IGP Supporters and Partners

Supporters

Partners

US SEC
U.S. Soybean Export Council

WiSHH
World Initiative for Soy in Human Health

U.S. Wheat Associates

U.S. Grains Council

Bühler

AFIA
American Feed Industry Association

USDA

IAOM
International Association of Operative Millers

NGFA

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This year has proven to be almost as interesting as 2020, as it was chock-full of challenges, change, and resilience. As the year draws to an end, it is full of promise and potential as the Kansas Board of Regents just announced Dr. Richard Linton, a fellow food scientist, and current Dean of the College of Agriculture and Life Sciences at North Carolina State University, as the 15th President of Kansas State University.

After more than a year of being unable to offer on-site courses at IGP, we hosted nine courses in Manhattan this year. Student and sponsor interest in returning to campus is strong but still impacted by COVID, especially the emerging new variants.

Our distance learning initiatives have continued to evolve from their pre-pandemic format of simply watching pre-recorded videos. In some courses, live online lectures are followed by breakout sessions where participants address real situational problems. In other courses, students work through written materials on their own before joining live video conversations to engage with others and offer different perspectives on ideas and concepts from the readings. We remain committed to finding innovative ways to provide relevant and impactful training and outreach opportunities.

In partnership with a national commodity group, we have developed and executed a model for courses focused on business management. This effort is targeted to the next generation of agricultural business leaders. The curriculum is designed to cultivate expertise in concepts and processes ranging from strategic thinking and business plan development to procurement, sourcing, and contracts.

Finally, the IGP Institute, under Carlos Campabadal, Feed Manufacturing and Grain Quality Management Curriculum Manager, was selected as the center lead for the Soy Excellence Center of the Americas. The selection is a testament to the consortium’s efforts to feature the best-in-class technical instructors who are recognized in their respective fields not only in the region but around the world. In this center lead role, we will collaborate with the USSEC and other university partners to meet the program vision of “improving the health and nutrition of local communities in budding markets by building capacity and market potential of businesses in the food and agricultural supply chain through professional development training and course curriculum.”

On behalf of all of us at the IGP Institute, we thank you for your support of our educational training and outreach. Additionally, I would be remiss if I did not thank our outgoing President, Dr. Richard Myers for his service to our country and Kansas State University. He has been a friend and staunch supporter of the Department of Grain Science and Industry.

We look forward to seeing you in person again and collaborating in the future.

Sincerely,

Gordon Smith
IGP Institute Director
Professor and Head, Department of Grain Science and Industry
The IGP Institute and the department host many visitors during a typical year, but a highlight in 2021 was a visit by United States Senator, Jerry Moran of Kansas, who toured the Hal Ross Flour Mill in September. Pictured from left to right are Ernie Minton, Dean of the College of Agriculture, Gordon Smith, IGP Institute Director and Grain Science and Industry Department Head, Senator Moran, Paul Blodgett, Hal Ross mill manager, and Jason Watt, Buhler Instructor of Milling.

IGP Institute

Mission

To provide technical, research-based training benefiting industry professionals globally and enhancing the market preference for U.S. grains and oilseeds.
2021
1,401 Participants
59 Countries

Algeria  Italy  South Korea
Australia  Jamaica  Spain
Bangladesh  Japan  Sri Lanka
Belgium  Jordan  Switzerland
Bhutan  Kenya  Taiwan
Brazil  Malaysia  Thailand
Canada  Mexico  Tunisia
Chile  Morocco  Turkey
Colombia  Myanmar  United Arab Emirates
Costa Rica  Nepal  United States
Croatia  New Zealand  Uruguay
Dominican Republic  Nicaragua  Uruguay
Ecuador  Nigeria  Venezuela
Egypt  Pakistan  Vietnam
El Salvador  Panama  
Germany  Peru  
Greece  Philippines  
Guatemala  Poland  
Honduras  Romania  
India  Saudi Arabia  
Indonesia  Senegal  
Ireland  Singapore  
Israel  South Africa  

4
Total Participants

- **Outreach Workshops, Research, Presentations** (1,670 Attendees)
- **56 Distance Courses** (1,240 Participants)
- **9 On-Site Courses** (161 Participants)
Soybean Excellence Emerges
New project with USSEC and academic partners benefits Latin American professionals.

