

# IDEAS

## For Food Processors



Fall 2004  
Volume 3, Issue 2

A Publication of the Food Technology Extension Program  
Cooperative Extension Service, New Mexico State University

### Food Safety and Security

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The terrorist attacks of 2001 have given rise to concerns about unconventional attacks on the U.S. food supply. The Food and Drug Administration (FDA) has taken steps to improve its ability to address incidents of food sabotage. Though motivated by the concerns about deliberate contamination, FDA continues to focus efforts to protect consumers from foods that have been unintentionally contaminated through improper processing or poor handling.

Even before 2001, the U.S. Centers for Disease Control and Prevention (CDC) had developed a strategic plan on biological and chemical terrorism. The CDC plan identified and ranked several foodborne pathogens as critical agents for possible terrorist attacks. Several of the pathogens identified are also known to pose a significant threat due to unintentional contamination of food. For example, an outbreak of hepatitis A caused by tainted clams affected nearly 300,000 people in China in 1991, and in 1994 an outbreak of *Salmonella Enteritidis* infection linked to a contaminated ice cream pre-mix sickened an estimated 224,000 people in 41 U.S. states. If unintentional food contamination can affect a large population, a deliberate attack on the food system could be devastating.

The CDC also identified certain

chemicals as possible agents for food terrorism. These are heavy metals such as arsenic, lead, and mercury, and pesticides, dioxins, furans and polychlorinated biphenyls (PCBs). In one deadly incident, over 800 people died and about 20,000 were injured by a chemical agent present in cooking oil (Spain, 1981). In 1985, nearly 1,400 people in the United States reported becoming ill after eating watermelon grown in soil treated with the pesticide aldicarb.

These incidents illustrate a few of the possible agents for food terrorism that may include:

- Biological and chemical agents;
- Naturally occurring, antibiotic-resistant, and genetically engineered substances;
- Deadly agents and those tending to cause gastrointestinal discomfort;
- Highly infectious agents and those that are not communicable;
- Substances readily available to any individual and those that are more difficult to acquire;
- Agents that must be weaponized and those that are accessible in a usable form.

Terrorists have economic disruption as their primary motive and deliberate or accidental contamination of food has enormous economic implications in the United States, where one out of every eight Americans is estimated to work in

(Continued on page 7)

## Government News

If you manufacture, process, pack or hold food in the United States, your facility must be registered with the FDA. As of November 8, the FDA will fully implement the rule requiring all U.S. food production facilities to register. Currently only a little over half of food processing facilities are registered. Until recently, the policy has not been enforced, as the FDA has been educating the food industry about it. Now, unregistered facilities will only be informed three times before legal action is considered. For more information on how to register your facility, visit <http://www.cfsan.fda.gov/~furls/ovffreg.html>.

This fall the FDA will sample 'high-risk' foods in order to educate facilities about food security measures and test its own reaction capabilities. Inspectors are collecting 400 samples of fresh leaf and stem vegetables, fluid milk, spring and mineral water, fruit and vegetable juices, and powdered and liquid infant formula. Samples will be tested for a variety of contaminants. An FDA official said, 'Firms suspected of not

being in compliance with new facility registration requirements may be targeted during the exercise.'

President Bush recently signed the "Food Allergen Labeling and Consumer Protection Act of 2004" into law. Under this law, all food manufacturers are required to label products with the common names of major food allergens, also known as the "Big Eight." Instead of identifying ingredients by their technical names (i.e. whey) the common name (milk) would be used. By January 1, 2006, all packaged foods must be in compliance with this law.

President Bush also signed the FY 2005 Homeland Security Appropriations Act on October. This act provides \$28.9 billion for the Department of Homeland Security. As part of this act, the Container Security Initiative (CSI) focuses on prescreening cargo before it reaches our shores. For a detailed look at other allotments in this act, visit [http://www.dhs.gov/dhspublic/interapp/press\\_release/press\\_release\\_0541.xml](http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0541.xml).

## A Message from the Editor...

Happy fall and early winter to all of you!

