

ABSTRACT
(LITERATURE REVIEW)

**UTILIZATION OF WASTE FROM SWEET CORN AS RAW
MATERIALS OF CARBOXY METHYL CELLULOSE**

Nova Wijayanti

Corn (*Zea mays* L) is the second main food crop after rice which has plant parts that can all be utilized. The demand for corn in Indonesia has increased quite high from year to year due to the large demand from the animal feed-producing industry (1). The use of corn in terms of food needs at this time only refers to the use of seeds. Meanwhile, the stems, stalks, leaves, and cobs generally have not been utilized optimally. This can not be separated from, the parts are only considered agricultural waste. On the other hand, the waste contains a lot of cellulose which can then be processed for other benefits (1).

One part of the corn plant that is only considered waste is that the stem has not been widely used as a product that has added value. Corn stalks have a high chemical composition of cellulose, which is 30 – 50 % (1).

The purpose of this research is to use it as a reference in the manufacture of cellulose which is used for the manufacture of carboxymethyl cellulose compounds which have many benefits (1). In addition, it is hoped that this scientific paper can be useful for students, namely knowing the types of carboxymethyl cellulose (CMC) compounds that are widely used in the detergent, paint, paper, ceramics, textile, and food industries. In addition, CMC is also used as a thickener, binder, and stabilizer of emulsions or suspensions (1). The methodology used in this research is an article review using 3 national articles.

Based on the resumes of the three articles, it is known that the manufacture of CMC is influenced by several factors, including alkalization and carboxymethylation. The composition of the alkalization and carboxymethylation reagents in the manufacture of CMC greatly determines the quality or quality of the resulting CMC (1). The solubility of CMC is largely determined by the value of the Degree of Substitution (DS). Setiawan in Wijayanti, et al (2005) reported that CMC with $DS < 0.3$ is easily soluble in alkaline solutions while $DS 0.4$ is soluble in water.

Keyword : carboxymethyl cellulose, degree of substitution degree, sweet corn cobs