The IGP Institute mission states our goal is “to provide technical, research-based training benefiting industry professionals globally and enhancing the market preference for U.S. grains and oilseeds.” Another key step to enhance our outreach and reputation was recently completed as the United States Soybean Export Council (USSEC) named IGP as the Center Lead of the Soybean Excellence for the Americas region.

USSEC has created Soybean Excellence Centers in multiple locations around the world to help train industry professionals on topics related to animal production and nutrition, and feed manufacturing with an in-depth curriculum and academic perspective which differs from their traditional training courses. USSEC will provide the main funding.

The IGP Institute has created a consortium with Auburn University and Zamorano University in Honduras to meet the goals of the new center. IGP will lead and manage the overall efforts while creating and teaching the technical curriculum based on the needs of the animal production and feed manufacturing industry. Auburn University will assist with technical teaching, and Zamorano University will serve as the on-site host and assist with teaching and marketing the training courses regionally. The Martinez Media Group will oversee marketing for the project.

In 2021, the Poultry Track Basic Level courses were held virtually due to the pandemic. The course was offered as two separate sessions with a total of 70 participants. For 2022 the courses are planned to be held on-site at Zamorano University assuming international travel does not incur additional restrictions related to the pandemic. Course topics are set for poultry nutrition, feed manufacturing, aquaculture, and there may potentially be a swine nutrition track offered.

Carlos Campabadal, IGP Institute Feed Manufacturing and Grain Quality Management Curriculum Manager, will lead the project from the Kansas State University campus. “Being selected as the lead center for this project results from our successful previous training opportunities and partnership with USSEC. The Soybean Excellence Center will allow IGP and our academic partners to provide educational opportunities to industry professionals in Latin America while promoting the preference for U.S. and Kansas soy products to this expanding export market,” says Campabadal.

The future for the center is bright. Throughout 2022 and beyond, additional courses will be developed to expand on the current curriculum by offering intermediate and advanced level classes for all of the poultry, feed manufacturing, aquaculture, and swine tracks available to participants.
Carlos Campabadal, IGP Institute Feed Manufacturing and Grain Quality Management Curriculum Manager (top) participates in the live virtual meeting to introduce team members from the Soybean Excellence Center partnership.
The world is a hungry place, and the U.S. grain export market is the primary supplier of raw grains and oilseeds that many countries rely on as a source of human and animal nutrition. The U.S. continues to set new annual records in exports of corn, DDGS, grain sorghum, soybeans, and soybean oil as the global demand increases.

In 2021, the IGP Institute partnered with the United States Grains Council (USGC) and the United States Soybean Export Council (USSEC) to provide additional courses to educate international buyers on grain buying and risk management strategies. The IGP–KSU Grain Procurement and Purchasing series led by Guy Allen, agricultural economist and grain marketing and risk management curriculum manager, offered participants an in-depth look at the U.S. grain marketing supply chain while teaching buying and risk management strategies to foster greater confidence and effectiveness in the workplace.

More than 200 participants from 36 countries took part in the virtual attendance courses. Materials were offered online through the Canvas learning management system provided by Kansas State University’s Global Campus. Participants and course contributors met on a scheduled basis using Zoom to review materials and discuss current topics. The courses covered the U.S. grain production and export system, shipping methods including containers and bulk vessels, and USDA grain grading standards to educate foreign buyers about the high quality and safety standards of U.S. grains.

In addition, the courses provided insight into creating contracts guaranteeing that buyers receive the correct products. This section focused on understanding and writing various contracts covering NAEGA, FOSFA, and GAFTA regulations, as well as important aspects of the arbitration process used to resolve disagreements between exporters and buyers.

Finally, the course included a section focused on technical analysis of the markets with an overview of CME Group futures, derivatives, and OTC markets. Additional information was discussed regarding USDA reports, basis trading and hedging, fundamental analysis, and ended with a market overview and outlook session based on current trends.