The focus of this edition is keeping New Mexico food processors in business. The first is the safety and security of the United States food supply. On January 13, Cooperative Extension Service and other state agencies will present "FoodGard," an internet program on bioterrorism and security especially for food processors. This program is offered in each New Mexico county Extension office at no charge. This past summer close to 450

food processors were contacted to complete a survey "The status of the New Mexico Food Processing Industry." Preliminary results from a 17% response indicate various educational needs including business and marketing management and help with government regulations. Survey results will be used to develop educational programs and publications over the next few years.

Thank you for your participation and continued support for the Food Technology program.

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## IDEAS for Food Processors

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Volume 3, Issue 2  
Editor: Nancy C. Flores, Ph.D.

*Nancy Flores*

Extension Food Technology Specialist  
Contributors: Nancy C. Flores

## Calendar of Upcoming Events

### Meetings & Conferences— 2004 / 2005

- Nov. 30:** Southern California Association for Food Protection's "Safe Food Handling is for Everyone." Buena Park, Calif. Visit <http://home.san.rr.com/scafp>.
- Dec. 13-15:** 2nd International Conference on Innovations in Food Processing Technology and Engineering. Asian Institute of Technology, Bangkok, Thailand. E-mail [phfpe@ait.ac.th](mailto:phfpe@ait.ac.th) or visit <http://203.159.19.151/phfpe/conferences/fpc/index.htm>.
- Dec. 20-23:** International Workshop and Symposium on Industrial Drying. Mumbai, India. Visit [www.iwsid2004.com](http://www.iwsid2004.com).
- Jan. 12:** Southern California Food Industry Conference. Chapman University, Orange, Calif. E-mail [Anuradha.Prakash@chapman.edu](mailto:Anuradha.Prakash@chapman.edu) or visit [www.scifts.org](http://www.scifts.org).
- Jan. 16-19:** Northwest Food Processors Association Food Manufacturing & Packaging Exposition. Portland, Ore. Call 503-327-2200 or visit [www.nwfpa.org](http://www.nwfpa.org).
- Feb. 7-8:** Cal Poly's 7th Symposium on Advances in Dairy Product Technology: Concentrated & Dried Dairy Ingredients. Shell Beach, Calif. Contact Laurie Jacobson at 805-756-6097 or [ljacobso@calpoly.edu](mailto:ljacobso@calpoly.edu) or visit [www.calpoly.edu/~dptc](http://www.calpoly.edu/~dptc) or [www.calpoly.edu/~dptc/05symp.html](http://www.calpoly.edu/~dptc/05symp.html).
- Mar. 2-5:** 25th Annual Refrigerated Foods Association Conference & Exhibition. Savannah, Ga. Visit [www.refrigeratedfoods.org](http://www.refrigeratedfoods.org).
- Mar. 16-19:** National Institute of Oilseed Products Annual Convention. Las Vegas, Nev. Call 202-785-8450 or visit [www.niop.org](http://www.niop.org).

### Workshops & Short Courses— 2004 / 2005

- Nov. 29-Dec.2:** Food Processors Institute Better Process Control School. Greenville, S.C. Contact Felix Barron at 864-656-5694 or [fbarron@clermson.edu](mailto:fbarron@clermson.edu).
- Dec. 1-3:** Food Processors Institute Basic HACCP. Ithaca, N.Y. Contact Jennifer Epstein at 202-637-4818.
- Dec. 2-4:** Premium Ice Cream Short Course. Univ. of Wisconsin, Madison. Contact Scott Rankin at 608-263-2008 or visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu) or [www.wisc.edu/foodsci](http://www.wisc.edu/foodsci).
- Jan. 4-5:** Milk Pasteurization & Process Control School. Of Wisconsin, Madison. Contact Scott Rankin at 608-263-2008 or visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu) or [www.wisc.edu/foodsci](http://www.wisc.edu/foodsci).
- Jan. 23-28:** Texas A&M Univ. Practical Short Course on Feeds & Pet Food Extrusion. College Station. Call 979-845-2774, e-mail [mnriaz@tamu.edu](mailto:mnriaz@tamu.edu), or visit [www.tamu.edu/extrusion](http://www.tamu.edu/extrusion).
- Jan. 24-27:** Food Processors Institute Better Process Control School. Corvallis, Ore. Contact Debby Yacas at 800-823-2357, 541-737-6483, or [Deborah.yacas@oregonstate.edu](mailto:Deborah.yacas@oregonstate.edu).
- Feb. 22-23:** Process Cheese Short Course. Univ. of Wisconsin, Madison. Contact Jim Path at 608-262-2253 or Bill Wendorff at 608-263-2015 or visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu) or [www.wisc.edu/foodsci](http://www.wisc.edu/foodsci).
- Mar. 17-19:** Premium Ice Cream Short Course. Univ. of Wisconsin, Madison. Contact Scott Rankin at 608-263-2015 or visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu) or [www.wisc.edu/foodsci](http://www.wisc.edu/foodsci).
- Mar. 28-April:** Cheese Technology Short Course. Univ. of Wisconsin, Madison. Contact Bill Wendorff at 608-263-2015 or visit [www.cdr.wisc.edu](http://www.cdr.wisc.edu) or [www.wisc.edu/foodsci](http://www.wisc.edu/foodsci).

