

A EN 201 - Agricultural Power Units

Hydraulics in Agriculture

Objectives:

The Student Will Be Able To:

1. Obtain a score of 75% or greater on a quiz focusing on the reading from selected web references and the provided Power Point presentation;
2. Explain Pascal's Law and basic hydraulic principles;
3. List the parts of a basic hydraulic system and describe the function of each;
4. Weigh the advantages and disadvantages of hydraulic systems;
5. Differentiate between open-center and closed-center hydraulic systems by describing how each works;
6. Describe the characteristics of open-center and closed-center systems;
7. Explain hydraulic facts; and
8. Complete an established hydraulics laboratory activity.

Required Reading For Quiz:

1. Hydraulic Machines - <http://science.howstuffworks.com/hydraulic.htm>

I. Introduction:

Hydraulic power systems offer enormous amounts of power and flexibility with few drawbacks to those employ them. The convenience and versatility of hydraulic power has made it a mainstay of power and power transmission in agriculture. Therefore, it is important that students understand basic hydraulic concepts as well as have a working knowledge of the most common hydraulic systems.

This laboratory and required reading will focus on basic hydraulic concepts as well as the most common hydraulic systems. The laboratory activity for this lab is not yet complete, therefore no activity sheets are provided. Activity sheets will be provided during the lab. The lab will consist of a required reading quiz, brief lecture, and a hydraulic simulator activity.

Required Materials:

- Eye Protection
- Red Rags
- Lab Manual