

Please provide a 1-3 sentence description of your organization.

Delta-T Corporation is a design-build firm that provides technology, plants, systems, and services to the fuel, beverage, industrial, and pharmaceutical alcohol markets. Delta-T has provided alcohol production, dehydration, and purification solutions to more than 120 clients worldwide in five continents. Delta-T designed plants are considered to be the most environmentally friendly with zero wastewater discharge and the lowest water and energy consumption.

Relative to bioenergy, what are your top problems and what research products (or what researchable questions to which you need answers) would help you solve these problems?

Cellulosic biomass feed storage, feed preparation of biomass for enzymatic or thermochemical processing. Corn (and grain) has high bulk density and is easily stored, switchgrass does not; plants need to operate year around.

What do you think ARS' top bioenergy research priorities should be (no more than five, please)?

- ◆ Starch and sugar to ethanol is still the best route to produce a fuel additive.
- ◆ Research in new feedstocks with regional focus that can be harvested (like Doyce Hulless Barley in the East, Fruit Waste in the West Coast, Florida; similarly for rice, sugarcane, sweet stalk sorghum, etc.),
- ◆ Optimize campaigning of such starch (multi-cereal processes) and sugar feedstocks, as well as,
- ◆ Trying to integrate starch and sugar processing.

Aside: I believe that until the last ounce of starch and sugar feedstock is accounted for, we will continue to make ethanol using these sources; the easiest path to making alcohol is via starch and sugar fermentation. At the end of the day, you will be selling alcohol at the same price (as determined by CBOT) whatever your commodity feedstock or process.

- ◆ Biomass
- ◆ Feedstock storage and preparation
- ◆ Reducing capital and operating costs for biomass to ethanol.

Additional customer service questions:

What might ARS do to serve its customers/stakeholders better?

Research on hardier grains that can be harvested late fall, as well as sugar feedstocks that can grow in different regions (sugar beets, sweet stalk sorghum, etc.)

Develop a program to partner with business (non-government) – basically focus on commercialization, develop a seminar program to exchange information, quick turnaround on results, less focus on publications.

What, in particular, about ARS would lead you to recommend ARS to someone else looking for similar research products?

ARS being the premier govt organization for agricultural research

The wealth of knowledge in the organization– Dr. Kevin Hicks, Andrew McAloon, et al.