Source: <http://www.ift.org/meetings/courses>

**On-line Centra Presentation: "FoodGard"**  
January 13th, 2005 — 9:00 am to 11:30 am  
Contact your local county Extension office.

## GAPs in a Nutshell

The Department of Home Economics, through food technology program and Cooperative Extension, is introducing the GAPs (Good Agricultural Practices) program to fresh vegetable growers across New Mexico. The program GAPs is a good common sense approach that fresh vegetable growers can utilize in their farming operation to meet consumer concerns and awareness about food safety. For the fresh vegetable grower addressing food safety issues, GAPs is a much-needed tool.

The program GAP's purpose is to reduce microbial contamination on the farm, which will increase safety of fresh vegetable produce. The program GAPs is an assessment of a grower's operation from planting to harvest, looking for possible contamination points. There is an emphasis on lot identification, recorded keeping, trace back tracking important to food processors and much

more. It is a simple step-by-step assessment covering all areas of concern.

For now, GAPs is an industry-driven voluntary program with no regulation. The key buzz words that growers are starting to hear from industry are "third party inspections." This means produce buyers are requiring annual independent inspection audits to certify GAP's compliance and ensuring a safe operation. Not all buyers are requiring this certification process as they have their own standards, and in some cases, none at all. It remains their choice to buy produce from whatever source they want. From a buyer's perspective, product liability and trace-back concerns are critical. A grower's name on a GAPs national certification list indicates a commitment to deliver consistent quantity and quality.



## Food Safety Publications and Services

The FDA has made its final 2004 Produce Safety Action Plan available at [www.cfsan.fda.gov/~dms/prodpla2.html](http://www.cfsan.fda.gov/~dms/prodpla2.html). The plan is entitled "Produce Safety from Production to Consumption: 2004 Action Plan to Minimize Foodborne Illness Associated with Fresh Produce Consumption."

The USDA has a new e-mail subscription service to provide automatic and customized access to food safety news and information. Customers can sign up for 21 initial subscriptions in eight categories. Customers can add or delete subscriptions as their needs change. To subscribe, visit: [http://www.fsis.usda.gov/News\\_&\\_Events/Newsletters/index.asp](http://www.fsis.usda.gov/News_&_Events/Newsletters/index.asp) or subscribe automatically at: [http://www.govdocs.com/service/multi\\_subscribe.html?code=USFSIS](http://www.govdocs.com/service/multi_subscribe.html?code=USFSIS).

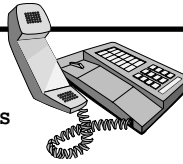
## Welcome Roy Pennock

We would like to welcome Roy Pennock to the food technology program at New Mexico State University.

Roy is a native New Mexican originally from Clayton. He joined the U.S. Navy in 1969 to see the world. He had tours of duty at the Naval Communications Station in Kodiak, Alaska, and Yokosuka, Japan. He received his bachelor of science in agriculture in 1979. Roy was a part of a SCS soil survey in Jacksboro, Texas, during the early 1980s. His past 20-plus years have been devoted to the New Mexico Chile Industry, working as a field representative between growers and the chile food-processing industry. He has spent two years working for the New Mexico Chile Task Force helping put together the Best Management Practice for chile production. He recently was brought on board by Nancy Flores to help implement the GAPs (Good Agricultural Practices) program with New Mexico growers.

