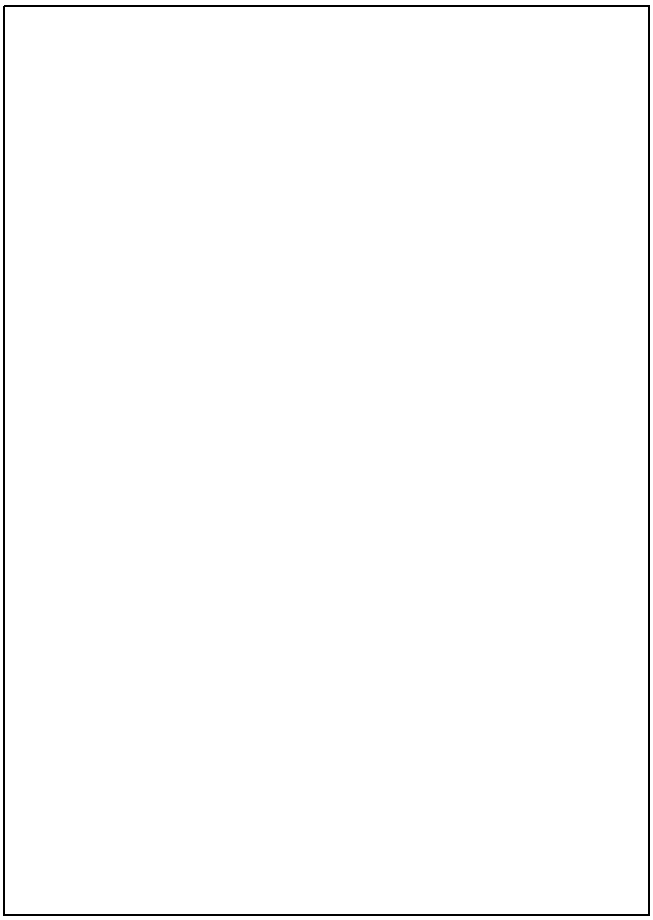

**Abb. 1.** Von 2009 bis 2011 beprobte Betriebe in Anbaugebieten des Qualitätswein-, Hopfen- und Baumobstbaus (je Betrieb jeweils mindestens eine Prüffläche, eine aus der Nutzung genommene Referenzfläche und eine naturbelassene Kontrollfläche zur Erfassung der Hintergrundbelastung mit Kupfer).
*Farms and vineyards monitored from 2009 to 2011 in growing regions for quality wine, hops and fruit (per farm at least one test plot, one set-aside reference plot without previous copper treatment, and one natural control plot to identify the background copper load).*

In 2009, the European Commission included copper in Annex I of EC Directive 91/414/EEC. However, the inclusion expires in November 2016 and is bound to the condition that the Member States take measure to limit application. In addition, the EC Commission requires a monitoring of copper applications (EC Directive 2009/37/EC of April 23rd, 2009) at national level to identify unwanted effects and thus to be able to take a final decision on the further inclusion of copper compounds in Annex I (where necessary, with use restrictions) or on their withdrawal from it.

Since the fate of copper in soil and its effects on soil organisms have been discussed on national and international level for several years, the Federal Ministry of Food, Agriculture and Consumer Protection of Germany (BMELV) has initiated a broad field monitoring carried out by Julius Kühn-Institut to obtain a differentiated overview of the current copper load in the most important crops of organic agriculture (vine, hops, fruit) that accounts for typical regional forms of cultivation, too.

The data on the distribution of contamination and evaluation of exposure (mobile parts of $NH4NO_3$- und $CaCl_2$-extract) that were gathered in this study are a reliable basis to select cropping areas representing the diversity of factors influencing soil life. In cooperation with the authorization bodies (BVL, UBA), characteristic areas will be identified. They will be analyzed for the effects of copper contamination in relation to habitat as well as indicator organisms.

The latest edition on copper („Copper Monitoring in Germany on Special Crop Areas – Status, Conclusion, Prospects“) was published in Journal für Kulturpflanzen/Journal of Cultivated Plants 63 (5), 2011, 129–166.

In the current edition of the journal two articles are published to „Long-term Use of Copper Fungicides on Sustainable Soil Quality: Fate and Exposure“.

First biological data on the effect of copper loads on soil fertility have already been gathered using earthworms as sensitive indicators. These studies on the soil ecosystem were carried out on eight selected viticultural locations differing in duration of use, load and exposure and were analyzed for total abundances and distribution of abundances according to life forms (litter, top-soil or sub-soil, deep-burrow species). On-site sampling was paralleled by biological laboratory tests on soil samples to get additional information on the location, which is influenced by numerous factors. The analyses include both faunistic tests and standardized microbiological laboratory tests. The chosen tests fulfill the requirements resulting from the authorization procedure for pesticides.

Now, we have to analyze further those conditions that influence the availability of copper and therefore determine the risk to parts of the soil coenose. This further analysis of the chemistry of bioavailable copper parts in areas under special crops that have been cultivated for several years and a differentiated risk assessment with respect to organic sustainable cultivation will serve to broaden the data set ahead of benefit-risk decision making.

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