

NITRATE CONTENT AS EXPORT CONSTRAIN OF INDONESIAN VEGETABLES TO EUROPE

Ketut Anom Wijaya¹

Abstract

Vegetable quality is determined by the physical properties, chemistry, color, and taste. Since increased public awareness of health, their demand on food quality has also increased. Chemical properties of vegetables include: level of nitrate, pesticide residue and heavy metal content. The purpose of this paper is to provide information to Indonesian vegetables stakeholder, the European markets impose strict conditions on levels of nitrate vegetables. The method used is the study of literature from a variety of credible sources. In the human's stomach is reduced nitrate to nitrite, then nitrite reacts with amines to form nitrosamine compound. Nitrosamine is known as a very potential carcinogenic compound, with risk of 90%. Statistically, 72.4% of daily nitrate intake originated from vegetables, equal to 35.7 mg/day. Besides forms nitrosamine, nitrite cause methemoglobinamie (baby blue syndrome). Nitrate is very serious threat to human health, so that the WHO limit the maximum daily nitrate intake do not exceed 220 mg (Scharpf and Wehrmann, 1991). To protect their citizen against nitrate hazard, European government are agreed to limit the maximum nitrate content in vegetables. Each species of vegetable and Country has different nitrate limit. Indonesian's vegetable contain high nitrate level and difficult to reduce because there is no technology have been developed to quantify N supply to achieve low nitrate content. Growers in developed countries (Europe, USA, Japan, and Canada) apply N-mineral Metode to maintain nitrogen supply and nitrate content. Wijaya (2012) have analyzed 5 species of vegetables (spinach, pachoy, cabage, lettuce and chinakol) resfektivly contain 6.427, 3.915, 1.847, 1.553, and 704 mg/kg FS). Acording to these nitrate content and nitrate limiting role of European Countries, very hard for Indonesia to export Indonesian vegetables to Europe.

Keywords: Indonesian vegetable, nitrate, export, European market

Introduction

Indonesia has agriculture land 22.5 million hectare with population of 230 million people. When supported by adequate technology, those facts as natural capital to produce qualified vegetables, but is really not easy to produce export qualified vegetables. Since, the buyer's requested quality difficult achieved by vegetables producer that not owned adequate technology and infrastructure yet, like Indonesia.

Quality of vegetable are determined by some criteria such as physically, chemically, color, and taste. But, since people awareness to healthy increase, people's requirement to healthy and qualified vegetable also arose. Some chemical contents are pesticide residue, heavy metal, and nitrate. Along with medicine science progress, known that nitrosamine as the most dangerous carcinogenic with 90% of risk. Nitrosamine formed in human stomach

¹ Faculty of Agriculture, Jember University, Indonesia, E-mail: anomwijaya143@yahoo.co.id