

ing with a farmer, who is a good practical man, and who has in his house an instructor in a theory or science, daily pointing out on the farm the practical application.

On the other hand, Professor Norton is in favour of the plan adopted in University College—attending lectures on the theory and practice as given by a professor, and afterwards reducing their principles to practice on the farm during the active season of sowing, growth, and maturity. To such as have had some experience on a farm, this seems the most suitable plan; or instead of this, attending some Agricultural School with a suitable farm attached, and learning both theory and practice at the same time.

*Question 2.*—Mention those branches of physical science which have relations to Agriculture; with illustrations.

*Answer.* The various departments of Physics or Natural Philosophy relating to agriculture are—

- 1o. Motion, the moving powers, their nature, laws and operation. Effects of machinery. *Mechanics.*
- 2o. The weight, pressure and equilibrium of fluids. *Hydrostatics.*
- 3o. The motion of fluids in pipes or otherwise, and their capability and value as moving powers. *Hydraulics.*
- 4o. The action of light on vegetation. *Optics.*
- 5o. The nature, laws and effects of heat.
- 6o. The laws of electricity, and other meteorological phenomena.
- 7o. The nature of air as regards its properties of weight, temperature, motion &c., and the signs which foretell these movements. *Pneumatics.*
- 8o. Chemistry, explaining the nature and composition of all bodies, and the laws of their combination.
- 9o. Botany, treating of structure, uses and classification of plants. Also including vegetable physiology, explaining their functions, diseases, &c.
- 10o. Zoology, relating to the structure and classification of the animal kingdom, with which is connected comparative anatomy and physiology of the domesticated animals of the farm.

*Question 3.*—Give a general sketch of the History of Agriculture from the Egyptians, Greeks and Romans to the middle ages. In what way did the Church foster and promote this art during the later period? What are the principal characteristics of modern agriculture?

*Answer.*—Of the various branches of Agriculture, that, which relates to the raising of fruit, called gardening, seems to have been first practiced.

After the flood "Egypt's alluvial lands" seem to have been the seat of the beginning of Agriculture, which was subsequently diffused by the colonizing Greeks who regarded it with honour.

Rome subsequently becoming mistress of the world, carried a knowledge and love of this indispensable art to every portion of the earth which witnessed the triumphs of her victorious armies—Britain among the rest.

Different opinions prevail respecting the agriculture of Egypt, both as to its origin and some of its practical applications. The annual irrigation of the Nile richly manured the land, and great crops of grain—particularly pulse—were unquestionably raised. The pick was the first instrument used in cultivation, as would appear from the engravings on ancient medals and seals. The sacred Ox was the only animal used in agricultural labor. In Greece, agriculture was carried on extensively, and some of what we often imagine to be purely modern practices were well understood and followed, such as draining, &c. Xenophon and other writers, were acquainted with the art and wrote upon it. Mago, the celebrated Carthaginian, wrote several books upon this important subject.