

## REFERENCES

- Abbott, A.P., Capper, G., Daviess, D.L., Munro, H., Rasheed, R.K., and Tambyrajah, V., 2001, Preparation of Novel, Moisture-Stable, Lewis-Acidic-Ionic Liquids Containing Quaternary Ammonium Salts with Functional Side Chains, *Chem. Commun.*, 19, 2010-2011.
- Abbott, A.P., Capper, G., Davies, D.L., Rasheed, R.K., and Tambyrajah, V., 2003, Novel Solvent Properties of Choline Chloride/Urea Mixtures, *Chem. Commun.*, 1, 70-71.
- Alexander, M., 1997, *Introduction to Soil Microbiology*, John Wiley and Sons, New York.
- Ashworth, C.R., Matthews, R.P., Welton, T., and Hunt, P.A., 2016, Doubly Ionic Hydrogen Bond Interactions within the Choline Chloride-Urea Deep Eutectic Solvent, *Phys. Chem. Chem. Phys.*, 18, 18145-18160.
- Azizati, Z., 2017, Pembuatan Bioplastik Karboksimetil Selulosa-Kolin Klorida-Urea-Bentonit sebagai Model Pupuk Nitrogen Lepas Lambat, Tesis, Departemen Kimia MIPA UGM, Yogyakarta.
- Begin, A., Van Calsteren, M.R., 1999. Antimicrobials films produced from chitosan. *Int. J. Biol. Macromol.* 26, 63-67.
- Blair, H.S., Guthrie, J., Law, T.K., Turkington, P., 1987. Chitosan and modified chitosan membranes I. preparation and characterization. *J. Appl. Polym. Sci.* 33, 641-56
- Bonvin, M.M., and de Bertorell, M.M., 1993, In vitro sodium salicylate release from chitosan film, *Polym. Bull.* 31, 375-379
- Bortolin, A., Aouada, F.A., Mattoso, L.H.C., and Ribeiro, C., 2013, Nanocomposite PAAm/Methyl Cellulose/Montmorillonite Hydrogel: Evidence of Synergistic Effect for the Slow Release of Fertilisers, *Chem. Commun.*, 61, 7431-7439.
- Brady, N.C., and Weil, R.R., 2001, *The Nature and Properties of Soils*, Prentice Hall, New York.
- Chanajaree, R., 2010, The Motions of Guest Water Molecules and Cations in Chabazite, *Dissertation*, Universität Leipzig, Leipzig.

- Chen, R.H., and Hwa, H.D., 1996, Effect of molecular weight of chitosan with the same degree of deacetylation on the thermal, mechanical and permeability properties of prepared membrane. *Carbohydrate Polymers.*, 29, 353-358.
- Diez, J.A., Roman, R., Cartagena, M.C., Vallejo, A., Bustos, A., and Caballero, R., 1994, Controlling Nitrate Pollution of Aquifers by Using Different Nitrogenous Controlled Release Fertilisers in Maize Crop, *Agr. Ecosyst. Environ.*, 49, 49-56.
- Eastman, M., 2010, Polymer Clay Composites, Material Worlds Modules, Texas.
- Ferguson, G.A., and Pepper, I.L., 1987, Ammonium Retention in Sand Amended with Clinoptilolite, *Soil Sci. Soc. Am. J.*, 51, 231-234. 41
- El-Hefian, E.A., Elgannoudi, E.S., Mainal, A., Yahaya, A.H., 2010, Characterization of chitosan in acetic acid: Rheological and thermal studies, *Turk. J. Chem.*, 34, 47-56.
- Ferguson, G.A., and Pepper, I.L., 1987, Ammonia retention in sand amended with clinoptilolite, *Soil Sci. Amer. J.*, 51, 231.
- Hamdine, M., Heuzey, M.C., and Begin, A., 2005, Effect of organic and inorganic acids on concentrated chitosan solutions and gels, *Int. J. Biol. Macromol.*, 37, 134-142.
- Hoagland, P.D., and Paris, N., 1996, Chitosan/Pectin Laminated Films, *J. Agric. Food Chem.*, 44, 1915-1919.
- Houet, Y., Gu, Y., Zhang, S., Yang, F., Ding, H., and Shan, Y., 2008, Novel binary Eutectic Mixtures Based on Imidazole, *J. Mol. Liq.*, 143, 154-159.
- Jiang, G.P., Yang, J.F., and Gao, J.Q., 2008, Effect of Starch on Extrusion Behaviour of Ceramic Pastes, *Mater. Res. Innovations*, 13, 119-123.
- Klein-Marcuschamer, D., Simmons, B.A., and Blanch, H.W., 2011, Techno-Economic Analysis of a Lignocellulosic Ethanol Biorefinery with Ionic Liquid Pre-Treatment, *Biofuels, Bioprod. Biorefin.*, 5, 562-569.
- Kurita, K., 1998, Chemistry and application of chitin and chitosan, *Polym Degrad Stab.*, 59, 117.
- Lingga, P., and Marsono, 1986, *Petunjuk Penggunaan Pupuk*, Penebar Swadaya, Jakarta.
- McInnes, K.J., Ferguson, R.B., Kissel, D.E., and Kanemasu E.T., 1986, Field Measurements of Ammonia Loss from Surface Applications of Urea Solution to Bare Soil, *Agron. J.*, 78, 192-196.