Allen said the overall goal of the procurement and purchasing courses is to provide participants with a better understanding of current market and supply chain issues while learning important buying and risk management skills. This is a key part of the IGP mission to provide technical, research-based training benefiting industry professionals globally and enhancing the market preference for U.S. grains and oilseeds.
Guy Allen, IGP Agricultural Economist and Grain Marketing and Risk Management Curriculum Manager, held five virtual grain procurement and purchasing courses that educated 207 participants from 36 countries about the process of buying grain.
Focus on Safety
The IGP Institute and WISHH provide mill safety training for developing countries.

Regional feed mills provide animal nutrition resources for developing countries, and in turn, the animals nourished by the feed contribute to the sustainable food supply for humans. The feed mills are a key element in feeding the local population, so safe operation and quality feed products are critical for success.

The IGP Institute has partnered with the World Initiative for Soy in Human Health (WISHH) through funding from the Kansas Soybean Commission to provide training in making safe animal feed in developing countries. The resulting course was developed for WISHH as a webinar to focus on the prevention of feed contamination from pathogens in Southeast Asia and Africa. The course used a virtual setting featuring short videos recorded at the O.H. Kruse Feed Technology and Innovation Center on the K-State campus for demonstration purposes. Students could also join one of two live question and answer sessions offered at two different times to address the different time zones of the audience.

The goal of the course was to educate participants about the potential risks involved in feed mills. This covered the physical, biological, and chemical factors that can enter the feed mill through feed ingredients, pests, supplements, workers, trucks, and other means to contaminate the final feed product. The short videos identified potential risks and provided instructions on how to avoid contamination and create a safer workplace.

Carlos Campabadal, IGP Institute Feed Manufacturing and Grain Quality Management Curriculum Manager, was pleased with the course and thought it provided important information on the topics and practices used in modern feed manufacturing. He said the videos focused on training to prevent and mitigate the presence of contaminants in the feed while placing an emphasis on worker safety including, electrical and mechanical lockout/tagout, belts and conveyors, and personal safety gear (PPE). Specific equipment and areas of the mill including the control room, dump pit, and visitor entrance areas were explained in detail. Grain sampling and cleaning methods were shown along with an overview of micro-ingredients and the feed batching system. The course also stressed the importance of sanitation throughout the mill as the first and most important step to reduce the chance of contamination.

Overall, 14 participants from countries in Southeast Asia and Africa took part directly in the course. In addition, the presentation was streamed to a larger audience through YouTube and Facebook Live. WISHH also shared the presentation with their in-country partners and will use it with potential clients in the future.
Carlos Campabadal, IGP Institute Feed Manufacturing and Grain Quality Management Curriculum Manager, leads a recorded safety demonstration on the steam pelleting equipment used to create animal feed in the O.H. Kruse Feed Technology and Innovation Center.
Demand and Disruptions

Worldwide supply chain issues create challenges for U.S. wheat exports.

International trade has experienced massive supply chain disruptions and high demand throughout the past two years. Orders of many goods, including grain, are delayed by shortages of available vessels and containers in the shipping industry. This has been further impacted by long delays waiting in line to unload at port facilities.

To help educate buyers of U.S. wheat about the potential delays and educate them regarding the current challenges and issues, the IGP Institute partnered with U.S. Wheat Associates to present the Export Supply Chain Issues and Challenges Series. These presentations were presented to more than 30 U.S. Wheat regional office employees from locations around the world, including Africa, the Dominican Republic, Panama, and Venezuela.

IGP Institute agricultural economist, Guy Allen, said the course was developed to provide a better understanding of current market and supply chain issues facing importers of U.S. wheat. The presentations took a closer look at how the issues were affecting key trading partners.

Topics covered in detail included an examination of the U.S. grain supply chain from on-farm production through transportation and export. Additional coverage of USDA grain grading standards and how they are implemented led to a focused discussion of contract negotiation and the key elements to consider when writing NAEGA, FOSFA, and GAFTA contracts to ensure that clients receive the desired products.

The presentations concluded with an in-depth look at the OTC markets specifically related to wheat futures and how supply issues affect pricing. Hedging and risk management strategies were discussed concerning basis contract decisions along with investment tools and methods to improve profitability.

