In the 1995 Othello replicated yield trials, USWA-20 (95-2116) had a floppy, indeterminate, short vine plant habit (III-A CIAT classification), and was late maturing (112 days versus 102 days for Othello). However, it's yield was 1000 pounds per acre greater than Othello (4649 versus 3602 pounds per acre). Usually high-yielding cultivars are relatively small seeded, however, USWA-20 is exceptional in being both high yielding and large seeded (1050 to 1250 seed per pound). Most commercial pinto cultivars are in the 1300 to 1600 seed per pound range. USWA-20 seed is similar to Sierra seed in being plump with a faintly colored eye and a slightly dark background. USWA-20 also has a high level broad spectrum resistance to the Fusarium Yellows root rot disease. The resistance to *Fusarium oxysporium* f. sp. *phaseoli*, the causal agent of Fusarium Yellows, was unexpected since neither parent is as resistant to as broad a range of Fusarium Yellows isolates as USWA-20 (all available isolates including the highly virulent strain found in Colorado and Nebraska).

RELEASE OF A BLACK AND WHITE ANASAZI©-TYPE DRY BEAN GERMPLASM RELEASE, USWA-27 WITH VIRUS RESISTANCE

The Agricultural Research Service, U. S. Department of Agriculture, and the Agricultural Research Centers of Washington State University, the University of Idaho, and Oregon State University announce the release of a dry bean germplasm line, USWA-27, with black and white mottled seed, an upright plant habit (II-A CIAT classification), and resistance to bean common mosaic virus (BCMV) and curly top virus (CTV).

Complete resistance to all strains of BCMV and CTV is needed in the bean seed production areas of the arid western states. USWA-27 was developed by Dr. Matt J. Silbernagel, Research Plant Pathologist (retired), USDA-ARS, and Dr. An N. Hang, Agronomist, Washington State University. Both are located at the WSU-Irrigated Agriculture Research and Extension Center, 24106 N. Bunn Road, Prosser, WA 99350-9687.

USWA-27 (seed lot 95-2159) is an F_6 derived F_9 population from the cross A55/Anasazi©. A55 is a black-seeded, upright II-A plant habit type, developed by Dr. Shree Singh (CIAT, Colombia), with dominant *I* resistance to BCMV, and high tolerance to CTV. It is also tolerant to the root rot complex in the seed producing areas of the Pacific Northwest.

The Native American landrace Anasazi types (red and white mottled) of the Southwest have a late maturing, vigorous, recumbent plant habit III-B, that is very susceptible to BCMV and CTV. Landrace Anasazis are uniquely adapted to the arid high altitude regions of the American Southwest. They are drought tolerant and photosensitive, so in the northern latitudes will not bloom until late in the season. This lateness often results in the crop being frozen before maturity.

Plants of USWA-27 are upright, lodging resistant, and have unprotected dominant *I* resistance to BCMV, and complete resistance to CTV (presumed to be due to two dominant epistatic genes). In 1995 replicated yield trials at Othello, WA, USWA-27 matured 102 days after planting and yielded 4132 pounds per acre. Seeds of USWA-27 are black and white mottled, plump and medium sized with 1507 seed per pound. USWA-27 should be useful to breeders who want to modify this novelty germplasm for wider adaptation and production.

RELEASE OF THREE LARGE-SEEDED, VIRUS-RESISTANT KIDNEY DRY BEAN BREEDING LINES, USWA-33, USWA-39, AND USWA-70

The Agricultural Research Service, U. S. Department of Agriculture, and the Agricultural Research Centers of Washington State University, the University of Idaho, and Oregon State University announce the release of three kidney dry bean germplasm lines that are resistant to viruses and have a large seed size. They are in light red kidney (USWA-33), dark red kidney (USWA-39), and white kidney (USWA-70) dry bean classes.

Complete resistance to all strains of bean common mosaic virus (BCMV) and curly top virus (CTV) are needed in the bean seed production areas of the arid western states. Although these resistances are already available, the existing materials need improvements in seed size, seed color, and/or earlier maturity. These three releases were developed by Dr. Matt J. Silbernagel, Research Plant Pathologist (retired), USDA-ARS, and Dr. An N. Hang, Agronomist, Washington State University. Both are located at the WSU-Irrigated Agriculture Research and Extension Center, 24106 N. Bunn Road, Prosser, WA 99350-9687.

USWA-33 (seed lot 95-2166) is an F_{10} derived F_{13} bulk with an upright bush habit from the cross 84BR-1122/K-42. USDA breeding line 84BR-1122 was a root rot tolerant selection from bush snap bean 'Contender', and K-42 is a bush, light red kidney germplasm release developed by Dr. D. W. Burke (USDA-ARS, Prosser, WA). USWA-33 has complete resistance to CTV (presumed to be due to two dominant epistatic factors) and *I bc-1* resistance to BCMV. USWA-33 is similar in yield (2421 pounds per acre) to the commercial 'Kardinal' (2574 pounds per acre), but matured in 100 days versus 105 for Kardinal. In addition, Kardinal averaged 878 seed per pound, while USWA-33 averaged 809 seed per pound in 1995 replicated trials at Othello, WA.

USWA-39 (seed lot 95-2172) is an F_3 derived F_7 bulk with an upright bush habit from the cross 'Montcalm'/K59-7. Montcalm is a very popular commercial cultivar developed by Michigan State University that has long been the standard for the dark red kidney found in salad bars; however, it's yields are generally less than desired. Germplasm line K59-7 is a CTV-resistant light red kidney developed by Dr. D. W. Burke. Both parents have dominant *I* resistance to BCMV, and an intermediate level of resistance to halo blight. USWA-39 also has *I* resistance to BCMV and complete CTV resistance. Reactions to halo blight have not been tested, but since both parents are halo blight tolerant it would be expected that USWA-39 have similar field tolerance to halo blight. In the 1995 Othello replicated yield trials, USWA-39 (2421 pounds per acre) outyielded Montcalm