. M.S. in Agronomy (Crop Production and Physiology) from Iowa State University, Ames, Iowa, in May 1984.
2. Ph.D. in Crop and Soil Science obtained from Michigan State University, East Lansing, Michigan, in December 1987.

Experience

1. Associate Professor of Crop Science at University of Malawi from September 1987 to September 1999.
2. Post-doctoral fellow in Plant Pathology Department at UC Davis from October 1999 to April 2003. My major responsibility was detection of bacterial and viral diseases on beans.
3. Seed Scientist at Syngenta Seeds Inc. in Woodland CA with a major responsibility of detection of Fruit Blotch on watermelon.

POTATO INSPECTIONS

The first training was done in Florida City, FL during January 7-8th, 2008. During this training we were trained by potato inspectors from mid-western potato inspection agencies. These included Steven Marquardt and Gary Leever from Nebraska; Jeff Axford, Executive Director at Michigan Seed Potato Association; Richard (Rick) Haffner and Kevin Bula, both senior inspectors with the Wisconsin Potato Association and Al Todd from the Maine Seed Potato Association. Also in this group was Amy Charkowski Ph.D., an Assistant Professor in Plant Pathology and Administrative Director attached to the Wisconsin Seed Potato Certification Program. The materials we inspected comprised the popular varieties across the country but grown in Nebraska, Wisconsin and Michigan during the summer of 2007. Generally what happens is that during each growing season, these certification agencies inspect seed fields twice for diseases and varietal purity. They determine if the potatoes meet certification standards and those fields not meeting standards are rejected. During harvest, random samples of 400 seed tubers are collected from each seed lot. These tubers are planted out in Homestead, FL. This year some of the materials were Atlantic, Dakota Diamond, Frito Lay cultivars, Goldrush, Norland, Red LaSoda, Russet Burbank and Russet Norkotah. It is important to know potato varieties well because they may express symptoms to different diseases differently. Frito Lay varieties had problems with vernalization and so their stands were rather patchy. Each

program, except Maine, grew their winter test on a field north of SW 200th Street west of SW 152nd Avenue (west of canal) in Florida City. Major problems that we were trained on identification and were present in the field were Leaf Roll, Blackleg and PVY. We were also shown Haywire and Calico symptoms.

The second training was done in Imperial Valley, California on February 13th, 2008. This training was divided into two sections. The first was an inspection of a winter test of materials from the Idaho Seed Potato Association. Pablo Guzman Ph.D. and Doug Boze, Executive Director of the Oregon Seed Association, were responsible for the training. Generally a similar group of potato varieties to those we went through in Florida were included. The major disease problems that we identified were Leaf Roll and Mosaic. We also observed symptoms of frost on the plants, particularly the younger plants. We noted that in Imperial County the inspections are generally done at 90 days and 120 days after planting compared to the summer inspections in Stockton where these are done at 50 days and 70 days after planting. We also noted that when identifying problems look carefully for homogeneity in plants and pay particular attention to plants that appear different with the 'scarecrow' effect. We also noted that CalWhite may not show visual symptom when it is actually carrying a high titer of PVY which ELISA may easily confirm. The second part of the training that day was an inspection of a Granola potato field planted on November 26, 2007 in Imperial Valley. These plants were also severely affected by a previous frost, although they looked better than a commercial crop that was planted earlier. We inspected the entire field but found no problems apart from the frost damage.

Our third training was done in Bakersfield CA on March 8th, 2008. Dr. Pablo Guzman was responsible for this training. Ken Jochimsen, Vice President in the Potato Operations of the Zuckerman Family Farms, Inc., was at hand to offer his knowledge of the potato varieties they grow. They comprised CalWhite, Red LaSoda and White Rose potato varieties grown on about 80 acres. We walked the entire field. We identified a number of plants that were stunted and seemed to show some mottling due to mosaic but we resolved that they were probably still developing and the 'mottling' would disappear as they age. We proceeded to collect leaf samples from these plants for verification. The owner mentioned that the field was rogued of any problem plants except those showing frost damage.

His training will continue during the 2008 season with field inspections and participation of professional meeting that will provide him with the knowledge and experience to perform adequately this service.



CALIFORNIA DEPARTMENT OF
FOOD & AGRICULTURE
A. G. Kawamura, Secretary

November 4, 2008

Pablo Guzman, PhD
California Crop Improvement Society
Frank G. Parsons Seed Certification Center
University of California
One Shields Avenue
Davis, California 95616-8541

Dear Pablo:

Enclosed is the new Memorandum of Understanding for the Seed Potato Certification Program.

If you have any questions about this document, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan McCarthy", written in a cursive style.

Susan McCarthy
Senior Agricultural Biologist
Registration and Certification, Nursery Program
Plant Health and Pest Prevention Services



State of California

Memorandum

To: John Connell, Director
Plant Health and Pest Prevention Services

Date: October 20, 2008

Place: Sacramento

Via: Nick Condos, Chief
Pest Exclusion Branch

Phone: 654-0312

From: Department of Food and Agriculture



Mike Colvin, Program Supervisor
Nursery, Seed, and Cotton Programs

Subject: Memorandum of Understanding with the California Crop Improvement Association

Attached for your signature is the proposed Memorandum of Understanding (MOU) between the Department of Food and Agriculture (CDFA) and the California Crop Improvement Association (CCIA).

CDFA intends to sign the State National Harmonization Program (SNHP) Memorandum of Understanding for Seed Potatoes. Article 5 of this MOU says that the cooperating state agrees to recognize seed certification entities for each state participating in the SNHP. CDFA has designated CCIA to be that entity.

This MOU outlines the purpose, authority, and responsibilities of both parties with regard to the certification of Seed Potatoes in California. Section 482 of the Food and Agriculture Code provides authority for this MOU. Title 3, California Code of Regulations, Section 3035 designates the CCIA as the official Seed Potato Certifying Agency for the Department.

Enclosures

cc: Susan McCarthy