



Special Issue Reprint

Site-Specific Nutrient Management

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The concept of nitrogen gap (NG), i.e., its recognition and amelioration, forms the core of this book entitled *Site-Specific Nutrient Management* (SSNM). Determination of the presence of an NG between fields on a farm and/or within a particular field, together with its size, requires a set of highly reliable diagnostic tools. The necessary set of diagnostic tools, based classically on pedological and agrochemical methods, should be currently supported by remote-sensing methods. A combination of these two groups of methods is the only way to recognize the factors responsible for yield gap (YG) appearance and to offer a choice of measures for its effective amelioration. The NG concept is discussed in the two first papers (Grzebisz and Łukowiak, *Agronomy* 2021, 11, 419; Łukowiak et al., *Agronomy* 2020, 10, 1959). Crop productivity depends on a synchronization of plant demand for nitrogen and its supply from soil resources during the growing season. The action of nitrate nitrogen (N-NO₃), resulting in direct plant crop response, can be treated by farmers as a crucial growth factor. The expected outcome also depends on the status of soil fertility factors, including pools of available nutrients and the activity of microorganisms. Three papers are devoted to these basic aspects of soil fertility management (Sulewska et al., *Agronomy* 2020, 10, 1958; Grzebisz et al., *Agronomy* 2020, 10, 1701; Hlisnikovsky et al., *Agronomy* 2021, 11, 1333). The resistance of a currently cultivated crop to seasonal weather variability depends to a great extent on the soil fertility level. This aspect is thoroughly discussed for three distinct soil types and climates with respect to their impact on yield (Hlisnikovsky et al., *Agronomy* 2020, 10, 1160—Czech Republic; Wang et al., *Agronomy* 2020, 10, 1237—China; Łukowiak and Grzebisz et al., *Agronomy* 2020, 10, 1364—Poland). In the fourth section of this book, the particular field into homogenous production zones is discussed as a basis for management within the field. This topic is presented for different regions (China, Poland, and the USA) (Cammarano et al., *Agronomy* 2020, 10, 1767; Ptaszek et al., *Agronomy* 2020, 10, 1842; Larson et al., *Agronomy* 2020, 10, 1858).

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