Allen stated, “Strategically targeted ‘in-house’ presentations to individual companies ... can be very effective. They facilitate open and frank discussion on core business activities, strategic procurement, purchasing, and marketing issues that a company would not like to discuss in a public forum. They are also strategically conducive to engaging a cross-section of key business decision-makers in the discussion including procurement and sales managers, business unit managers, quality, safety, and operational personnel, as well as CEOs, CFOs, COOs, and general managers.”
A grain vessel loads wheat at Cargill’s Port of Houston export facility. Worldwide disruptions in the supply chain in 2021 due to the pandemic have led to high demand and longer wait times at port facilities around the globe.
Teaching with Technology
Technology options lead to integrating 3D and immersive education.

The worldwide pandemic travel restrictions have stayed in place throughout 2021, so the IGP Institute has continued to provide distance education and virtual attendance courses to educate domestic and international participants. IGP course managers and staff have worked closely with external partners including USSEC, USGC, WISHH, AFIA, JBS Live Pork, and commercial pet food contributors to hold training activities online.

Instructors and staff have expanded their familiarity with the technology used to present information and gather statistical information behind the scenes. Data indicates ten percent of views were iPhones and other mobile devices. Desktop views were driven primarily by PC users. This information is valuable as we plan production and support for various operating systems.

Distance education team members contributing to the course vary from three to five depending on the services selected by course managers and partnering organizations. The team establishes and maintains courses within the Canvas Learning Management System offered by Kansas State University’s Global Campus, schedules Zoom meetings, manages documents and file sharing through Dropbox, monitors interpreters using Zoom’s interpretation mode, and collects Qualtrics surveys to analyze participant feedback. One of the larger courses included a team of 18 contributors responsible for content development and Zoom meeting production, registration and certificate management, dual language support, and financial accounting.

The IGP team is grateful for the available technology which continues to allow the sharing of expertise with participants around the globe. We wrap up 2021 with confidence in our technology plus pride as we offered education to 1,240 participants across 59 countries. The distance education team continues to build upon the current technology foundation as we work to implement 3D images and immersive experiences.

Trina Adams, IGP Distance Education Manager, commented, “IGP’s success in moving multiple courses into online formats in 2020 and 2021 has led to adding a new technology option to our services. A Matterport Pro2 3D Camera is now available for scanning the interior of facilities. This technology produces a 3D model of the facility which allows for a virtual walk-through of the facility with enhanced details available to the participants. The Hal Ross Flour Mill and the Bakery Science Lab in Shellenberger Hall have each been scanned to produce a 3D model. One of the primary advantages of integrating 3D models is offering a safe environment for participants to investigate facilities. Secondly, previewing the 3D model leads to higher-order thinking when experiencing the physical facility. Lastly, the 3D model allows for the physical asset to be used more strategically. For example, an introductory activity can be completed using the 3D model. This leads to more efficient use of time when working within the physical facility. Using the time and equipment of the physical facility more efficiently leads to improved balance of course activity, live production runs, and research. The 3D models contribute to improved safety, more intense thinking, and potential cost savings.”
The Matterport Pro2 3D Camera has been used to digitally map the Hal Ross Flour Mill and create a 3D model of the facility. Course participants can virtually tour the mill and explore individual pieces of milling equipment to learn specifics about how the mill operates.
2021 IGP Institute Year in Photos
## 2021 By the Numbers

