Calculating nitrogen applied per acre from gpm

_____ppm or mg/L nitrogen (ammonium form, organic form or both, from the lab report)

_____gpm of the lagoon pump

_____irrigation run time (hours)

_____acres irrigated

_____mg/L N x .008345 = _____lbs N/1000 gallons

_____hours irrigation x 60 min./hr = _____ minutes irrigated

_____minutes irrigated x _____gpm = _____gallons applied

_____gallons ÷ 1000 = _____1000 gallons

_____1000 gallons x _____lbs N/1000 gallons = _____total lbs N applied

_____total lbs N applied ÷ _____acres irrigated = _____lbs N/acre

Calculating time to run lagoon pump to achieve a target application rate

_____mg/L or ppm nitrogen in lagoon water

_____gpm of pump or gravity flow

_____desired application rate (lbs per acre)

_____area to be irrigated (acres)

_____desired application rate in lbs/acre

Use total N (TKN), ammonium N or available N concentration. TKN-ammonium N = organic form N. All of the ammonium nitrogen will be immediately available to the crop. Only a portion of the organic nitrogen will be quickly available for crop uptake. Available N includes all the ammonium N plus the portion of the organic form N that is expected to become crop available during the growing season.

_____mg/L nitrogen x .008345 = _____lbs N/1000 gallons

_____lbs N/1000 gals x 1000 = _____gals. ÷ 60 minutes/hr = _____lbs N/hr

_____lbs/acre desired x _____acres = _____lbs N needed this area

_____lbs N needed ÷ _____lbs N/hr = _____ hours to run lagoon water on this area. The lagoon water should be applied during the last portion of the check or irrigation set so that it spreads uniformly down the field. Be sure to account for the time it will take for the blended lagoon and fresh water to travel from the mixing point to the field.