

straw during winter in the form of dark, linear patches; such as you will find on this sample of straw. Germinating in spring both of the cells may produce short filaments bearing on the points of its several branches small gobular cells known as *sporidia*, easily transported by the wind when detached. Shortly after the leaves of the Barberries have expanded thickened patches, dotted with minute yellow spots, may frequently be seen on them. The yellow spots are clusters of a large number of spores gathered together as chains in cup shaped masses and embedded in the diseased, thickened tissues of the leaf through which the mycelium passes in every direction. These spores produced on the barberry leaf may, after being brought in contact with growing grain or grasses, again produce the red rust. This fungus absorbing the nutriment in the stem and leaves of the grain which would otherwise be stored in the seed, causes the latter, instead of being entirely filled to present a more or less small and shrivelled appearance reducing it sometimes very materially, in weight and quality.

In order to check the development or spread of injurious fungi it is important to know as much about their methods of growth and reproduction as possible. Even the knowledge that a disease is caused by a fungus may be of great value in itself, as this would make us careful to destroy or disinfect, as much as possible such materials on which these organisms might be growing. The thickenings sometimes seen on plum or cherry trees, known as "Black Knot" (caused by a fungus) should therefore not only be cut off but burned. The knowledge that the fungoid growth appearing on the leaves of the potato vines causes later on the rot of the tuber, enables us to fight this enemy before the potatoes are taken out of the ground. Much loss has also been prevented by the discovery that the disease on grains known as Smut, produced by the spores clinging to the seed grain can be overcome by soaking the grain before sowing, in a solution of copper sulphate.

The pleasure to be derived from the study of this group of plants is, therefore, not confined to seeing the beauty and harmony of nature but may be materially enhanced by discovering something of value to the human family. Many of those who use the microscope for recreation or amusement will doubtless find this a study well worth while pursuing.