

BYPRODUCTS INTERNATIONAL

Over the last few years, our international business has continued to grow. Samples arrive from all corners of the planet, including Asia, Australia, Europe, Central and South America, and Africa. To date, we have not received any samples from Antarctica. I suppose it may have something to do with the low cow numbers, but one can always hope.

Anyway, several weeks ago we were contacted by Ray Carter in Bangkok Thailand. Ray is working with the Siam Food Products Public Co. on an alternative marketing strategy for some of their byproducts. He was employed by a large national feed manufacturer in NY and PA for over 20 years before taking his talents to Asia. His interest lies in trying to make the best use of local products and byproducts to meet the nutritional demands of the livestock industry. This is not really an uncommon goal, but Ray is taking a novel approach. He wants to prepackage the ingredients into a total mixed ration (TMR) and market it directly to producers. Taking this approach offers the following benefits:

1. The ingredients are weighed and mixed correctly.
2. Nutrient requirements are met through precise formulation.
3. Byproducts are used effectively to avoid ration imbalances.
4. Reduces the need for equipment on the farm.

Ray will be working with both dairy and beef producers. The typical dairy herd consists of 5 to 15 cows averaging 15 - 18 lbs. of milk per head per day. The cows are mostly holstein (75%) x beef (25%) crossbreds that trace their origins to New Zealand and Australia. They have the genetic potential to produce 33 - 55 lbs. of milk per day and with proper nutrition, are a resource ready to be tapped.

Thailand currently produces about 5% of their domestic milk needs with the rest coming from reconstituted imported powder. There are about 120,000 milking cows and the government hopes to expand the herd by about 20% per year. Milk price is currently about \$15.00/cwt.

Beef feedlots average 50 - 100 head of Brahman cattle. The cattle are predominantly 5 - 8 year old "ex-work animals" from Burma and Pakistan. Religious beliefs prevent the cattle from being used for food in their homeland and are exported to Thailand to be fed out. These animals are usually in poor condition when they arrive. However, it is possible to achieve good compensatory gains of up to 4.5 lbs. per day for the first four to six weeks. The locals call the steaks from these animals "table shaking steaks", because that's what happens when you try to cut them.

Locally bred animals are also predominantly Brahman, though there are a few farms doing some effective cross breeding. Animals are typically marketed at 2 - 3 years of age.

Byproducts

Whether you're in Thailand or Maine, the same rules apply when considering the use of byproducts:

- availability
- supply
- shipping
- storage
- handling
- cost
- nutrient variation

A major challenge for Ray is the "nature of the beast" itself. Byproducts

are the end result of the production of a primary product and therefore not the main concern of the production process. He has found it beneficial to work closely with manufacturers to help insure the production of consistent, high quality byproducts.

Availability and storage are also major concerns. Some byproducts are seasonal. The hot, humid climate makes it important that most products be fed out fairly quickly to avoid spoilage.

Aflatoxins can be a problem. Sugar cane, sugar cane bagasse, peanut meal, cashew skins and other similar products are particularly susceptible. Care must be taken when formulating to avoid generating rations with excessive levels.

Effective ration formulation requires knowledge of nutrient composition. Table 1. is a partial listing of the byproducts available. Samples range from pineapple peels to cashew skins. To most of us these would be considered nontraditional feed ingredients. Standard tabular values may be nonexistent or nonrepresentative. An analysis performed in Thailand takes 30 - 60 days to receive results. In Ray's experience, the cost is \$150.00 per sample in advance and you can never be sure of the reliability of the results. His samples were taken on 10/17 and arrived at Northeast DHIA on 11/06. The majority of the analyses were completed by 11/08 saving him a considerable amount of time and expense.

