

Second Year.—Forest climatic influences, agricultural chemistry (first division), map-drawing, topography, roads and watercourses, general geology; pathology of plants, animal economy, microscopic practice, experiments in laboratory of agricultural chemistry, seminary exercises.

Third Year.—Protection of forests, with applied zoology, forest formation, instruction in management of forest excursions and experiments, general instruction in law, forest politics and police, history of forestry, geodatics, seminary exercises.

In addition to the above, during the summer "semester" instruction is given, as follows:—

First Year.—Organic chemistry, special botany, petrography, meteorology, experiments in laboratory, microscopic experiments.

Second Year.—Field measurements, study of ground, preservation of various kinds of wood, forestry statistics, increase in yield and increase of woods, in law.

Third Year.—Statistics and calculations of value of forests, forestry legislation, use of forests, technology, and general knowledge of business.

COMPREHENSIVENESS OF EUROPEAN SYSTEMS.

The quotations above given show how comprehensive the European system of forestry really is, and how necessary it is that Australian Governments should take time by the forelock in adopting it. So far the various Governments have merely "tinkered" existing local systems, without adopting a complete scheme on recognised principles. As, indeed, very few people had any practical knowledge of the subject, it was nobody's business and nobody cared. Thus a shilly-shally policy has so far been the result.

DUE PROPORTION OF FOREST LANDS.

The following list of percentages will serve to indicate the proportion of forest lands obtaining in the countries named:—

Russia ...	...	...	...	...	...	40	per cent.
Sweden ...	...	...	...	...	...	34	"
Norway ...	...	...	...	...	...	29½	"
Germany ...	...	...	...	...	...	26	"
Turkey ...	...	...	...	...	...	22	"
Greece ...	...	...	...	...	...	14	"
Spain ...	...	...	...	...	...	7	"
Belgium ...	...	...	...	...	...	7	"
Holland ...	...	...	...	...	...	7	"
Portugal ...	...	...	...	...	...	5	"
British Isles ...	...	...	...	...	...	4	"
Denmark ...	...	...	...	...	...	3½	"
France ...	...	...	...	...	...	17	"

To preserve the balance of nature, at least one-sixth of the entire area in any country should be permanently devoted to forest purposes. This is necessary, not only as a safeguard against timber famine, but also in order to avoid decrease of rainfall and other injurious climatic changes—powerful factors in affecting the preservation and continuous productiveness of agricultural lands.

FRENCH FORESTRY.

A glance at the French scheme may be of use in considering the adoption of forestry suited to the requirements of Australia. In 1876 the timbered area in France covered 35,464 square miles, or a little more than 17 per cent. of the country.* In that year the extent of forests held under different corporations were as follows: The State, 3,734 square miles; communes and sections, 7,949 square miles; public institutions, 124 square miles; private individuals, 23,657 square miles. These forests are in situations up to 9,000 ft. or 9,500 ft. above sea-level, though those in private hands are rarely found above 6,000 ft., nearly the whole of the higher mountain areas belonging to the State or communes. In 1885 the Forestry Department controlled 3,910 square miles of State forests, and 7,598 of those held by communes, sections, and public institutions: 11,508 square miles in all.

The French adopt two systems in forestry—"coppice" and "high forest," the latter in producing heavy and the former lighter timber. Subdivisions of the "coppice" system are simple—"coppice," under which the young trees are felled in a face, and "coppice" with standard, when trees are left for the purpose of seeding while the others are cut out, perhaps four or five times in rotation, on a working-plan.

Revenue and Expenditure.

Revenue for three years to 1885	...	...	...	...	£
Expenditure	...	...	...	...	1,297,748
					571,347
Net profit	...	...	...	...	£726,401

These figures give, per acre: Revenue, 10s. 6d.; expenditure, 4s. 7d.; net profit, 5s. 11d., and apply to State forests only. If, however, the money spent in afforestation of mountains and on the purchase of additional forest areas be excluded, the actual expenditure on existing forests is reduced to about £480,000, raising the net profit to £817,748 or 6s. 8d. per acre. The profit, moreover, is really more, it appears, than even these figures show, as the amount expended includes State moneys devoted to the management of commercial forests, as well as those from which the revenue set down is derived. For such extra expenditure on their account the Communes are expected to recoup the State, but they rarely do so; and the total expenditure less such contribu-

* Major Bailey, R.E., "Transactions of the Scottish Agricultural Society," vol. ii.