**9 On-site Courses • 161 Participants | 56 Distance Courses • 1,240 Participants**

### On-site Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Month</th>
<th>Participants</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>IAOM–KSU Introduction to Flour Milling</td>
<td>January</td>
<td>9</td>
<td>U.S.</td>
</tr>
<tr>
<td>IGP–KSU Grain Elevator Managers</td>
<td>May</td>
<td>20</td>
<td>U.S.</td>
</tr>
<tr>
<td>IGP–KSU Pet Food Workshop</td>
<td>August</td>
<td>11</td>
<td>U.S.</td>
</tr>
<tr>
<td>IGP–KSU Extrusion Processing: Technology and Commercialization</td>
<td>August</td>
<td>16</td>
<td>Peru, U.S.</td>
</tr>
<tr>
<td>IAOM–KSU Flour and Dough Analysis</td>
<td>August</td>
<td>11</td>
<td>Germany, Nigeria, U.S.</td>
</tr>
<tr>
<td>IAOM–KSU Introduction to Flour Milling</td>
<td>August</td>
<td>10</td>
<td>U.S.</td>
</tr>
<tr>
<td>NGFA–KSU Food Safety Modernization Act Training for the Feed Industry</td>
<td>August</td>
<td>38</td>
<td>U.S.</td>
</tr>
<tr>
<td>IAOM–KSU Advanced Milling Principles</td>
<td>September</td>
<td>8</td>
<td>U.S.</td>
</tr>
<tr>
<td>NGFA–KSU Food Safety Modernization Act Training for the Feed Industry</td>
<td>November</td>
<td>38</td>
<td>U.S.</td>
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</table>

### Distance Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Month</th>
<th>Participants</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>IGP–KSU Pet Food Formulation for Commercial Production</td>
<td>January</td>
<td>31</td>
<td>Australia, Canada, Ecuador, Germany, Spain, Thailand, U.S.</td>
</tr>
<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing</td>
<td>February</td>
<td>35</td>
<td>Brazil, Canada, Ireland, Malaysia, U.S.</td>
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<tr>
<td>SEC Nigeria Poultry Track (Basic Level)</td>
<td>February</td>
<td>30</td>
<td>Nigeria</td>
</tr>
<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing</td>
<td>March</td>
<td>40</td>
<td>U.S.</td>
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<tr>
<td>IGP–USSEC Singapore: Grain Procurement and Purchasing</td>
<td>March</td>
<td>49</td>
<td>Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam</td>
</tr>
<tr>
<td>Fundamentals of Commercial Pet Food Production for Veterinary Clinical Nutritionists</td>
<td>March</td>
<td>21</td>
<td>Belgium, Canada, Croatia, Germany, Greece, Italy, Switzerland, U.S.</td>
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<tr>
<td>IGP–USGC MENA: Grain Procurement and Purchasing</td>
<td>March</td>
<td>21</td>
<td>Algeria, Egypt, Israel, Jordan, Kenya, Morocco, Nigeria, Saudi Arabia, Tunisia, Turkey, United Arab Emirates</td>
</tr>
<tr>
<td>AFIA 500A: Overview of U.S. Feed Industry and History*</td>
<td>Jan.–March</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500B: Batching, Mixing and Particle Size Reduction*</td>
<td>Jan.–March</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500C: Pelleting Process*</td>
<td>Jan.–March</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>Distance Courses</td>
<td>Month</td>
<td>Participants</td>
<td>Countries</td>
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</tr>
<tr>
<td>AFIA 500D: Finished Product Packaging and Bulk Loadout*</td>
<td>Jan.–March</td>
<td>2</td>
<td>N/A</td>
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<tr>
<td>AFIA 500E: Basics of Quality Assurance*</td>
<td>Jan.–March</td>
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<tr>
<td>AFIA 500F: Boilers and Boiler Efficiency*</td>
<td>Jan.–March</td>
<td>2</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500G: Preventive Maintenance, Sanitation and Energy Conservation*</td>
<td>Jan.–March</td>
<td>2</td>
<td>N/A</td>
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<tr>
<td>IGP–KSU Grain Procurement and Purchasing</td>
<td>April</td>
<td>55</td>
<td>Canada, Chile, Colombia, Guatemala, Honduras, Indonesia, Japan, Nicaragua, Singapore, South Korea, Taiwan, U.S., Uruguay</td>
</tr>
<tr>
<td>USSEC Aquaculture Feed Manufacturing and Nutrition</td>
<td>April</td>
<td>32</td>
<td>Colombia, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Venezuela</td>
</tr>
<tr>
<td>SEC Nigeria Poultry Track (Basic Level)</td>
<td>April</td>
<td>30</td>
<td>Nigeria</td>
</tr>
<tr>
<td>IGP–USGC SEA: Grain Procurement and Purchasing</td>
<td>April</td>
<td>33</td>
<td>Australia, Bangladesh, Indonesia, Malaysia, New Zealand, Philippines, Taiwan, Vietnam</td>
</tr>
<tr>
<td>IGP–USGC South Asia: Grain Procurement and Purchasing</td>
<td>May</td>
<td>25</td>
<td>Bangladesh, India, Nepal, Pakistan, Sri Lanka, U.S.</td>
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<tr>
<td>USSEC 360 Degree View Animal Nutrition</td>
<td>May</td>
<td>77</td>
<td>Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, U.S., Venezuela</td>
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<tr>
<td>SEC Nigeria Poultry Track (Intermediate Level)</td>
<td>May</td>
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<tr>
<td>USSEC Feed Manufacturing and Nutrition in Aquaculture</td>
<td>June</td>
<td>48</td>
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<tr>
<td>IGP–KSU Pet Food Formulation for Commercial Production</td>
<td>June</td>
<td>15</td>
<td>Algeria, Belgium, Canada, Ecuador, India, Malaysia, Myanmar, Philippines, U.S.</td>
</tr>
<tr>
<td>WISHH Feed Safety Webinar for African and Asia</td>
<td>June</td>
<td>14</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500A: Overview of U.S. Feed Industry and History*</td>
<td>April–June</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500B: Batching, Mixing and Particle Size Reduction*</td>
<td>April–June</td>
<td>8</td>
<td>N/A</td>
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<tr>
<td>AFIA 500C: Pelletting Process*</td>
<td>April–June</td>
<td>4</td>
<td>N/A</td>
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<tr>
<td>AFIA 500D: Finished Product Packaging and Bulk Loadout*</td>
<td>April–June</td>
<td>4</td>
<td>N/A</td>
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</table>
## 2021 By the Numbers
### Distance Courses Continued

