

quality standards to allow smaller peanut kernels of all varieties to enter edible channels; (2) specifies in the text of the regulations that financially interested persons may appeal quality inspection and that "holders of the title" to any lot of peanuts may appeal aflatoxin test results; (3) allows peanut lots which meet minimum damage and minor defect standards, but fail for other reasons, prior to blanching, to be exempt from minimum damage and minor defect standards upon re-inspection after blanching; and (4) increases to 10 percent the quantity of sound whole kernels that may be contained in lots of splits for specified peanut varieties. These changes are intended to maximize handling efficiency and to provide the producers, handlers, and importers with flexibility to meet current and new market demands, while maintaining peanut quality and wholesomeness for consumers.

The quality and handling standards are intended to assure that satisfactory quality and wholesome peanuts are used in domestic markets. All peanuts intended for human consumption must be officially inspected and graded by the Federal or Federal-State Inspection Service and undergo chemical testing by a USDA laboratory or a private laboratory approved by USDA. The maximum allowable presence of aflatoxin is 15 parts per billion (ppb), the same standard as required under the three previous peanut programs. This tolerance has been in effect for more than 15 years and was in effect at the time the previous peanut programs were terminated. Once certified as meeting outgoing quality standards, peanuts may not be commingled with any other peanuts that have failed outgoing quality standards or any residual peanuts from reconditioning operations.

Small Kernel Usage

Prior to establishing the quality standards that were applied during the 2002–03 crop year, a few peanut handler members of the Board suggested changing the shape and size of the holes in screens used to sort out small kernels. The changes discussed would have increased the number of smaller kernels that rode the screens and that could have entered edible channels.

The shape of the opening, slotted vs. round, is a significant factor in the number of smaller kernels that fall through or ride the screens. Slotted screens resemble the shape of peanuts and allow kernels to fall through as they bounce down the screen during the sorting process. Kernels fall through round openings only when striking the

opening on end or "standing up" as they bounce down the screen. When more kernels ride the screen, more are available for edible channels.

Proponents of smaller kernel use claimed that end-product manufacturers now have markets for smaller, whole kernels. They also claimed that modern, electronic color sorting technologies can sort out smaller kernels that are moldy or defective. Opponents, including some handlers and grower representatives, claimed that the benefits of increased use of small kernels were not worth the increased risk of aflatoxin contamination. Based on studies conducted by the Agricultural Research Service (ARS) going back to at least 1979, the industry was aware that there is a higher incidence of aflatoxin contamination in smaller peanut kernels.

Most Board members agreed that new research was needed on small kernel sizes and aflatoxin contamination before any change was made. USDA decided not to change screen sizes for the 2002–03 crop year and asked ARS to conduct another analysis of the incidence of aflatoxin in small peanut kernels. ARS peanut size and aflatoxin studies using 2002 crop farmers stock runner type peanuts from the Southeast (the peanuts and region most likely to have aflatoxin contamination) measured the contamination of kernels that fell through a $1\frac{5}{16}$ inch slotted screen and those that rode a $1\frac{7}{16}$ inch round screen. The completed results, received by Fruit and Vegetable Programs on January 21, 2003, indicated that there was a small, but not significant, increase of aflatoxin associated with the smaller peanut kernel size.

Past research demonstrated that three farmers stock grade components are associated with aflatoxin. These are damage, loose-shelled kernels, and small and other kernels. Very little aflatoxin is associated with high quality farmers stock peanuts associated with the farmers stock grade referred to as sound mature kernels and sound splits. Studies conducted by sampling 120 contaminated farmers stock lots, published in 1998, showed that these three risk components accounted for 93.1 percent of the total aflatoxin in a farmers stock lot, but only 18.4 percent of the lot kernel mass. Aflatoxin in sound mature kernels and sound splits, small and other kernels, loose shelled kernels, and damaged kernels represented 6.9, 7.9, 33.3, and 51.9 percent of the total aflatoxin. The small kernels had the lowest risk of the components. The findings of research performed in previous years were similar.

ARS believes that the results of the past studies are consistent with the current study presented to the Board in April 2003. The peanuts that rode the $1\frac{7}{16}$ inch round screen were a mix of sizes from small to large (not only small kernels as in the past studies). The mix of sizes was used to better duplicate sheller milling lines and processing practices. The aflatoxin impact was minimal because small and other kernels have the lowest aflatoxin risk of the three risk components and the small kernels composed a small percentage of the different sizes riding the $1\frac{7}{16}$ inch round screen. The higher the percentage of small kernels riding a $1\frac{7}{16}$ inch round screen, the greater the aflatoxin impact that small kernels will have on the lot in question. The percentage of small kernels that fell through the $1\frac{5}{16}$ inch slotted screen and rode the $1\frac{7}{16}$ inch round screen varied greatly from lot to lot in the study presented to the Board. They averaged about 7 and 21 percent in the current study, respectively. In the final analysis, the aflatoxin impact of the smaller kernels was not significant according to ARS.

The Board discussed the peanut size and aflatoxin study at its April 30, 2003, meeting, and recommended relaxation of quality standards to allow smaller peanut kernels to be used for human consumption because the increase in aflatoxin in small kernels was not determined to be significant. All Board members agreed that quality and wholesomeness are paramount for producers, handlers, and importers, but the industry believes that it can continue to provide buyers with high quality and wholesome peanuts with changed screen size.

Compliance officers report that out of 77 shellers, a total of 62 have electronic sorting technology to sort out defective small kernels and further improve peanut quality and wholesomeness. The 15 shellers without sorting technology in their plants only shell seed peanuts, which are not shipped to the edible market.

Several industry representatives at last year's Board meeting also cited the pungent taste of small kernels as a quality factor that should weigh against the use of smaller peanut kernels. No such concerns were mentioned or discussed at this year's Board meeting, or in the comments received subsequent to the Board meeting.

The screen size changes are shown in the table in § 996.31(a) Minimum Quality Standards: Peanuts for Human Consumption—Whole Kernels and Splits: Maximum Limitations, under the column for Sound Whole Kernels. Under the "Excluding lots of splits"