Roy has a 22-year-old son whom he refers to as "the pup" (sometimes affectionately and sometimes not).

## HELP LINES



### NMSU EXTENSION

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**Food Technology Specialist-  
 Assistant Professor**  
 New Mexico State University  
 Las Cruces, New Mexico  
 (505) 646-1179

**Martha Archuleta**  
**Foods and Nutrition Specialist-  
 Assistant Professor**  
 New Mexico State University  
 Las Cruces, New Mexico  
 (505) 646-3516

### COUNTY/CITY AGENCIES

Albuquerque Environmental  
 Health Department  
 (505) 768-2642

### STATE AGENCIES

**New Mexico Department  
 of Agriculture**  
 Las Cruces, New Mexico  
 (505) 646-3007

**New Mexico Department  
 of Health**  
 Scientific Lab Division  
 Pauline Gutierrez  
 Albuquerque, New Mexico  
 (505) 841-2500

**New Mexico Environmental  
 Department Food Specialists**  
 Albuquerque, New Mexico  
 (505) 841-9452

**District I-**  
 (505) 841-9450  
 Albuquerque (counties served:  
 San Juan, McKinley, Sandoval,  
 Cibola, Torrance and Bernalillo)

**District II-**  
**Anita Roy** (505) 425-6764  
 Las Vegas (counties served:  
 Santa Fe, Los Alamos, Taos,  
 Rio Arriba, Union, San Miguel,  
 Mora, Harding, Colfax and part  
 of Guadalupe)

**District III-**  
 (505) 524-6300  
 Las Cruces, (counties  
 served:  
 Catron, Grant, Sierra, Hidalgo, Luna,  
 Doña Ana and Otero)

**District IV-**  
 (505) 624-6046  
 Roswell (counties served: Curry,  
 DeBaca, Roosevelt, Chaves, Lea,  
 Quay, Eddy and Lincoln)

**New Mexico Livestock Board**  
 Meat Inspection Division  
 Arthur P. Marquez  
 Program Manager  
 Albuquerque, New Mexico  
 (505) 250-6115

### FEDERAL AGENCIES

**United States Department  
 of Agriculture (USDA), Dist. 15**  
 Boulder, Colorado  
 (303) 497-5411  
[www.usda.gov](http://www.usda.gov)

**Animal and Plant Health  
 Inspection Service**  
 Plant Protection & Quarantine  
 (505) 527-6985

**Meat and Poultry Hotline**  
 1-800-535-4555

**Food and Drug  
 Administration (FDA)**  
**Devine Koontz**  
 Food and Drug Administration  
 (FDA), Public Affairs Specialist  
 Denver, Colorado  
 (303) 236-3020  
**David Arvelo**  
 Small Business Office  
 Southwest Region, FDA  
 Dallas, Texas  
 (214) 253-4952  
**Cynthia Jim**  
 Consumer Safety Officer, FDA  
 Albuquerque, New Mexico  
 (505) 248-7377

**Seafood Hotline**  
 1-800-FDA-4010

### ASSOCIATIONS

**New Mexico Specialty  
 Foods Association (NMSFA)**  
 Anna Shawver  
 (505) 332-2000

## Better Process Control Schools Hazard Analysis and Critical Control Points

### **HACCP**

**December 1-3, 2004:**

**Ithaca, NY**

**Cornell University**

Ithaca, NY 07952

*Location:* Statler Hotel Conference Center

*Contact:* Jennifer Epstein

Tel: 1-800-355-0983, Fax: 202-639-5932

<http://www.statlerhotel.cornell.edu>

### **BPCS**

**November 29-December 2, 2004**

**Clemson University**

Department of Food Science &  
 Human Nutrition

P.O. Box 340316

Clemson, SC 29318

*Location:* Holiday Inn Augusta Road  
 Greenville, SC

*Contact:* Felix Barron

Tel: 864-656-5694, Fax: 864-656-0331

<http://people.clemson.edu/~fbarron>

### **BPCS**

**January 24-27, 2005**

**Oregon State University**

Dept. of Food Science & technology  
 100 Wiegand Hall

Corvallis, OR 90729

*Location:* Salbasgeon Suites

1730 NW 9th St, Corvallis

*Contact:* Debby Yacas

Tel: 1-800-823-2357, 541-737-6483,

Fax: 541-737-1877

[http://oregonstate.edu/dept/foodsci/  
 extension\\_fst](http://oregonstate.edu/dept/foodsci/extension_fst)

