

INTRODUCTION

1.1 Brief History of PT. Saraswanti Indo Genetech

PT. Saraswanti Indo Genetech is a collaboration company between PT. Saraswanti Anugrah Makmur and Indonesia Center for Biodiversity and Biotechnology (ICCB) ("SIG LABORATORY | One-Stop Laboratory Service", 2021). PT. Saraswanti Indo Genetech is a subsidiary of the big Saraswanti group that is centered in Surabaya. The first business of Saraswanti group was focused on the agriculture sector which was established in the year of 1998. As the first business of Saraswanti group develops, Saraswanti group starts to expand its business into several companies with different divisions. There are 5 divisions with a total of 28 companies in the Saraswanti group, fertilizer division (10 companies), plantation division (5 companies), laboratory division (4 companies), property division (6 companies), and various business divisions (3 companies). PT. Saraswanti Indo Genetech is the laboratory division of the Saraswanti group. This company was established on July 7th, 2001 in Bogor, and it provides analytical detection services for genetically modified organisms (GMO) or transgenic products. One of the main crucial points in the production process of a product is quality control which requires an analytical laboratory test. Therefore, a credible laboratory test is one of the important and necessary pillars in achieving a high-quality end product. PT. Saraswanti Indo Genetech also expands its competency to provide several other tests in the field of food, pharmacy, and cosmetics to fulfill people's needs such as amino acids test, nutrition facts test, microbiology test, vitamin test, etc ("PT. Saraswanti Indo Genetech | Saraswanti Group | PT Saraswanti Utama", 2021).

1.2 The Vision and Mission of PT. Saraswanti Indo Genetech

The main activity of PT. Saraswanti Indo Genetech is to conduct sample analysis from the customer based on the parameters (GMO test, microbiology test, vitamin test, etc.) requested. The visions and missions of PT. Saraswanti Indo Genetech is as follows:

Visions:

1. To be a credible "One-stop Food Laboratory", so it can contribute useful talents to the country's development and prosperity.
2. To be an analytical test laboratory that has a high competency and produces analytical data with high accuracy and precision.

Missions:

1. Orientating to customer satisfaction.
2. Applying and developing Good Professional Practice.
3. Applying the working principle "Good from the start" according to the quality management system of ISO/IEC 17025:2005 and improving the effectiveness of the quality management system sustainably.

1.3 Organizational Structure

The organizational structure of PT. Saraswanti Indo Genetech consists of a Board of Directors, general manager, manager, assistant manager, supervisor, staff, and analyst. The overview of the overall organizational structure of PT. Saraswanti Indo Genetech is shown in **Figure 1**.

