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incidence of the seasonal human influenza A and B viruses (12). The influenza surveillance data, however, may be underestimated and should be interpreted with a degree of caution because the ongoing COVID-19 pandemic has influenced to varying extents health-seeking behaviors, laboratory staffing and routines in sentinel hospitals or centers for disease control and prevention, as well as testing priorities and capacities (12). Nonetheless, highly pathogenic H5Ny AIVs have caused frequent outbreaks in birds in several countries across the Eurasian and African continents since late 2019, especially during the winter season (2).

Highly pathogenic H5Ny AIVs—including H5N1, H5N2, H5N5, and H5N8 subtypes—resulted in ongoing outbreaks in both poultry and wild birds in Chinese Taipei throughout 2020. Highly pathogenic H5N8 AIV also caused continuous outbreaks in poultry in South Africa in 2020. Moreover, H5N8 caused numerous outbreaks in central and eastern Europe from January to early June 2020. In the autumn and winter of 2020, Eurasia experienced a sudden recurrence of H5N8 AIV, above other subtypes: In August 2020, H5N8 caused outbreaks in Russia in both poultry and wild fowl, and the affected regions extended to Kazakhstan in mid-September; in October 2020, a new wave of

of AIVs, particularly the H5N8 subtype, has become a major concern to poultry farming and wildlife security but, critically, also to global public health.

Because of the long-distance migration of wild birds, the innate capacity for reassortment of AIVs, the increased human-type receptor binding capability, and the constant antigenic variation of HPAIVs, it is imperative that the global spread and potential risk of H5N8 AIVs to poultry farming, avian wildlife, and global public health are not ignored. Therefore, surveillance of HPAIVs in poultry farms, LPMs, and wild birds should be restored to the level before the COVID-19 pandemic or higher. Further assessment of the transmissibility, pathogenicity, and antigenicity of 2.3.4.4b H5N8 is also required. If there is distinct antigenic variation, vaccines should be updated with the emergent HPAIVs. In addition, decreasing small-scale family-based poultry farming, increasing large-scale high-standard modern poultry farming, and enhanced management of LPMs will help reduce the spread of HPAIVs and potential human infections. Education and outreach are also important, including enhanced personal protection measures during the influenza season, keeping away from wild birds, and avoiding hunting and eating wild birds. ■

ECOLOGY

The growing challenge of vegetation change

Analysis of past change puts risks of plant carbon management in a long-term context

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A substantial portion of the planet has been on fire. Climate change has been implicated in sweeping wildfires in the western United States, Australia, the boreal forest stretching around the globe, Amazonia, and elsewhere (1). Other forests have experi-