

adapted to your operation, to manufacture the best product that can be made within the parameters you set.

Let me expand on this last statement just a moment. The parameters within which we technical people work are what you give us based on your given market situation. You have to set the parameters; we cannot. What we can do is give you the best product within those parameters. For example, if you want a sausage equal in quality to all-meat products but cheaper in cost, we can give you this. If you want to upgrade your second and third quality sausages at equal to or reduced cost, we can do this. We can make sausages with little or no meat and make them acceptable to certain markets. We can use just about any meat block imaginable in making these sausages. I have personally made sausages from beef, pork, chicken, turkey; carabao, whale, reindeer, rabbit; horse, tuna, sailfish, codfish; dolphin, mutton, goat, deer; elk and moose. I'm sure others on the panel could add to this list. Having done this is not important in itself, but serves to point out the kind of experience available. Set realistic parameters and a good technical man will make a satisfactory product.

In addition to formulation work, there are other areas in

which an outside technician can benefit your operation. By the very nature of the job, a traveling technical man visits many plants, works with many different kinds of equipment, and gets to see a wide variety of ways to make products. Without revealing proprietary secrets, better ways of doing things can be passed on, and much planning time can be saved.

The third major area in which technical assistance can really be of value is in trouble-shooting. Problems can occur in any formulation; ingredients are not constant in quality; a worker can see an easier way to do something and change a procedure; equipment performance can vary over a period of time, plus any number of other variables, and you have trouble. In this case an outside technician can come closer to solving the problem quickly, simply because he is not emotionally involved in the problem and does not have the distractions that plague plant people.

There is ample technical assistance available in all areas, whether it be ingredients or equipment. It would certainly be to your advantage to use it whenever possible. I believe in technical service and have seen its value. If you avail yourself of the services available, you will too!

Providing Technical Services to Meat Food Processors

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The bulk of technical service for protein-meat food systems is running plant trials and troubleshooting problems. The importance of technical service in this area cannot be stressed enough. A comparison of the protein industry to the meat processing industry exemplifies the need for quality technical service. Various forms of processed meat and processing technology have been used for 2400 years. The technology of modern food proteins for use in meat products has been a development of only the past 20 years. The meat processor who utilizes available protein technical knowledge will produce the best product at the least cost. Today, only a handful of companies offers experienced technical service in this area.

The basic technical knowledge of meat processing is common throughout the world. Raw materials of muscle and fat tissue are known variables adjusted for accordingly. Spice blends, processing procedures, and cooking cycles for processed meats are important variables specific for each product in each plant.

The choice of protein, level of protein, proper incorporation, and processing are also important variables to the meat processor. The best selection can only be made by experienced technical protein people. A processor just "dumping some in" will probably create a worse product than without any protein at all.

Protein products, just as meat products, vary greatly from processor to processor. The responsibility of knowing what protein will perform a certain task at a minimal cost lies upon each protein producer. A meat processor is not aware of differences in the rate of water absorption, fat absorption, and their effects on final product. The meat processor cannot be expected to know each protein company's line or products and their specific applications.

A protein technical service representative should sit down with a meat processor, discuss the formula, the specific goal or goals, and then recommend a protein and usage level. The next step is to run a plant trial under normal plant conditions.

The value of a plant trial is three-fold. First, a plant trial with a technical representative minimizes the risk involved

for the meat processor. Second, it assures the meat processor that the product will perform in such a real system. Third, a plant trial with a technical representative assures the soy protein manufacturer of correct material usage.

A plant trial is the only way to test protein products for a meat system. The plant trial is run on plant equipment with a plant formula and plant personnel. A seemingly alternate test is a model system test. Most model systems have been designed around the protein product; therefore, they display great results. A model system test is usually run without plant production equipment, without a plant formula, and probably without plant personnel. A major problem with most model systems is the inability to correlate a result with an actual product. Most model systems will show functionality, but won't show over-functionality, such as too dry of a product, rubber-like texture, etc. The result of model system testing is the same in the end — the need to run a plant trial.

A common occurrence with the use of soy protein in meat systems is improper protein selection. Many meat processors could be utilizing more economical proteins with technical assistance. The use of highly functional proteins in many cases has created less juicy and tougher products at higher costs. A solution to this problem is for the meat processor to give several soy protein companies a chance to test their protein product in his system. This provides a competition which will offer more choices and better guidance to the meat processor.

A problem similar to improper protein selection is over-use of a given protein. The use of too much protein in a product can cause several problems. The buyer or consumer becomes displeased, which reflects in the sale or consumption. The consumption will directly affect the meat processor's sales, and the processor becomes disappointed with the soy protein supplier. The protein supplier will offer assistance to correct such a problem. How do you tell your customer that he is using too much of your product? Technical service and their involvement from the start of formulation will help prevent such problems. Any further modification with increased levels should also

involve the protein manufacturer's technical service representative.

The use of technical service is a must to produce delicious food products. Technical service is only as good as the information it receives from processors. Some questions that need to be answered are:

What does the processor desire?

A new formula.

Modification of an existing formula.

Formula modification with certain limitations or constraints.

What is the processor's goal?

Replace a present protein.

Increase quality.

Decrease cost.

Improve functionality.

Improve machinability.

Create new and unique products.

With the answers to these questions and a knowledge of the processor's formula and procedures, a technical service representative can make sound recommendations.

The meat processor that utilizes protein technical service will maximize the opportunity of producing a quality economical product.