Table 1. DM Basis

	DM%	CP%	ADF%	NDF%	Fat%	Ca%	P%
Crude Palm Cake	91.0	16.5	44.1	67.4	5.3	.36	.58
Pineapple Peel	17.6	5.5	33.7	67.5	1.7	.17	.17
Cashew Nut Skins	15.7	16.9	20.4	21.3	18.2	.23	.29
Cane Tops	97.1	7.1	44.5	76.6	2.4	.23	.18
Pineapple Tops	19.7	4.6	32.7	55.9	2.1	.34	.11
Sugar Cane	27.0	1.4	33.0	51.9	1.1	.11	.03

As is evident in Table 1., fiber is plentiful. Energy, protein and mineral fortification will be required to supplement these ingredients. The dry matter content of the final ration will also have to be monitored. The high moisture content of the byproducts could limit intake. In the end, the rations must be put together in a cost effective manner to insure adoption and implementation.

Bag It

Once blended, the TMR will be available bagged and in bulk. Bulk material is primarily targeted at the feedlots. Fresh bulk material must be delivered and fed out in 4 days. The hot humid conditions (70 - 100 degrees) makes it imperative that the ration is fed in a timely manner.

The "bagged" ration does not fit our conventional notion of sacked feed. After the TMR is mixed, it's compressed into a 55 pound, 1 cubic foot block. The block is then placed in plastic and heat wrapped at 300 degrees. They designed, built and tested the packaging equipment themselves. The pressing and wrapping accomplishes 2 goals. First, pressing eliminates air and wrapping seals the product setting up optimum conditions for fermentation and preservation. Secondly, it reduces the size of the package making it easier to handle and transport, thereby reducing shipping costs. To date, the shelf life of the product is 2 months and holding.

ELECTRONIC ACCESS

Bagged and bulk TMR will be delivered directly to larger farms. The majority, however will be marketed through local milk co-ops. Co-op members typically deliver their milk to the dairy in cans twice per day. At that time, they can pick up their feed. The dairy offers credit up to a maximum of 75% of their milk check. Milk checks are issued twice per month. Thus, a system is already in place to effectively market the prepackaged TMR.

Many thanks to Ray Carter for submitting his samples to Northeast DHIA and providing us with the background information for this article. We wish him all the best with his new approach to feed marketing. This project was funded and supported by Siam Food Products.

Survival Of The Fittest

Making the most of available resources is what survival is all about. Uncertainty surrounding the future of milk prices will challenge us all to seek new and innovative ways to manage. The alternative, is extinction.

E-Mail has been the primary mode for the electronic transfer of forage results. It has served our customers well over the years. The time has come for us to rethink this system. Greater opportunities exist for making the electronic transfer of information available. Electronic bulletin boards (BBS), the Internet and high speed modems are daring us to improve our system.

The first phase of designing any new system is gathering input. We need yours! If you are an E-Mail user or interested in the electronic acquisition of results, send us your ideas. We are open to any and all suggestions. Please send us your suggestions on the accompanying response form.

SHIPPING ALTERNATIVES

In our efforts to continue to serve you better, over the last 18 months we introduced two new programs for shipping your samples to Northeast DHIA.

1. **UPS Authorized Return Service (ARS)** – UPS-ARS is available to anyone living in the continuous 48 states. For \$3.00, UPS will ship any size package from anywhere in the continental US to Northeast DHIA. Delivery is by “regular ground service” and may take 2 - 5 days for delivery.

* Primary Benefit – low cost shipping (\$3.00) for any size package.

2. **FedEx** – For \$8.00, any package weighing 5 lbs. or less will be delivered in 2 days - guaranteed. This compares to the regular FedEx price of \$17.00. This is a substantial savings for this premium service. Fed Ex will even pick up the samples at the farm or mill. Contact your local Fed Ex Office for details regarding pickups.

Standard Next Day Air and Priority discounted rates are also available from Northeast DHIA. Call us for more information.

* Primary Benefit – cost savings and guaranteed delivery.

Both of these services were initiated due to customer demands for improved and faster ways to economically ship samples to the lab. Dissatisfaction with the US Mail was a major concern as samples seemed to spend an inordinate amount of time in transit.

Utilization of these services has been minimal. Evidently, our tax dollars are being put to better use and mail service must be improving. In order to maintain these services, certain volume goals were established by UPS and FedEx. We are falling short of those goals. If having these types of services available at substantially discounted rates is valuable to you, we encourage you to take advantage of these services. Otherwise, they are in danger of being discontinued.

Call us (1.800.344.2697) for more details and take advantage of these services.