**For more information on other dates and  
 locations available, visit the Web site:  
[www.fpi-food.org/courseschedule.cfm](http://www.fpi-food.org/courseschedule.cfm)**

## Status of New Mexico Food Processors

Kerrie Cox, graduate assistant and Jay Lillywhite, assistant professor. College of Agriculture and Home Economics, New Mexico State University, Las Cruces, New Mexico.

### Introduction

The objective of this study was to determine the assistance needs of the small-and medium-sized food processors of New Mexico. In an effort to obtain information about the industry, the Cooperative Extension Service at New Mexico State University, with the help of the Department of Agricultural Economics, created an intricate questionnaire. The objective of the survey was to provide information on production, product market, input sourcing, respondent information, and current level of outside assistance received.

### Methodology

In order to establish the assistance needs of New Mexico food processors, the questionnaire comprised of five sections, each one focusing on a separate aspect of the industry. The questionnaire was composed of 30 questions focusing on product type, business information, and current level of assistance. A section was also provided to examine issues related to the industry as well as issues related directly to the business

sors in New Mexico and surrounding areas followed by the survey.

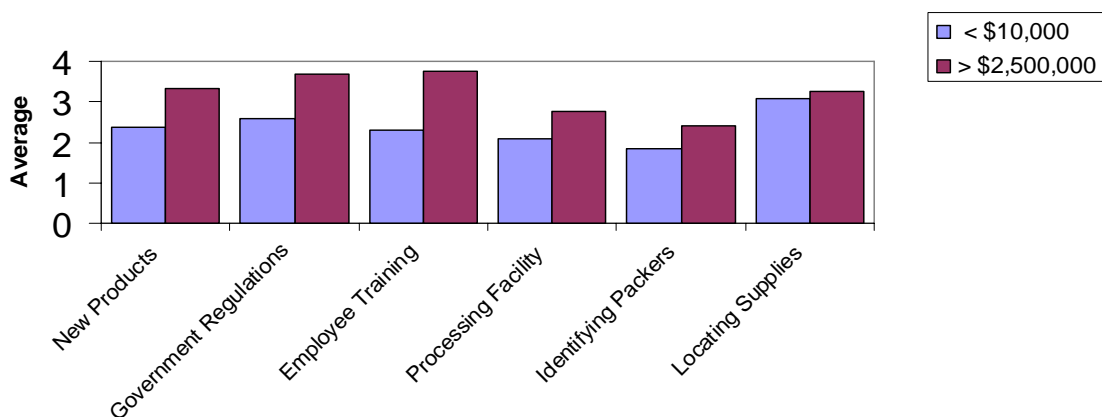
- A final letter to show appreciation for participation was also sent.
- Surveys were received from 17% of the processors in and around New Mexico. Considering that the current database of food processors rely solely on a newsletter mailing list, many of the people surveyed are not involved with food processing. A number of these contacts could not be included in the statistics.
- Data was entered into an Access database and then transported to Excel. Statistics were configured and graphed in an Excel database.
- An extensive literary review as conducted regarding food processors of New Mexico and the United States.
- An Agriculture Experiment Station report, a report to the processors as well as a regression analysis on the impact of the results of the survey, are in process.
- Additional projects to be conducted regarding the results of this study.

### Results:

The results of the survey produced information in multiple areas. In the questionnaire, processors were asked to identify the types of products they produced and the agricultural inputs they used to produce these value-added products. Each product was separated into a category.

