

GERMAN FORESTRY TO-DAY

(Below we publish in the form of a letter to his Irish forestry friend an account of the post-war forestry situation in Germany by a German District Forest Officer.—Ed.)

Dear Mr. Deasy,

It is with the greatest pleasure that I follow your suggestion to report to you of our forestry cares of old days and of to-day in the form of a chat.

Forestry relations between Eire and Germany are various, several Irish foresters, amongst them yourself, have seen my forestry area and I had the delight and have still the remembrance of the two wonderful weeks I spent as guest of my friend, the late Mr. Reinhard, in Eire in summer, 1937. In that fortnight I saw a lot of your marvellous country, this island between two continents, and I got an idea of the elements of your work in the forest. I visited Bantry Bay and parts of Kerry, including Dingle Bay and Killarney, together with a T.D., Mr. Flynn, and his friend, Dick, a famous fairy-taler. But I was mostly impressed by the seclusion of Caragh Lake. And several days later I had the great honour to visit, under the guidance of Mr. Forbes, your Forestry School at Avondale and its rich research crops.

The times are such that we look for consolation in beautiful events of the past, because present times are—especially in Germany—otherwise than golden! Therefore, you may allow me the remembrance of my wonderful journey to Eire as an introduction to my lines . . . with the lamenting accentuation of one's own troubles nobody subdues misery. . . .

Irish and German forestry are similar in many respects, but they differ in essential points. Above all, our forestry tradition was never interrupted till now. Germany had the luck to develop since about 1700 out of the original crops which covered its woodlands forests containing a high share of best timber. And these forests educated anew foresters, and these in turn new generations of woods. For the forest is, in contrast with industrial production, not an artificial thing and cannot be withdrawn unpunished too far from nature. We agree in this point with Francis Bacon, who said: "In order to subdue nature, you must first understand her!" (I notice that "nature" is female in the English language, too, and I know why!)

So in Germany, in the south as in the north, a class has been developed called by nickname the "Green Guild," who through generations had, and has, as task, bound by tradition, the preservation and fostering of the forest. Bound to nature, a sixth sense for

the life and the needs of the forest are qualities of these people, just as if Shakespeare had anticipated when he wrote:

*"And this our life, exempt from public haunt,
Find tongues in trees, books in the running brooks,
Sermons in stones and good in everything."*

—("As You Like It.")

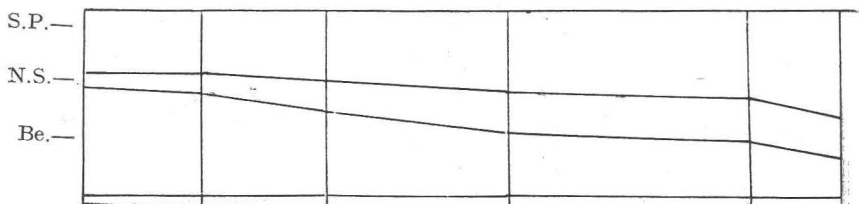
This development of the woods from virgin forest to a well-cared forest with the main object of securing the greatest production of high-class timber is now suddenly interrupted by political events, and, therefore, I wish to give to you and your Irish friends a short survey. I shall give you as pattern the circumstances of my local forestry administration (Forstamt) and I beg you to estimate them as *pars pro toto*.

My Forstamt, situated between Kassel and Frankfort/Main (long. 10 degrees E., lat. 51 degrees N.), in 580-1,480 feet elevation on red sandstone, has a productive wooded area of 2,100 hectares State forest and 500 hectares private and communal forests, which are managed at the present day just as State forests. In all there are 6,700 acres. It has 6 forestry centres (each about 450 ha.). The forests lie close together, for the Forstamt has only a total length of 10 miles and is 7 miles wide. This area is stocked at 90 per cent. with wood. There are Forstamts with 5,000-6,000 ha. whose woodlands are not as close together. This results, as probably in Eire, too, from historical events, from the communication roads and from the difficulties of management.