<table>
<thead>
<tr>
<th>Distance Courses</th>
<th>Month</th>
<th>Participants</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFIA 500E: Basics of Quality Assurance*</td>
<td>April–June</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500F: Boilers and Boiler Efficiency*</td>
<td>April–June</td>
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<td>N/A</td>
</tr>
<tr>
<td>AFIA 500G: Preventive Maintenance, Sanitation and Energy Conservation*</td>
<td>April–June</td>
<td>3</td>
<td>N/A</td>
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<tr>
<td>USSEC Practical and Strategic Education for the Next Generation of Ag Business Leaders (Colombia)</td>
<td>July</td>
<td>40</td>
<td>Colombia</td>
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<tr>
<td>USSEC Practical and Strategic Education for the Next Generation of Ag Business Leaders (Latin America)</td>
<td>July</td>
<td>22</td>
<td>El Salvador, Honduras, Nicaragua, Venezuela</td>
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<tr>
<td>SEC Southeast Asia Poultry Track (Basic Level)</td>
<td>July</td>
<td>51</td>
<td>Bangladesh, India, Indonesia, Malaysia, Myanmar, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Vietnam</td>
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<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing</td>
<td>August</td>
<td>40</td>
<td>Brazil, South Korea, U.S.</td>
</tr>
<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing (USSEC)</td>
<td>August</td>
<td>40</td>
<td>Japan, Nigeria, Tunisia, Turkey, U.S.</td>
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<tr>
<td>SEC Americas Poultry Track (Basic Level)</td>
<td>August</td>
<td>38</td>
<td>Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Peru, Venezuela</td>
</tr>
<tr>
<td>SEC Nigeria Poultry Track (Basic Level)</td>
<td>August</td>
<td>25</td>
<td>Nigeria</td>
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<tr>
<td>SEC Americas Poultry Track (Basic Level)</td>
<td>September</td>
<td>53</td>
<td>Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Peru, Venezuela</td>
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<tr>
<td>SEC Nigeria Feed Manufacturing Track Train the Trainer (Basic Level)</td>
<td>September</td>
<td>6</td>
<td>Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka</td>
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<tr>
<td>USSEC Soybean Oil Meal Production and Usage Workshop for South Asia</td>
<td>September</td>
<td>96</td>
<td>Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka</td>
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<td>AFIA 500B: Batching, Mixing and Particle Size Reduction*</td>
<td>July–Sept.</td>
<td>6</td>
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<td>AFIA 500C: Pelleting Process*</td>
<td>July–Sept.</td>
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<td>AFIA 500D: Finished Product Packaging and Bulk Loadout*</td>
<td>July–Sept.</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing</td>
<td>October</td>
<td>40</td>
<td>Bangladesh, Morocco, Poland, Romania, South Africa, Turkey, U.S.</td>
</tr>
<tr>
<td>AFIA/KSU 500: Fundamentals of Feed Manufacturing (USSEC)</td>
<td>October</td>
<td>41</td>
<td>Bangladesh, India, Nepal, Pakistan, Poland, Senegal, Sri Lanka, U.S.</td>
</tr>
<tr>
<td>SEC Nigeria Poultry Track (Basic Level)</td>
<td>October</td>
<td>25</td>
<td>Nigeria</td>
</tr>
<tr>
<td>SEC Nigeria Poultry Track (Intermediate Level)</td>
<td>November</td>
<td>25</td>
<td>Nigeria, United Arab Emirates</td>
</tr>
<tr>
<td>SEC Nigeria Feed Manufacturing Track Train the Trainer (Basic Level)</td>
<td>December</td>
<td>6</td>
<td>Nigeria, U.S.</td>
</tr>
</tbody>
</table>
## Distance Courses Continued

