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Pearce 214, Mount Pleasant, MI 48859. *A Weighted Selberg Sieve*. Preliminary report.

The best known bounds concerning almost primes in polynomial sequences come from a weighted form of the Diamond, Halberstam, Richert (DHR) sieve. However, it is known that if the sieve dimension κ is sufficiently large, then Selberg's lower bound sieve is superior to the DHR sieve. Therefore, a weighted form of Selberg's sieve should be capable of improving these bounds. This is indeed the case, at least in some instances. I will present the new bounds and compare the two weighted sieves. (Received September 22, 2011)