- No, H.K., and Meyer, S.P., 1989, Crawfish Chitosan as a Coagulant in Recovery of Organic Compounds from Seafood Processing Streams, *J. Agric. Food Chem.*, 37, 580-583.
- Pereira, E.I., Minussi, F.B., da Cruz, C.C.T., Bernardi, A.C.C., and Ribeiro, C., 2012, Urea–Montmorillonite-Extruded Nanocomposites: A Novel Slow-Release Material, *J. Agric. Food Chem.*, 60, 5267-5272.
- Rahman, A., 2008, Sintesis Nanokomposit Poliester-Lempung Berbahan Baku Organo lempung dari Bentonit Indonesia, Tesis, Departemen Kimia MIPA UGM, Yogyakarta.
- Sampieri, A., Fetter, G., Bosch, P., and Bulbulian, S., 2004, Washing Effect on the Synthesis of Silica-Pillared Clays, *J. Porous Mater.*, 11, 157-162.
- Sanchez, P.A., 1979, Soil fertility and conversation considerations for agroforestry systems in the humid tropics of Latin America, *Int. Council Res. Agrofor.*, 79-124.
- Sankri, A., Arrhalias, A., Dez, I., Gaumont, A.C., Grohens, Y., Lourdin, D., Pillin, I., Rolland-Sabate, A., and Leroy, E., 2010, Thermoplastic Starch Plasticised by an Ionic Liquid, *Carbohydr. Polym.*, 82, 256-263.
- Scott, M.P., Rahman, M., and Brazel, C.S., 2003, Application of Ionic Liquids as Low-Volatility Plasticisers for PMMA, *Eur. Polym. J.*, 39, 1947-1953.
- Shamsuri, A.A., and Daik, R., 2012, Plasticising Effect of Choline Chloride/Urea Eutectic-Based Ionic Liquid on Physicochemical Properties of Agarose Films, *BioResources*, 7, 4760-4775.
- Singh, J., Bolan, N.S., Saggar, S., and Zaman, M., 2008, The Role of Inhibitors in Controlling the Bioavailability and Losses of Nitrogen, *J. Environ. Sci.*, 329-362.
- Singla, A.K., and Chawla, M., 2001. *Chitosan: some pharmaceutical and biological aspects-An update*, 53. Oxford: Blackwell.
- Tisdale, S.L., Nelson, W.L., and Beaton, J.D., 1985, *Soil Fertility and Fertilisers*, Macmillan, New York.
- Trenkel, M.E., 1997, *Controlled-release and stabilized fertilizer in agriculture*. International Fertilizer Association (IFA), Paris, France.
- Wang, S., Peng, X., Zhong, L., Jing, S., Cao, X., Lu, F., and Sun, R., 2015, Choline Chloride/Urea as an Effective Plasticiser for Production of Cellulose Film, *Carbohydr. Polym.*, 117, 133-139.

- Wells, K.L., Murdock, L.W., and Miller, H.F., 1978, Urea as a Source of Fertiliser Nitrogen for Crops in Kentucky, *Agriculture and Natural Resources Publications*, 24.
- Zhang, K., Park, B.J. Fang, F.-F., and Choi, H.J., 2009, Sonochemical Preparation of Polymer Nanocomposites, *Molecules*, 14, 2095-2110. 44
- Zheng, T., Liang, Y.H., Ye, S.H., and He, Z.Y., 2009, Superabsorbent Hydrogels as Carriers for the Controlled Release of Urea, *Biosyst. Eng.*, 102, 44-50.