Thinking of the forest vegetation, I have to refer to the second point in which German forestry differs from the Irish. Our activity in the last 100 years was not, in the same degree as yours, directed upon planting and tending the cultures, but more upon the thinning and fostering of older crops (over 30 years). Since 1820 in my Forstamt the virgin woods, containing only few timber trees of beech (*Fagus silv.*), oak (*Quercus sessiliflora*), alder (*Alnus glutinosa*), and hornbeam (*Carpinus betulus*), have been cut in quick succession. These areas have been planted and sown with scots pine (*Pinus silv.*), larch (*Larix eur.*) and, since 1860, with spruce (*Picea exc.*). From this resulted remarkable crops with best volume production and high-class timber. Thus came a change from broad-leaved trees to conifers, which is to be seen in the diagram:

1868

1946



This shows a permanent beech decay from 54 per cent. in 1868 to 14 per cent. in 1946 and an increase of the coniferous area—spruce from 4 per cent. to 18 per cent., sc. pine from 35 per cent. to 59 per cent. Spruce is giving a higher yield, but the Forstamt has many dry southern and south-western slopes, where sc. pine and larch thrive better. Spruce would give, perhaps, for one generation a higher yield, but the productive power of soil would deteriorate, so that another generation of pure spruce would be impossible.

We now come to the species of trees and their frequency. With regard to the *mixtures*, it can be said that mixed crops of one or several light-demanders with a shade-bearer proved particularly useful. Well known are the good mixtures of sc. pine and larch (60-90 per cent.) with beech. We like, too, to set a lower storey of beech under oak. Spruce is very intolerant and the sc. pine becomes a wolf-tree in spruce crops. Single larches in spruce crops are disposed to be affected with canker (*Dasyscypha Willkommii*). Japanese larch (*Larix leptolepis*) is without credit here, but closer to the coast it prospers better. We like to mix sc. pine and beech in such a way that we produce from the old crop a natural regeneration of beech on about 20-30 per cent. of the area and plant on the vacant places between in rounded *hursts* sc. pine and larch. On humid northern exposures, too, we plant spruces between the natural regeneration of beech. Also, in a variable tract of land we plant spruce in the fresh valleys, while on the drier ridges and southern slopes we plant or seed pines or larches.

We express the intention in "aimed types" (=normal pattern=model crops) for the different sites; for example, for my Forstamt:

Underlying Rock
Calcareous Strata:

Aimed Type

Red sandstone (Trias)

- (1) Mixt. beech 80-90 per cent.; maple, ash, elm 15-10 per cent.; larch 5-10 per cent.
- (2) Poor southern and s.w. exposures and ridges: sc. pine 65-80 per cent.; beech 35-20 per cent.; larch 10 per cent.
- (3) More humid sites (northern exp., lower part of a slope, valley): as No. 2 but admixture of spruce 10-30 per cent. in *hursts* and groups *or*
- (4) Sc. pine, larch 50 per cent., spruce 50 per cent., mixed in bigger groups.
- (5) On very humid soils: spruce 100 per cent.
- (6) On very humid and deep soil of high content of nourishing substance:

beech (from nat. regen.) 60 per cent.,
spruce 40 per cent., mixed by single
trees or in groups.

It may be of interest to an Irish forester to hear that the boundaries of the Forstamt, especially these between productive wooded area and agricultural lands, did not change since 1819. New afforestations were executed only on 5 hectares (12.5 acres). From woodland to fields have been converted 81 hectares, i.e., 3.5 per cent. of the wooded area.

The increment of timber of the Forstamt is about 10,500 cubic metres for the State forest area. That means, in the average of all crops, 5 cubic metres per year per hectare or 72.1 cubic feet per acre.