<table>
<thead>
<tr>
<th>Distance Courses</th>
<th>Month</th>
<th>Participants</th>
<th>Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFIA 500A: Overview of U.S. Feed Industry and History*</td>
<td>Oct.–Dec.</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500B: Batching, Mixing and Particle Size Reduction*</td>
<td>Oct.–Dec.</td>
<td>4</td>
<td>N/A</td>
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<tr>
<td>AFIA 500C: Pelleting Process*</td>
<td>Oct.–Dec.</td>
<td>8</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500D: Finished Product Packaging and Bulk Loadout*</td>
<td>Oct.–Dec.</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500E: Basics of Quality Assurance*</td>
<td>Oct.–Dec.</td>
<td>5</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500F: Boilers and Boiler Efficiency*</td>
<td>Oct.–Dec.</td>
<td>3</td>
<td>N/A</td>
</tr>
<tr>
<td>AFIA 500G: Preventive Maintenance, Sanitation and Energy Conservation*</td>
<td>Oct.–Dec.</td>
<td>4</td>
<td>N/A</td>
</tr>
<tr>
<td>JBS Fundamentals of Feed Manufacturing</td>
<td>Sept.–Dec.</td>
<td>30</td>
<td>U.S.</td>
</tr>
</tbody>
</table>

*on-demand courses from the Global Campus Canvas Catalog
Our Facilities

IGP Institute Conference Center – our primary building for hosting course participants featuring meeting spaces, technology-enhanced classrooms, and dining facilities

Hal Ross Flour Mill – state-of-the-art pilot scale flour mill used for teaching, research, and industry training on full-scale equipment and control systems found in commercial flour mills

Bioprocessing and Industrial Value Added Products (BIVAP) Innovation Center – research facility for bioprocessing and renewable energy, biomaterials, and extrusion laboratories

O.H. Kruse Feed Technology Innovation Center – a modern feed mill used for teaching feed production, pet food development, grain handling, and featuring an embedded BSL-2 research facility
Shellenberger Hall – home of offices and classrooms for the Department of Grain Science and Industry on the Kansas State University main campus.

Shellenberger Milling Laboratory – table-top milling equipment provides a hands-on understanding of the basic grinding techniques used in the flour milling process.

Shellenberger Baking Laboratory – IGP course participants bake cakes, bread, and cookies with different types of flour to see the effects on the finished products.

Shellenberger Milling Laboratory – small-scale milling and sifting equipment are used to explain the milling process before course participants work in the commercial Hal Ross Flour Mill.
Faculty and Staff Directory

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Kansas State University

2021 IGP Institute Faculty and Staff
Course Supporters

Thank you for another great year.