Bananas and plantains *(Musa* spp.) are important staple food for rural and urban consumers and provide a source of income for resource poor farmers in the humid tropics of sub-Saharan Africa. However, banana production is severely limited by several pests and diseases, such as banana Xanthomonas wilt (BXW), *Banana bunchy top virus, Banana streak virus,* black leaf streak, Fusarium wilt, weevils and nematodes. The application of conventional breeding for both disease and pest resistance has resulted only in limited success due to the long generation times and the high sterility and triploidy of most cultivated bananas and plantains. Genetic transformation offers an alternative and viable means for introduction of agronomically important traits into these cultivars. However, to be successful, these applications require a rapid and efficient plant regeneration and transformation protocols for both banana and plantain. Currently, most transformation protocols for banana use cell suspensions. However, establishing cell suspensions is a lengthy process, highly cultivar-dependent and most farmer-preferred banana and plantain cultivars are recalcitrant to generation of embryogenic cell suspensions. Thus optimization of cultivar-independent transformation protocol using meristematic tissues becomes a prerequisite for agronomic improvement of bananas and plantains. The objective of this study will be to optimize a genetic transformation protocol of banana and plantain cultivars using mcristematic tissues and also develop transgenic plants resistant against BXW. Multiple bud clumps (MBCs) and intercalary meristematic tissues of 10 cultivars (Grande naine, Gross Michel, Gonja Manjaya, Nusu Ngombe, Ngombe, Mpologoma, Uganda green, Kayinja, Zebrina and Calcutta 4) will be co-cultivated with *Agrobacterium* strain EHA 105 harboring a binary vector pCAMBIA23 0 1 or modified pCAMBIA2300-GFP, followed by selection and regeneration of kanamycin-resistant plantlets. The effect of different parameters including acetosyringone concentration, length of infection time, sonication and vacuum infiltration on transformation efficiency will be determined. Transgenic plants will be subcultured for several cycles under selection to di Ill!e chimeras and progenies will be tested for presence of transgene. Histochemical GUS and GFP assays at different stages of transformation will be used to test the uniformity of transformed plants. The presence and integration of the *nplIl* and *gusA* genes in the progenies will be confirmed by PCR and Southern blot analysis, respectively. The optimized protocol will be used to transform' cultivars Mpologoma and Kayinja with hypersensitive response assisting protein *(Hrap)* gene. *Hrap* gene has been shown to intensify the harpin-., mediated hypersensitive response and consequently conferring resistance to a wide range of pathogens in plants. The trans genes have been reported to enhance the hypersensitive response induced by virulent pathogens that act through the release of proteinceous elicitor harpinj; in tobacco, Arabidopsis and banana .~'1BCs and meristematic tissues will be used for the transformation followed by selection, regeneration and evaluation of the resultant transgenic lines Lor resistance against nxw. This study will augment the ongoing genetic improvement of bananas and plantains and contribute to the food security of communities living in Africa.