In contrast with this quantity given by nature was the product of fellings in cubic metres per hectare:

1880-90	1891-1900	1901-10	1911-20	1921-30	1931-40	1941-47	1948
1.8	2.0	2.4	4.3	5.0	7.2	6.2	10

That means that we had to cut since 1931 150 per cent. of the increment and, in last winter, 200 per cent.

And so I'm coming to the most important problem of our day, to the problem of the *sustained yield*. This problem excited at all times the minds of the German forestal world. When General Clay said some weeks ago that he had the impression that the Germans love their forest more than their children, he could have been answered: "We love our forest *because* we love our children," i.e., because we think of the future, and that's finally the sustained yield in a far-sighted sense.

The claim of the strictest sustained yield, that the forest of a certain area (here the Forstamt) must provide the market each year with the same quantity of timber for all time to come has been followed by the conception, already disproved, that a sustained yield already exists if all wood areas are producing timber. The newest official formulation of sustained yield (for Hesse) says that it is warranted, if the productive power of the locality is maintained, respectively brought on, and if the whole area has a full increment of an optimal growing stock of best assortment, and if the uninterrupted regeneration on the whole area is guaranteed! . . . A long definition full of "ifs"! (Please note that nobody is speaking any more of the same annual quantity of timber, and that's the danger, especially in times when the money for replanting is scarce!) The new definition is extensible like elastic, but it is the child of necessity.

Out of its growing stock (170 cubic metre per hectare in my Forstamt) the forest has to give the timber necessary for the reconstruction of our towns and for reparations. For this purpose are to be sacrificed first:—

Beech: All crops III-IV class of yield table and less, 81 years and older; all better crops 121 years and older.

Sc. Pine: All unthrifty crops 61 years and older; all crops less than 60 per cent. stocked; all crops older than 100 years.

Spruce: All crops less than 60 per cent. stocked; all crops 81 years and older.

In my Forstamt that means that 23 per cent. of all woods are to be cut in the next 15 years! But that's not as bad as if *all crops* would be thinned inexcusably too much in the next years.

To explain the deficiency of timber in Germany I may say that, of the original German woodland of 12.7 million hectares, 5.7 millions now belong to the sharply isolated Eastern Russian Zone and 7 millions to the Trizone (i.e., American, British and French occupied zones). The increment of this Western Zone may be estimated at 21 million cubic metres, but the consumption of timber, even without reconstruction and without reparations, is 45 million cubic metres. In an economy with sustained yield the *deficit* in the Western Zones is yearly 24 million cubic metres and must be made good out of our own growing stock because we cannot pay for the import of timber.

Notwithstanding, there have been cut, mostly in direct-cuttings by the British Occupation Forces, *only in one county* (North Rhine-Westfalia) in 3 years and exported:—

To Belgium	732,000 cubic metres
To Holland	1,000,000 ,,
To England	6,300,000 ,,

These are official statements of the British Occupation Forces. In the American Zone—God be praised—no direct cuttings were carried out, but here, too, 10 per cent. of the cutting is exported to England. We all consider the restitution of the harm done our neighbours as righteous, but you may imagine that such exports are not very popular considering that there are 2,000,000 destroyed German houses! The German forestry of the Trizone is not able to cover the requirements of that area. All the severer is it hit by such forced exports of undressed timber and all the faster will be the destruction of the German forests.*

Particularly the clear cuttings on big areas and irrelevant methods of lumbering operations (in the British and French Zone) trouble the foresters and the whole population. We have to warn always of the catastrophic consequences (climate, erosion, structure of the soil and swampiness) of such methods. In those things you in Ireland have a great experience on your own cleared woodlands!

This programme of increased wood cutting has—of course—as a consequence an increased planting programme in the next years.

*We have just learned from Forstmeister Scherer that currency reform has eased the timber situation and that exports to Britain have ceased. It is now hoped that the 1950 cut will not be much more than the increment.
—Editor.

