

P283 Distribution of trypsin inhibitor and urease activity in soy products in different countries and world areas

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Trypsin inhibitors (TI) and urease activity (UA) are the two most relevant quality measurements for soybean products as feed ingredients for animals. TI were reported to be correlated with UA, so feed processing plants use UA as an indicator of TI in soybean meal (SBM). The objectives of this study were to determine the levels of TI and UA in 414 SBM samples from 19 different countries in 5 world areas, and to validate whether TI and UA are correlated. TI in solvent-extracted SBM were 2-6 mg/g with 80% of them 3-5 mg/g. UA was 0.01-0.20 pH unit with 98% of them ≤ 0.1 pH unit. TI and UA results varied by country and by world area. By country, TI were highest in Germany, UA was highest in India, and both TI and UA were high in South Africa. By world area, both TI and UA were high in Africa, TI were low in Asia and North America, and UA was low in Europe and Latin America. Full-fat-extruded-SBM, heat-inactivated full-fat SBM and expeller-SBM had higher TI than solvent-extracted SBM. TI were poorly correlated with UA in solvent-extracted SBM samples, suggesting that UA should not be used as a surrogate indicator for TI content in soybean products.

Key words: Trypsin inhibitor, urease activity, soybean meal