

increased up to 5 p.m., such difference had begun to diminish by 8 p.m., and would doubtless have eventually become nil some time after the thermometer at $1\frac{1}{2}$ in. deep had attained its maximum temperature. The difficulty of raising sufficiently the temperature of a sack of bagged chaff by firstly covering that stack with tarpaulins and thereafter introducing into it a continuous and large supply of heated and dehydrated air was thus manifested—chaff being such a poor conductor of heat.

The mites, being very watery and soft-bodied, showed very little power of heat-resistance. A quantity of the pests subjected directly to the comparatively low atmospheric temperature of 140° F. all died in five minutes. Again, a quantity of mites exposed for one hour to the direct rays of the sun (temperature 80° F.) all died. In this case the destructive effects of light may also have been at work. In this experiment, as in those with light, the mites showed a tendency to shelter in shaded positions.

As the mites succumb at such comparatively low temperatures, the application of heat in combination with sieving and blowing or with chaffing is a matter that may prove worthy of consideration if the pest should appear in such numbers as to demand special treatment. The destructive effects of sunlight, on the other hand, would doubtless suggest to producers troubled with this pest some simple methods in their practice which would serve to reduce or exterminate mites in straw or chaff. If the necessity for treatment were sufficiently pressing, an appliance could doubtless be devised by which even bagged chaff could very rapidly be unbagged and passed through a heated chamber, and delivered back into sacks free from living mites or mite-eggs.

Cold.—A sack of chaff, mite-infested, was placed in a chamber at 27° F. at noon on the 1st September. At noon on the 2nd September the temperature at the centre of the chaff in the sack was 40° F., with the mites living. The sack was then taken into a chamber at zero. At 10 a.m. on the 3rd September the temperature at the centre of the chaff was 17° F., and no living mites could be found.

Light.—A quantity of mites were taken into a dark room and were there exposed to the rays of a 250 candle-power arc lamp. The atmospheric temperature about the mites was 64° F. All were quite dead in two hours.

Pressure.—Only negative results were obtained from experiments under this head. Half a dozen sacks of chaff were subjected in a wool-press to pressure rising gradually to 35 tons, when the sacks burst—mites still living in large numbers.

Hydrocyanic-acid Gas (Prussic-acid Gas, HCN).—As is well known, this is one of the most destructive gases to animal life. It