Beech will be repressed further, because she has not enough time for natural regeneration in these quickly following cuttings; scots pine, spruce and larch will have a bigger share in future.

In the last three years a very high proportion of timber was used as fuel wood. In 1862 it amounted to 76 per cent. of the product of cutting; in 1938 only 24 per cent., but by 1945 it was 45 per cent. The reason is the fall in the output of coal and the failure of transport of coal after the war. As a measure to produce fuel wood, we often arrange that our wood-cutters fell trees and the interested population (and who is not interested in fuel wood in cold winter!) works them up. This method is very suitable for first cleaning in small crops because foresters are sure that only the intended trees are cut. Purchasers pay to the wood-cutters for felling half of the normal ordinary costs of harvesting. We now clean all young crops of 18 years and upward; that means that we are cutting stands I planted in the years 1926-1930. It is a proud feeling to walk in the shadow of woods you planted and it gives you much experience to see the results of different mixtures and planting distances. In such crops we cut at first only wolf trees and trees peeled by stags.

In our quick—and hasty—living time with its quickly changing demands, working plans intending to regulate the cutting up to 20 years in advance proved to be unsuitable. In lieu of that we prefer a test of the growing stock and the development of the economy at short intervals. This test must be executed in the shortest time (4 weeks a Forstamt) everywhere at the same moment. Parallel with this test must be made a thoroughly worked plan of regeneration.

Aimed at is a higher mixture of the conifers; spruce, larch, Douglas fir and scots pine on soils fit for them. The crops of this county now comprise:—

Oak	Beech	Conifers
11 per cent.	39 per cent.	50 per cent.

The target is approximately:—

7 per cent.	28 per cent.	65 per cent.
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Concerning the method of restocking we like to regenerate naturally the old oak and beech crops to the extent of 20-35 per cent. of the area, allow these young leaf trees to reach a height of 2 feet by several openings of the shelter wood until finally the area is clear felled. We then plant on the vacant places,, i.e., on 65-80 per cent. of the area (ground not occupied by the natural regeneration) conifers, 1 or 2-years-old scots pine, 4-year spruce and 2 or 3-year-old larches. The planting distances are as follows: Pine at 4 ft. x 1 ft., small spruce at 5 ft. x 2 ft., good 1 ft. high plants at 6 ft. x 2 ft. Larch we plant 6 ft. x 2 ft. also and like to use it in the final planting.

On less grassy slopes of the red sandstone we like to carry out direct sowings on prepared strips 1 ft. 8 ins. wide and 4 ft. 4 ins.

apart. A mixture of 4 lbs. scots pine (90 per cent. germinating power), 1 lb. European larch, and 0.5 lb. of spruce has proved very satisfactory. The resultant seedlings grow side by side with the natural regeneration of the broad-leaved trees and melt together to form a mixed crop. At latest within 20 years, the first cleaning cutting, described before, ensues. Improvement cuttings then follow at 3-5 year intervals in the famous tried manner: *early, moderate and often*. Beginning with the age of 40 we calculate at a 3-year interval a production per hectare of 12-18 cubic metres for sc. pine and beech, and 20-25 cubic metres for spruce. Thinnings are marked during the summer time, tree by tree, by the foresters themselves with a timber scribe. We consider it as our most important task not only to plant the forest but to foster it too, and to form it with our hands so that its quality becomes better and better and that the increment takes place only on its best trunks, that the proportion of the mixture between the conifers and broad-leaved trees is the right one, and that noxious and sick trees are eliminated in time.

Between 1930 and 1935 we marked with a black paint ring in the better pine-beech mixed crops, 60-90 years old, at an approximate distance of 8-10 metres apart, the 160 best trees on each hectare with good crowns and good stems as "care-trees." These trees had to be tended at each thinning by setting them free gradually. Maybe this measure is too drastic, and it is to be seen now after 15 years that some of these "care-trees" did not become what they promised, and that other trees, which did not look as well, developed better. On the whole, however, it was a good measure, because during the war the thinnings were executed by untrained men,

foresters being mostly anywhere in Europe as soldiers. By the marked best trees these substitutes knew what they had *not* to cut in the thinnings. So these crops survived the war comparatively well!

