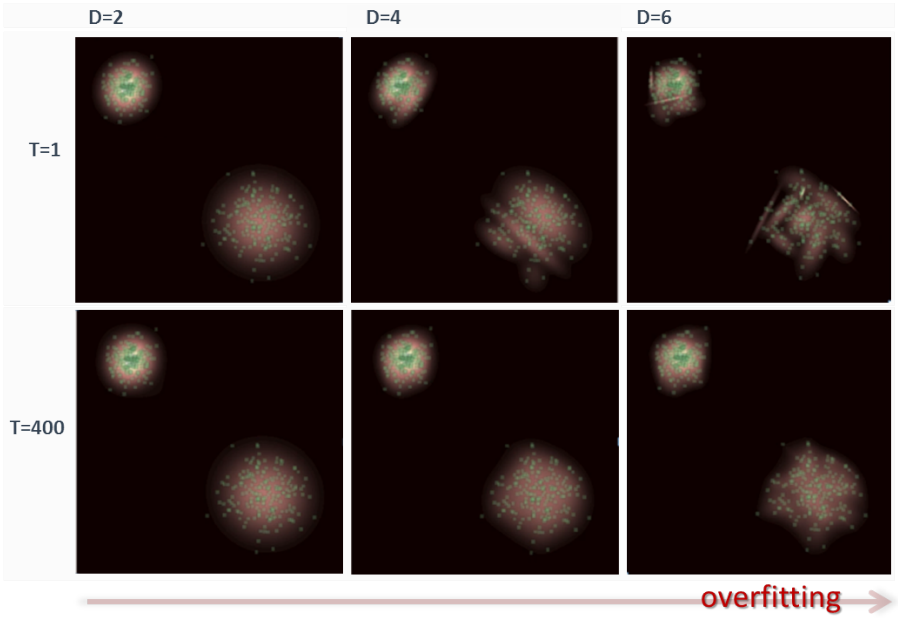

Fig. 5.5: **The effect of forest size on density.** Densities $p(\mathbf{v})$ for six density forests trained on the same unlabelled dataset for varying T and D. Increasing the forest size T *always* improves the smoothness of the density and the forest generalization, even for deep trees.

observed also for classification and regression and it is an important characteristic of forests. Since increasing T always produces better results (at an increased computational cost) in practical applications we can just set T to a "sufficiently large" value, without worrying too much about optimizing its value.

5.3.3 More complex examples

A more complex example is shown in fig. 5.6. The noisy input data is organized in the shape of a four-arm spiral (fig. 5.6a). Three density forests are trained on the same dataset with $T = 200$ and varying depth D. The corresponding densities are shown in fig. 5.6b,c,d. Here, due to the greater complexity of the input data distribution shallower