

Memo To: Amalie Lipstreu, Mark Forni, Ohio Department of Agriculture
From: Megan Shoенfelt, AMP/OSU/OARDC
Date: February 22, 2010
RE: Design Considerations for Mobile Poultry Processing Unit - Request for Proposals

Following are suggestions, as requested during our meeting on January 28, 2010, for ODA's consideration as you draft a request for proposals for a pilot mobile poultry processing system (MPU). Such a unit could substantially increase poultry processing capacity in Ohio under the inspection requirements for ODA certification. These suggestions are based on our recent discussion held with Drew Hildebrandt of Ohio Penal Industries; John Anderson, Animal Science/OSU/OARDC; Mark Forni and Amalie Lipstreu of the Ohio Department of Agriculture and myself on January 28, 2010, as well as written recommendations submitted previously to the Ohio Department of Agriculture from a Stinner Summit Working Group convened to address the lack of poultry processing capacity in the state. The recommendation is to have a mobile unit function as the primary processing facility and another mobile or stationary unit (secondary) providing the needed work area for carcass chilling; product packaging, holding, distribution and the required employee and inspector facilities. It was the working group's opinion that a single mobile facility capable of a processing capacity of 300-500 birds per day would need to be very large to incorporate all the design requirements, the size would prohibit travel to only primary roadways, and would thereby limit the systems functionality, adaptability and usefulness.

A mobile poultry processing system can be sized to efficiently achieve processing capacity of 300 – 500 birds per day based on dividing the system into 2 components. (Obviously, a very small system, 100 birds per day, could be contained within a single mobile unit but at a very high processing cost per bird.)

The recommended target capacity is based on processing for approximately 4 hours in the morning allowing for ample chill down time for the carcasses, packaging, cleanup and sanitation to be accomplished in the afternoon.

The recommendation for a 2 component system is also based on the initial comments of ODA Meat Inspection officials concerned about the lack of space to allow for adequate carcass chill down in an existing out-of-state mobile unit built for 300 – 500 bird processing capacity.

The *SMALL-SCALE POULTRY PROCESSING MANUAL* produced by the National Center for Appropriate Technology (NCAT) ATTRA project (<http://www.attra.ncat.org/attra-pub/PDF/poultryprocess.pdf>) provides excellent reference material concerning the design considerations for planning a small scale facility or MPU. Appendix C., **Small Plant Work Areas and Design**, was adapted from *Poultry Products Technology* (Mountney and Parkhurst, 1995), provides details and design considerations for work area layout, ventilation, lighting, structural surface cleaning and safety considerations, electrical and plumbing provisions and hookups. Specifications written into a RFP for the construction of a mobile poultry processing facility need to be based on these recommendations aligned with the specific requirements of the Meat Safety Division of Ohio Department of Agriculture for an approved/certified facility.

The proposed plan calls for ODA to collaborate with Ohio Penal Industries on the design and implementation of a system that would be placed strategically at an OPI facility. Management of the system would be provided by OPI personnel and the labor provided by the inmate workforce. The system

would be tested as a model to determine the efficiency of design and applicability of other units to be placed around the state. These additional units may or may not involve OPI.

During our discussion, the Mansfield OPI location was recommended as the best possible starting location for the system. This facility would have the existing infrastructure and facilities needed for the secondary component of the planned system.

OPI would need to implement a management, training, marketing program in addition to a site specific and written Best Management Practices (BMP), Hazard Analysis and Critical Control Points (HACCP) and sanitation manuals for the entire system. In practice, local farmers and poultry producers would schedule morning processing time and pick up the chilled and packaged product late in the day. Detailed record keeping, periodic efficiency evaluations and other informal reviews could then be used to determine the effectiveness of the program and how applicable it would be for entrepreneurs to establish comparable programs elsewhere.

The following companies are those identified in our previous research that could provide additional information on equipment specifications needed to draft the request for proposals:

Cornerstone Farm Ventures
242 Dan Main Rd
Norwich, NY 13815
Phone: 607.334.2833
Fax 607.441.1231
E-mail: info@cornerstone-farm.com

Knase Co., Inc
808 Rice St Suite 2
St Paul, MN 55117
Phone (651) 488-7744
Fax (651) 488-7727

Based on our recommendation for a 2 component system, the suggested layout for the primary mobile component (1) of the system would use the dimensions of a heavy-duty flat floor trailer shell, at a minimum size of 22 x. 8.5 x 8.5, for a system capable of processing 300 to 500 birds per day.

Potential manufacturers should provide recommendations for the necessary ventilation, electrical and plumbing systems and structural and design considerations for equipment placement, functionality and access for maintenance and sanitation.

Cost estimates and practical recommendations from these processing industry experts, along with review by the Meat Inspection Division and the ad hoc advisory group would allow ODA to draft the RFP for the actual construction of the mobile unit.

The following table organizes the various processing functions based on the unit that would most logically house the equipment/process:

PROCESS	Primary mobile unit (1)	Secondary unit (2)
Covered/shade holding area for poultry crates-preslaughter	X	
Generator/electrical access for both primary and secondary units	X	X
Kill cones/bleed out	X	
Scalding	X	
Picking/defeathering	X	
Physical barrier between kill and eviscerating areas	X	
Access/hookup to wastewater disposal/treatment for both primary and secondary units	X	X
Capacity for offal/blood storage - collection/composting	X	
Shackle/eviscerating table	X	
Carcass rinse	X	
Portable/movable food grade tubs for carcass chill down	X	X
Containers for condemned/inedible	X	
Loading dock/ramp for transfer between primary and secondary units and distribution	X	X
Work surface/area for packaging and distribution prep		X
Restroom facility		X
Commercial capacity ice machine (2000 lbs per day)		X
Cooler/freezer storage capacity		X
Inspector office		X
Storage for dry goods, sanitation supplies, equipment (pressure washer)		X
Hand washing station for both primary and secondary units	X	X
Access/hookup to potable water for both primary and secondary units	X	X
Hot water heater for both primary and secondary units	X	X
Natural gas connection/propane tank storage for primary unit	X	
Concrete pad for MPU parking, with appropriate slope for drainage and/or containment		X