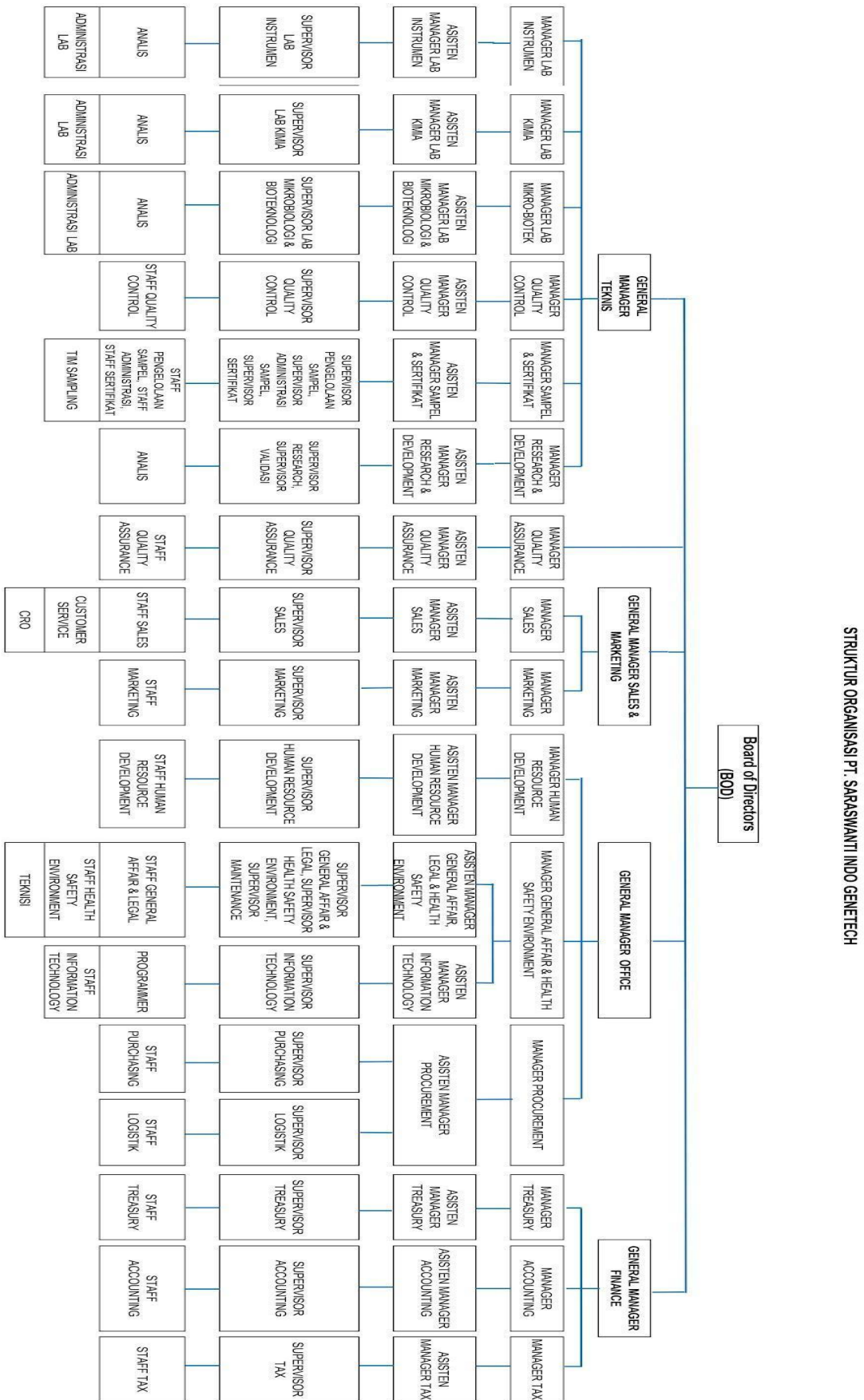


Figure 1. The hierarchy of PT. Saraswanti Indo Genetech overview.

The leader of PT. Saraswanti Indo Genetech is the board of directors whose main responsibility is to make decisions and discuss with the shareholder about the company's development. Under the board of directors are the general managers whose main tasks are to make decisions for each division (Ex: technical, office, finance, marketing, and sales). Under the general manager are the managers of various divisions who respond to the general manager, make plans, and supervise and evaluate the work of each department. Under the manager, some assistant managers respond to the general manager that has the responsibility to implement, coordinate, and identify the work which is related to each department. Under the assistant manager, some supervisors respond to the assistant manager whose responsibility is to supervise, monitor, and correct the related work of each department. As for the staff and analysts, the main responsibility is to operate or conduct analysis of samples received in the laboratory.

1.4 Student Departments

During the internship period, I have been placed in two different departments which are the microbiology department, and the biotechnology department.

1.4.1 Microbiology Department

The first department that I have been placed in is the microbiology lab. The main goal of the microbiology lab is to test the presence of different kinds of microorganisms. There are several sections in the microbiology lab such as the media preparation section, the sample preparation section, and the observation section. The media preparation section's main task is to prepare various media according to the parameter test (accustomed to the microorganism species). Many media are prepared every day to have the microorganism test of the samples proceed efficiently. In the sample preparation section, the main task is to prepare the sample which includes weighing the samples and conducting serial dilutions on an agar plate. After the sample has been prepared, the microorganism is grown in the incubator in the observation section. Most of the microorganisms are observed through plate count methods. The microorganism that is being tested is categorized into two which are pathogenic and non-pathogenic. During testing samples for the presence of pathogenic bacteria, it must be handled with extra caution by wearing hazmat instead of regular lab coats to provide additional protection to the user. Different microorganisms have different methodologies which are based on their characteristics. The reference methodologies for testing each of the microorganisms are based on SNI ISO.

1.4.2 Biotechnology Lab Department

Besides the microbiology lab, I've also been assigned to the biotechnology lab. The main goal of the biotechnology lab is to identify GMO samples or test samples on the presence of transgenic genes, pork genes, and bovine genes. There are two types of tests which are qualitative, and quantitative. The qualitative test is where the sample is checked on the presence or absence of the transgenic genes etc. While the quantitative test is to check the number of transgenic genes present in the samples. The methodology reference used is based on SNI ISO.