During the war and especially now it is very difficult to bring the demands of the economy into conformity with the most primitive principles of silviculture. We need always again the highest silvicultural art to ensure that the forest does not suffer too much damage and that it can satisfy the demands not only now but in future too. The forest is only able to do this if the overcuttings are not made by an excessive opening of young crops, but, in case of emergency, by sacrifice of whole old crops, which must be regenerated in the shortest time.

The timber requirements are secured by an impost in the different assortments (lumber, mine-timber, pulp-wood, generator-wood, fuel-wood) on the different Forstamts before the beginning of the year (1st October) according to the efficiency (increase and growing stock) of the forest centre. The Forstmeister determines where and how the cutting will be done, observing the silvicultural rules. Cutting is done by forest labour; the foresters survey the timber; the

Forstmeister, more or less, controls each cutting and sells the timber to the timber merchants, but mostly directly to the local saw-mills. With a yearly product of cutting of 20,000 cubic metres, I have permanently about 60 wood-cutters. Timber is sold to 7 saw-mills. Mine-timber and pulpwood are sold through a timber-merchant to the mines or factories.

We German foresters wear in service a dark-green uniform. The abundant silver decoration, that we never loved much because it was not suitable in the forest, has disappeared and we again work unadorned in the forests. Our ranks are thinned, many having given their lives on the battlefields of Europe. Foresters who fled from the east filled up our ranks, but they do not all find work in the forest, because there was a lot of forest in the lost territories. But we kept our idealism to work for the forest, for the satisfaction of timber requirements of the population now and in the future, and to contribute in this way our part in the reconstruction of a peaceful and happier country. This idealism we kept and we will keep it. An old maxim says:—

“ Foster the forest, it is the certain source of prosperity;

Quickly it is devastated by the axe—slowly it grows!

All our work our descendants will judge;

Let us care intentionally to-day that they'll praise us in the future.”

(In German language this is in hexameters.)

Finally, a few words about hunting, being for each German connected inseparably with the forest and with forestry. Nearly every forester was a hunter and gamekeeper. In my forest there are roes (*cervus capreolus*), which we had before the war in great numbers. But they were too confident to the conquerors and, therefore, they were killed. Indeed, we have now only 5-8 per cent. of the pre-war number. In many districts, therefore, the roes are out of season the whole year. Further, there are stags (*cervus elephas*), about 40-50 head in my district. They do a lot of damage in the fields, and in the forest, too, by peeling the spruces and browsing on young plantations. Boars are about 25-30 head (after 60-80 in 1945) here, and ruin potato-fields round about. We, together with hunters of the American Occupation Forces, shot in the last 18 months 68 boars. An American lieutenant killed a boar of 350 lbs. (cleaned).

Hunting is now a privilege of the Occupation Forces. Since June, '48, the German foresters have, as Forestry Police, a few rifles again and the order to kill boars. But this is not to be regarded as sporting hunting but as a police measure.

At hunting parties of the Occupation troops (contrary to the German custom of hunting single—walking and sitting) we co-operate. The success of these hunts depends, naturally, on the goodwill and

trust of both parties. I find those hunts absolutely necessary to reduce the damage of the game in the fields and in the forest.

I have tried to give you and your friends a short summary of our practical work here in German forestry. If sometimes we all seem to be playthings of Fate—when I recently read “ King Lear ” I was deeply touched by the verses :

“ As flies to wanton boys are we to the gods,
They kill us for their sport ”—

we never have the right to despond, but we have to work as men confiding in a higher justice, to work in the frame of our tasks and to do our duty.

I greet you over the seas in your green island. Waidmannsheil!

K. SCHERER.
