

bandry is pursued, and particularly when the enclosures are small and the surface furrowed and uneven, which is the condition of a considerable portion of the old country, we are decidedly of opinion, that with their facilities of obtaining labor, the ordinary modes of gathering the harvest are both the cheapest and the best. In an open and tolerably level country, such as the more abundant grain growing districts of the Eastern parts of England, and the South of Scotland, where, too, hands are comparatively scarce, the improved Reaping Machines will supply a desideratum which has been long, and sometimes painfully, felt.

CHEMISTRY APPLIED TO AGRICULTURE.

Among the various occupations which require a knowledge of this science to be efficiently carried on, that most noble, useful, and universal of all human pursuits, agriculture stands pre-eminent. The farm is a great laboratory, and all those changes in matter which it is the farmer's chief business to produce are of a chemical nature. He breaks up and pulverizes his soil with the plough, harrow, and hoe, for the same reason that the practical chemist powders his minerals with pestle and mortar, namely, to expose the materials more perfectly to the action of chemical agents. The field can only be looked upon as a chemical manufactory; the air, soil, and manures are the farmer's raw materials, and the various forms of vegetation are the products of manufacture. The farmer who raises a bushel of wheat, or an hundred weight of flax, does not fabricate them out of nothing; he performs no miraculous work of creation, but it is by taking a certain definite portion of his raw material and converting it into new substances through the action of natural agents, just as those substances are again manufactured in the one case into bread, and in the other into cloth. When a crop is removed from the field, certain substances are taken away from the ground which differ with different kinds of plants; and if the farmer would know exactly what and how much his field loses by each harvest, and how in the cheapest manner that loss may be restored, chemistry alone is capable of giving him the desired information. To determine the nature and properties of his soil, its adaptation to various plants and the best method of improving it; to economize his natural sources of fertility, to test the purity and value of commercial manures, and of beds of marl and muck; to mingle composts and adapt them to special crops; to improve the quality of grains and fruits; to rear and feed stock and conduct the dairy in the best manner, farmers require a knowledge of this science. Nor can they as a class much longer afford to be without it, for it has always been found that the application of scientific principles to any branch of industry puts power into

the hands of the intelligent to drive ignorance from the field of competition; so that as discoveries multiply and information is diffused, those farmers who decline to enquire into the principles which govern their vocation, or who prefer the study of politics to that of agriculture, will have occasion to groan more deeply than ever over the unprofitableness of their business.—*Youman's Chemistry.*

WHAT IS PRACTICAL FARMING?

Farming has been so respectable an occupation of late, and the title of farmer so honourable, that grave questions are likely to arise, which may require the intervention of Heraldry, to determine who has the right to bear that title, and what order of precedence shall be established among the various claimants of the exclusive privilege of bearing the ensigns armorial of Husbandry. The *Practical Farmer* undoubtedly stands head and shoulders above every body else, but the question returns, *Who is the Practical Farmer?* We have amongst us all kinds of farmers. First, we have the *amateur* farmer merely, who does not know the *near* from the *off* side of a team, who has read of subsoil ploughs but never saw one, and who knows all about chemistry and geology that can be learned without soiling his boots by stepping out of doors. Ask him if he could conduct the affairs of a farm, and he would give the same answer as the youth who was asked if he could play the flute—"I suppose I could, but I never tried." Manifestly, *this* is not the practical farmer. Then we have the man who prides himself upon being a farmer and nothing else; he lives on the same farm where his great grandfather was born, and inherited his knowledge of husbandry with the old wooden ploughs, which he still uses. He takes no agricultural paper, and reads no books on the subject, because he knows all about it already. He is not to be humbugged by any science, or new-fangled notions about composts, mineral manures, or deep ploughing. Manure, with him, is what he finds left in the spring, out doors, under his hovel-windows—about a load for each ton of hay consumed—and he ploughs about four inches deep, and puts manure in the hill where corn can find it. His boys have discovered that farming *wont* pay and have gone to California, while he finds the buildings and the tools have grown old, and the interest on the old mortgage is gradually gaining on him. However, he is sure he is one of the class, which are termed the *bone and sinew* of the country, and the only true *practical* farmer. That he is a practical, as well as a most *impracticable* farmer, there is no doubt.

Then we have a third class of men who may have worked all their lives upon the land,—of men who, having acquired a taste for farming in youth, after successful toil in another business for years, have returned to their first love, and devoted their later years to agricultural pursuits—of professional men and merchants, who having room in their brains for more than one idea, are conducting their farming operations at the same time with their other affairs—in short, a class