Many processors produce different types of value added products. Therefore, products were broken down into numbers by category. The results showed that processors in the state of New Mexico and surrounding areas tend to produce

Assistance Needs in Production



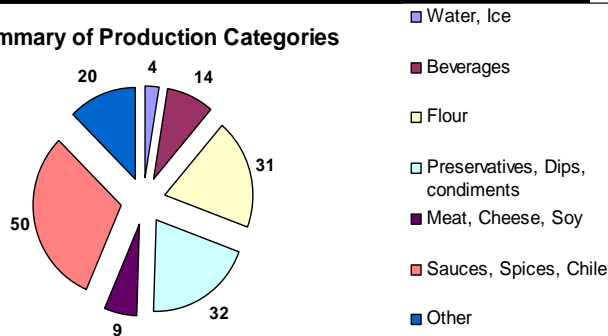
aspect of processing. The survey was sent through the mail using a modified Dillman's Method.

- The list of processors was provided by the Cooperative Extension Service.
- A letter and consent form was sent to food proces-

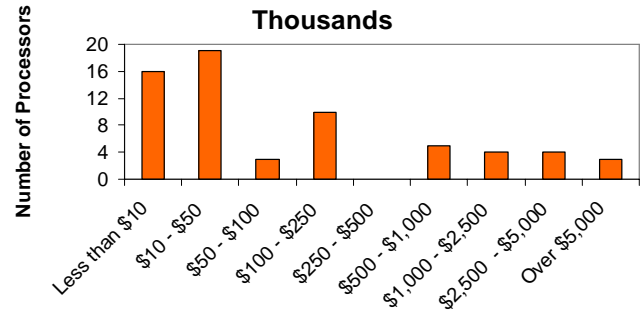
sauses, flour products, and preserves. Comparative analysis shows that the majority of agricultural inputs used in processing are typically vegetables. In order to determine which types of processors were interested in assistance programs, first it was important to determine where the

## Status continued...

Summary of Production Categories



2003 Food Processor Sales in Thousands



processing firms range in size, according to sales, in the state of New Mexico. The researcher was determined that the vast majority of processors in and around the state produce \$10,000 to \$50,000 in sales. There are also a large number of firms that produce less than \$10,000 in sales. However, with the processing industry of New Mexico rapidly growing, it is

assumed that sales will continue to increase. Processors indicated that they needed assistance with marketing and production. Small processors felt that they would benefit most from assistance in advertising and Internet marketing, whereas larger processing facilities needed assistance in market research and distribution production.

## Food Safety and Security continued...

an occupation directly linked to food production. For example, in 1998, a U.S. company recalled nearly 16,000 metric tons of frankfurters and luncheon meats potentially contaminated with *Listeria monocytogenes*, at an approximate cost of \$60 million. The company reportedly spent another \$100 million improving food safety to convince consumers that its products were safe.

The social impact from a food terrorism incident is illustrated by the effects of the Bovine Spongiform Encephalopathy (BSE or "mad cow disease") crisis in Great Britain in the 1990s. One hundred thirty-seven human fatalities attributed to BSE is lower than the death toll from many other diseases; however, the effects of this public health crisis were widespread and long-lasting. Bans on imports of British beef lasted for several years. Public fear and anxiety may contribute to reduced confidence in the political system and government.

The CDC estimates that unsafe food causes 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths each year in the United States; affecting one in every four Americans will develop a food-borne illness. The

potential impact of a food terrorism event is influenced not only by the likelihood of occurrence, but also by the specific target and agent selected by a terrorist. The centralization of U.S. food production and the global distribution of food allows for many points of vulnerability to sabotage intended to affect a large number of people. It is highly likely that a significant number of people would be affected by an act of food terrorism or by an incident of unintentional food contamination that results in serious foodborne illness.

Several state and federal agencies offer support to the food industry to ensure a safe food supply. The Bioterrorism Act, section 305, added section 415 to the Federal Food, Drug, and Cosmetic Act to include registration, administrative detention, record keeping and prior notice. This act provides FDA with information on the origin and distribution of food and feed products and thereby aids in the detection and quick response to actual or potential threats to the U.S. food supply. Food safety systems such as Hazard Analysis Critical Control Point (HACCP), Good Manufacturing Practices and Good Agriculture Practices allow a structure for food processors to analyze their operations for food safety and security risks.

# New ideas?

## Address Change/Corrections? Suggestions/Comments? Subscription?

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Comments/Suggestions: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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E-mail:  
naflores@nmsu.edu**

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